

Public Comments on NIST Notice of  
Inquiry:

**Possible Models for the  
Administration and  
Support of Discipline-  
Specific Guidance Groups  
for Forensic Science**

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TO: National Institute of Standards and Technology  
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November 18, 2013

FROM: David W. Baker, MFS  
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Subject: Notice of inquiry - Possible Models for the Administration and Support of Discipline-Specific Guidance Groups for Forensic Science

MS Ballou,

I am sending this letter in response to the National Institute of Standards and Technology (NIST) request for input from interested parties to provide their perspectives on the appropriate model for NIST administration and support of discipline-specific Guidance Groups to be established pursuant to the Memorandum of Understanding between the Department of Justice and NIST. The views and opinions expressed in this letter do not necessarily reflect the official policy or position of the AAFS, The MITRE Corporation, or any agency of the U.S. government.

While you may know my background, for the record, I would like to state that I have been involved in the forensic sciences for over 20 years. I have previously served as a forensic specialist as a US Federal Special Agent, and served as an agency representative on the DoD Forensic Science Advisory Board. I've been affiliated with the AAFS since 1994, and am a fellow. I am currently serving as a Director, representing the Digital and Multimedia Sciences Section. I've been actively involved specifically in digital forensics issues for over 15 years. I've served in numerous capacities in the digital forensics community, including the organizing committee for the Digital Forensics Research Workshop (DFRWS) and as a member of the external advisory board for the Center for Education and Research in Information Assurance and Security (CERIAS). I am also a member of both High Technology Crime Investigation Association and High Technology Crime Consortium. I serve on the editorial board for the Journal of Digital Investigation. I currently work as a Cyber Security Engineer within MITRE's Center for National Security, a Federally Funded Research and Development Center for the Department of Defense.

I solicited input from my colleagues within the digital forensics community concerning the subject request. Based on my review of the request, my personal knowledge, and the input I received, I respectfully submit the following responses to the questions posed in NIST's request for input, for your consideration.

1.) Given the scope and principles of the Guidance Groups outlined here, what are structural models that could best support the Guidance Groups, taking into account the technical, policy, legal, and operational aspects of forensic science?

For the guidance groups to be successful there should be a leadership body or group in order to better standardize, de-conflict and integrate the various groups, and should probably be operated or managed by a not-for-profit organization. There should be clear roles and responsibilities, and oversight functions, which will require some form of executive leadership. This could be accomplished with an executive board/committee formed by the chairs/leads of the various groups, or an executive function with representation from the groups. This executive board/committee can direct/guide the operation/function



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of the groups and create ad-hoc committees to address issues that affect multiple groups. Examples of these committees might be legal/judicial, reporting or other types of issues that would likely be cross-cutting. Each group would also require some level of administrative support for the group to function and successfully meet the objectives. This support includes administrative and secretarial support, telecommunications support (to include web-hosting, email, phone conferencing) and some travel related support for regular meetings. While some group business may be conducive to email/teleconferencing, other business may require in-person discussions. The leadership body should oversee/manage funding to insure all groups are adequately resourced. Some groups may have more requirements than others, particularly in emerging areas which might require more frequent activity than some established disciplines.

2) What elements or models would facilitate the sharing of best practices and uniform practices across the Guidance Groups?

This was partially mentioned in the prior answer. There should be an executive board/committee serving an oversight function that establishes common requirements for the groups. There should be processes/controls in place to insure that efforts of the groups do not conflict with each other. The groups should comply with some standardized way of producing their output/products. The output of the groups should be publicly available.

3) Are there public policies or private sector initiatives in other countries that have successfully strengthened the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline? If so, what are they? The European Network of Forensic Science Institutes (ENFSI) is a good example of an international effort to provide some consensus for forensic science organizations with regard to standards, information exchanges, proficiency testing, and oversight. It has several working groups including Digital Imaging, Forensic Information Technology, and Forensic Speech and Audio Analysis. There is also the Audio Engineering Society, with its Technical Committee on Audio Forensics.

4) What are the elements which make existing forensic Scientific Working Groups (SWGs) successful? Are there examples of best practices in specific SWGs that ought to be replicated in Guidance Groups? If so, what are they?

The elements that are essential are: qualified practitioner participation & leadership (see answer to question 13 for stakeholders who should be included); clearly articulated voting process to deter/prevent undue influence; basic level of funding support; regular meetings; long-range planning; and transparency. Some best practices or good examples are the SWGDE, SWGIT, and FISWG. They have fairly detailed document repositories:

- SWGIT: <https://www.swgit.org/documents/Current%20Documents>
- SWGDE: <https://www.swgde.org/documents/Current%20Documents>
- FISWG: <https://www.fiswg.org/document/viewDocuments>

5) Would partnership with a standards development organization (SDO) in which the standard is issued by the SDO present any obstacle for participation by a broad range of forensic science stakeholders in the development of a standard? If so, why?

The primary obstacle for some agencies engaged in forensic science is a lack of funding to support membership fees/dues and travel to meetings when required. If the groups are financially supported to be members of these organizations, then at least participation would be possible. Another obstacle is that all standards are not freely available to the forensic community or individual practitioners, which could create a financial burden on individual practitioners or smaller practitioner organizations. In fact, some law enforcement agencies are not fully aware of the standards in forensic science or who would even create such standards.

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6) Would partnership with an SDO in which the standard is issued by the SDO present any obstacle to broad adoption of a standard? If so, why?

This was partially answered in the previous question. Not all practitioners or organizations who work in a given forensic field are able or willing to pay for standards. Some organizations will only purchase/comply with standards if necessary to achieve certifications/accreditations. Without some funding behind it, there probably will not be broad adoption of standards. It might also be problematic for some government agencies or private organizations to adopt a standard for which their examiners do not qualify. For example, if a standard states that an examiner in a particular field must have a Bachelor of Science degree, and an agency/organization has examiners who do not meet this criteria, then this may present an obstacle to their adoption of the standard. Also, SDO are not immune to internal strife by various factions within an SDO; these could be groups of individuals or politically related factions (as in some international bodies). Finally, selecting one SDO over another may create issues, as some organizations may already comply with one standards organization and not wish to change, preferring one over another. A later question has more detailed information about group participation in standards organizations.

7) Would a fee-based membership model run through a not-for-profit organization (similar to the National Conference of Weights and Measures) present a significant obstacle for participation?

This could be an issue. Some individuals or organizations may be unable to pay the dues or fees, or may have some other constraint precluding such fees. The groups should include the best subject matter experts in the specific discipline. A fee-based membership will probably result in the exclusion of members which could result in a biased group. This effort should likely be an open and representative system without financial requirements.

8) If the Guidance Groups followed a fee-based membership model, are there appropriately-tiered systems for fees that would prevent "pricing out" organizations, including individuals?

It's not clear that there are. Many organizations/individuals participating in the current SWG have very limited budgets, and the idea of requiring them to pay-to-play would potentially cut them out of the process. While federal labs/agencies are most visible, there are far more state, local, and private practitioners than there are federal. The system should not be set up so that well-funded agencies are the principal participants, rather it should be open and accessible to federal, state, and local law enforcement agencies, private practitioners, academia and industry for the groups to be successful. If there is a reasonable tiered system that can accommodate those with minimal (or in some cases no) budgets for such participation, then it's a consideration.

9) Other than a privatized model, are there other means to maintain a governance or coordinating body in the long term? If possible, please give examples of existing structures and their positive and negative attributes.

There are various groups that manage some disciplines. Consider the various bar associations for the legal profession. However, in this situation, there are already existing groups performing much of the roles/functions. The SWGs have been successful in helping shape and guide the areas, and have been active for many years. The negatives to the existing system are that the funding has been almost exclusively from law enforcement and those budgets are now very stretched resulting in loss of support. Also, some SWG are not transparent and have restricted membership. The positives are that they have been very active and some have been more transparent and open to broader membership. SWGDE is an example of a much more transparent group.

10) Given that the Guidance Groups cannot mandate the adoption of standards, what can they do to best leverage their position and encourage adoption? To what extent does membership and transparency impact possible adoption of guidance at the state and local level?

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Referring to the last part of this question, the issues of funding/membership in standards organizations and paying for standards have been previously discussed, and these can have a negative effect on both transparency and adoption by smaller organizations and practitioners. And unfortunately, the best way to encourage adoption of standards is to cater to the lowest common denominator, which may reduce the effectiveness of the standard. For example, if a standard/guideline states that an examiner must have a BS degree, this may alienate some state and local agencies and prevent their adoption of the standard/guideline. If the requirement is changed to something lower than a BS degree, the state and local agencies may then adopt the standard/guideline, but it has been watered down in the process. The guidance groups must find an appropriate middle ground in areas like these. The guidance groups must also find ways to participate in and work with existing standards bodies, such as ANSI, ASTM, and ISO, rather than creating an entirely new standards organization. There is not necessarily a need to recreate certification and accreditation bodies where those already exist. The NCFS and the guidance groups should interface with, participate and inform these existing bodies. The creation of best practices and other documents/guidance by the groups can be brought to existing standards organizations, and offered as standards, or used to develop/improve or shape certifications/accreditations. The groups must have a way to be participants, which is likely a matter of funding as well as policy. The groups must also be engaged with other bodies/organizations working in this area (i.e., AAFS, IAI, CFSO, ASCLD, IACP, ABA, NACDL).

11) Are there best practices or models to consider with regard to a structure that would encourage effective communication with the scientific community to explore research gaps and aid in recognizing research priorities?

Having a more open and inclusive membership in the guidance groups should help by including academia, research scientists, and other research oriented subject matter experts. Additionally, the aforementioned oversight board/committee, in conjunction with the groups, should help in the identification of research gaps. The oversight board/committee could establish a set of criteria that groups must answer when beginning new work/efforts. Again, scientific research is driven by an open environment where the exchange of differing views and experiences are possible.

12) How should NIST researchers engage with the Guidance Groups in support of the goal to strengthen the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline?

This question will be answered in two parts: 1) answer only considering guidance groups; and 2) discussion of a research institute.

First part - NIST researchers should reach out to the various professional societies as possible and attend their meetings, and proactively interface with the members/attendees to learn where the gaps might be. They should also participate in presentations at these meetings in order to generate interest in identifying the needs of the particular discipline. NIST researchers could also be non-voting participants in guidance groups to provide advice on these issues. The oversight board/committee could also require that groups promulgate a document on research gaps and needs, which would be revised and updated on a bi-annual basis. They could also have a legal/jurisprudence committee monitor legal cases and rulings in which certain forensic examinations or conclusions are being/have been challenged, in order to gauge the current state of affairs.

Second part - The NCFS operates under the DoJ with the principle that "scientifically valid and accurate forensic analysis strengthens all aspects of our justice system". The key ingredients needed to accomplish this stated principle are 1) data collection and analysis related to actual case scenarios, and 2) multidisciplinary scientific research and study. Such activities are outside of existing advisory groups, and require a more research oriented model. A recommendation is for NIST to leverage and extend their institute model and resources to form a multi-disciplinary forensic research group that supports the discipline-specific guidance groups. This would combine the strengths of an institute with the strengths of

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the SWGs. This approach enables the Commission to direct research, practice, and regulation based on scientific foundations. This multidisciplinary forensic research group could serve several functions:

- Develop solid studies and innovation, bridging between forensic disciplines when appropriate
- Publish guidelines and standards of practice that are freely available
- Fund academic institutions to develop and publish peer reviewed research
- Fund visiting scientists (including PhD students) into the forensic institute for one or two years to be exposed to all forensic disciplines and contribute to a cumulative body of research
- Coordinate discipline-specific SWGs to obtain actual data and practical perspectives from forensic laboratories in support of research and practices
- Interact with various groups to obtain broader perspective, including standards bodies, professional organizations, legal community, and related groups in other countries

In order to achieve this, here are some recommended steps:

- 1) Form a forensic research institute leveraging the existing institute model and resources of NIST.
- 2) To leverage their strengths and bolster their weaknesses, the role of SWGs could be modified to provide data from actual case scenarios and collaborate with the NIST forensic research group, including researchers from academia, in order to create synergy between real world practice and scientific study.
- 3) Fund the forensic research institute to solicit and fund research proposals from academia, with emphasis on multi-disciplinary approaches.

13) Who are the stakeholders who should be represented on the Guidance Groups? What steps can NIST take to ensure appropriately broad representation within the Guidance Groups? What does balanced representation mean and how can it be achieved?

Science flourishes in an open environment where the exchange of differing views and experiences improves and enriches the community. So, the guidance groups should also be an open environment to the extent possible and practical. The primary stakeholders should be practitioners in the disciplines. Whether the practitioner is from a government lab, a private lab or is a private practitioner should not be a discriminator. Practitioners can include criminal investigators, private investigators, or corporate security investigators. Established members of academia should also have a role as they bring both the perspectives of current scientific/engineering knowledge and insight into areas of current and future research. The issue of industry participation is more difficult. Industry participation should include those performing forensics examinations. Those selling tools, instruments, reagents, or other wares should be excluded, as there is significant potential for conflict between their own commercial/economic interests and the scientific interests of the profession. Lawyers or jurists, who are not practitioners should probably be excluded, although there should be an oversight committee or review function to address legal issues which was previously mentioned under question 1 and 12.

14) What is the best way to engage organizations playing a role in forensic science, standards development and practice?

A collaborative body of stakeholders, focused on a quality improvement process for forensic disciplines is probably the only way to improve the practice of forensic science at a national level. Open, transparent and balanced participation is the key. Having processes/procedures in place to ensure that no one organization/agency has more influence than another is necessary, so that all participants have an equal voice.

15) How should interested parties who may not be direct participants in Guidance Groups, engage in a meaningful way to have an impact on issues in front of the Guidance Groups?

Having an open and transparent process is essential. The groups should be required to make public minutes of meetings, publish draft documents seeking public review and comment with appropriate notice, as well as processes for review and incorporation of such comments before final publication. There should be an appropriate feedback mechanism as well to receive input from interested parties for guidance/documents that are published.

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16) To what extent and in what ways must the Federal government, as well as state, local, tribal and territorial governments be involved at the outset?

For this to be successful, it must be inclusive, and there should be representation from all levels in the guidance groups. In current SWG, there is often some disparity in representation at different levels of government for any number of reasons. Participation is voluntary, and it's difficult to mandate specific ratios of participants, so that should be avoided.

17) Should all of the current forensic Scientific Working Groups (SWGs) transition to Guidance Groups?

Unless there is a reason to rename or otherwise recast a SWG, it is prudent to consider transitioning groups as they exist, and bring them intact as a guidance group. There will need to be some administrative/procedural normalization so that the SWG functions are more standardized. This will maintain the institutional knowledge of the various issues encountered and preserve their history and relationships within their disciplines. It would also preclude duplication of effort and capitalize on the body of work of the SWGs. Some stakeholders for the guidance groups are already in the SWGs. If a specific SWG, for whatever reason, does not transition, there should be some process coordinated so that there is a way to avoid/resolve potential conflict.

18) Are there broader groupings of forensic science disciplines that could form the basis of Guidance Groups than the current group of twenty-one SWGs? If so, what are those groupings?

As can be seen from organizations like the AAFS, there is a significant multi-disciplinary aspect to forensic sciences. While it's possible, it should be carefully considered. While broader groupings of disciplines could take place, for guidance/practices/standards to be valuable, they must be specific enough within discipline. As mentioned in some prior answers, it's possible that higher level structures for oversight could be formed. For example, consider the Digital and Multimedia Sciences areas. There could be a higher level committee which provides coordination/oversight for more cross cutting areas for the SWGDE, SWGIT, and FISWG, but the individual groups would be maintained for discipline specific expertise.

19) Is there a need for a cross-disciplinary functional approach (i.e. statistical analysis) and how could the Guidance Groups be structured to best address that need?

This topic was addressed previously in several questions, where the concept of a form of oversight board/committees was discussed. Specifically, statistics is definitely one of the cross cutting areas that must be addressed, so that it's done in a cohesive manner.

20) To what extent do Guidance Groups need to support different forensic science disciplines differently from one another?

It is important that there be some cohesion across the forensic sciences disciplines. The previously suggested oversight board/committee could define requirements for all guidance groups, and identify the minimum tasks each group must conduct/perform. There will be some areas requiring more attention on a per discipline basis, however, as there are different levels of maturity for disciplines, some groups may require work on areas which may be well documented other disciplines (e.g., training requirements).

Sincerely,



David W. Baker  
Fellow, AAFS

ADID Chair, Randall Beaty • Phone 512-424-5204 • FAX 512-424-5210  
Executive Committee: Chair Robert Zettl; ADID Vice Chair; Laura Liddicoat; ADID Past Chair  
Dennis Canfield, Ph.D., ADID Secretary Alka Lohmann



## National Safety Council's Alcohol, Drugs, and Impairment Division



### Structure of Forensic Science Guidance Groups

#### ADID's Executive Committee Recommendations

- **Structure of groups:** The groups should utilize a committee style format with a Chair or Co-Chair of each appointed by an appropriate entity such as the Consortium of Forensic Science Organizations. Each practicing group would then be free to populate the various committees, subcommittees, and other task groups as its members deem appropriate. Chairs of each committee, subcommittee or task group will be appointed by the guidance group chair/co-chair. Each guidance group will develop operating rules to govern its practices and allow each member to have a voice in the affairs of the group.
  - **Impact of groups:** The forensic guidance groups should be structured so that they: evaluate current practices for scientific and technical appropriateness, validate current methodologies, are free to explore new and innovative practices, and propose best practices. The overall impact of the guidance groups should be such that the final work product is a series of recommendations to the scientific discipline(s) the group represents. The final recommendations must include due consideration for all levels of jurisdictions whether it be national, state or local.
  - **Representation:** Groups must be populated with actual practitioners in the various disciplines who will act as subject matter experts (SME). These SMEs must represent all disciplines and subdisciplines within the particular group. The group must also represent all levels of practitioners from senior laboratory administrator to the bench level analyst with each having an equal voice in the final decision making process. As groups are populated, the various forensic discipline organizations should be tasked with providing a SME to the group to serve as a full voting member. The professional organizations have a significant presence in the forensic community, have missions to advance the disciplines, and are generally knowledgeable as to current, pertinent issues and challenges facing the forensics. For instance, the Forensic Toxicology Group would include at least one representative from each of the following: the American Academy of Forensic Sciences – Toxicology Section, the Society of Forensic Toxicologists, the National Safety Council – Alcohol Drugs and Impairment Division, the International Association for Chemical Testing, the Forensic Toxicology Council and other similar type organizations.
  - **Scope:** The guidance group will be charged with evaluating and declaring their scope of interests within the forensic discipline. In some cases there will be disciplines, which the guidance group believes are outside their scope due to new and novel techniques or a lack of scientific consensus surrounding the discipline's methodology. The forensic guidance group should have a mechanism in place to periodically reevaluate their declaration of scope by assessing scientific advances or other pertinent developments within the field.
  - **An appeals process:** All decisions adopted by the group can be appealed in writing to NIST for final decision, by a panel of unbiased scientists with expertise in the field of interest. The NIST appeals panel will make a public announcement in regards to their decision to support the group's decision or to refer the decision back to the group with comments on why the original decision is not acceptable and ask for a reconsideration of the decision.
-



25 November 2013

Re: Federal Register Notice on Possible Models for the Administration and Support of Discipline-Specific Guidance Groups for Forensic Science

National Institute of Standards and Technology  
c/o Ms. Susan Ballou  
100 Bureau Drive, Mailstop 8102  
Gaithersburg, MD 20899

Dear Ms. Ballou:

In response to the Notice of Inquiry published in the Federal Register (9/27/13), I write to offer comments on the possible models for the administration, structure and support of the Discipline-Specific Guidance Groups. My professional work as an academic geneticist includes both teaching aspects of forensics to university students (undergraduate, medical, post-doctoral) and practical experience with applications of forensic DNA technology in civil and criminal cases. My forensic work has included sworn testimony in state, federal and military courts as well as use of DNA technology and statistical methods for human remains identification. In accord with the Notice of Inquiry, my comments are organized in the manner described in the Federal Register;

### **Structure and Representation of the Guidance Groups**

- Given the large scope and important impact of the Guidance Groups on the deliberations of the Commission, each group should be chaired (or co-chaired) by at least one member of the Commission and a representative from NIST.
- Members of the Guidance Groups should be broad and balanced and allow input from professional organizations involved in forensics and standard setting.
- Members should be selected after consultation with NIST and DOJ, by nomination of individuals by recognized professional organizations or societies, or by open petition by qualified individuals.
- Guidance Group members should be appointed for limited overlapping terms (not to exceed five years, except by special arrangement). Members of each Guidance Group should include all of the various stakeholders including academics with expertise in specific disciplines relevant to the individual guidance group, practitioners of the forensic discipline, as well as representatives with working knowledge of law enforcement practices, public defenders, judges, and professional standards and laboratory accreditation. A member with expertise in ethics also should be a member of each Group. The idea of appointing community representation by the citizenry should be considered.

- Chairs of the Groups should meet on a regular basis with representatives from NIST and DOJ to facilitate sharing of best practices and uniform practices across the Guidance Groups. Several countries (e.g., Canada, Germany, and Netherlands) have organized advisory groups that include non-government members for the purpose of providing oversight and to review and monitor scientific practices, develop and propagate standards, and recommend guidelines for evaluation of forensic evidence.
- So-called “crime labs” can exist as part of a variety of government agencies (e.g., medical examiner’s offices, local, state or federal police agencies, Depts. Health), or as private for-profit companies. Each of these models should be examined, evaluated, and compared.
- Existing forensic Scientific Working Groups (SWGs) have been partially successful in recommending useful standards in a number of forensic disciplines. Part of the success of the SWGs relates to the hard work of many devoted individuals appointed to various sub-groups within the individual SWGs. Such efforts are worthy of duplication in the Guidance Groups. One limitation of the SWGs is that membership and attendance at the SWG meetings has been (too) tightly controlled by the DOJ. Such control prevents some alternate points of view on specific topics from being aired prior to finalizing documents. Furthermore there has been little, if any, representation of the defense community during the SWG activities.
- Partnership with a standards development organization (SDO) in which the standard is issued by the SDO should not present major obstacles for participation by a broad range of forensic science stakeholders in the development or adoption of a standard. On the contrary, such partnerships would be a key element of deliberations by the Guidance Groups.
- A fee-based model for membership on the Guidance Groups is not necessarily the best way to establish the soundest scientific practices in forensics. Several state or federal governments have established, by statute, committees or advisory groups to assist in the oversight and governance of forensic practices. These groups include the Forensic Commission (and its Subcommittees) of the New York State Division of Criminal Justice Services, the several advisory groups appointed to oversee various activities of the Royal Canadian Mounted Police, and the forensic oversight committee of the Commonwealth of Virginia Department of Forensic Science. Positive attributes include official appointments of the members, rotating membership, open-meeting rules, and authority to issue reports and make binding recommendations.



## **Impact of Guidance Groups**

Collaborative consensus building with Federal, state and local community partners requires a coordinated effort by NIST and DOJ working closely with various Federal agencies, and state and local governments as well as with industry representatives and commercial laboratories.

- The more open and transparent the Guidance Groups membership and activities, the better they will be able to receive input from all interested parties and achieve target goals.
- Subcommittees of the Guidance Groups should arrange to hold open meetings at some of the relevant scientific or legal meetings around the US to present progress, challenges and seek solutions to common problems. Such activities will serve two important purposes; to allow interested parties who may not be direct participants in Guidance Groups to engage in a meaningful way to have an impact on issues in front of the Guidance Groups, and to help NIJ explore research gaps and aid in recognizing research priorities.
- NIST researchers should actively engage with the Guidance Groups either as attendees or as regular members.

## **Scope of the Guidance Groups**

- At the outset, NIST must play the key role in organizing the Commission and the Guidance Groups, with some consultation with Federal government, as well as state, local, tribal and territorial governments.
- Whether all of the current forensic Scientific Working Groups (SWGs) should transition to Guidance Groups should be determined by the Forensic Commissioners. After deliberation, broader groupings of forensic science disciplines might be identified that could form the basis of Guidance Groups compared to the current group of twenty-one SWGs.
- All of the Guidance Groups will require some common challenges, including statistical evaluation of evidence and ethical practices in and out of the courtroom.

Thank you for the opportunity to provide comments and suggestions for the important matters before our nation.

Yours sincerely,



Frederick R. Bieber, Ph.D.  
Associate Professor of Pathology  
Harvard Medical School

“Forensic art is any art that aids in the identification, apprehension, or conviction of criminal offenders, or that aids in the location of victims or identification of unknown deceased persons. It is a multi-faceted field based on a foundation of art and anatomy used in conjunction with science to aid in criminal investigations.”

(Taylor, K. T., *Forensic Art and Illustration*. Boca Raton: CRC Press, 2001.)

The field is unusual in that it combines technical expertise and skill in art with scientific knowledge gained from various other fields. For several decades, Forensic Art has been admitted for evidentiary purposes in courts of law. Though it can be a somewhat esoteric field, it has achieved general acceptance as an effective tool to enhance investigative functions.

Since 1985, there has existed a Forensic Art discipline under the auspices of the International Association for Identification (IAI). There has also been a continually developing Forensic Art certification program as part of the IAI since the 1990s. Forensic Art practitioners from around the world have been involved as members and have contributed to this effort. Because of the long-established model that exists within the IAI, it is logical that a Forensic Art Guidance Group would benefit from this IAI-based foundation.

*Proposed model for a **Forensic Art Guidance Group** based on the NIST Notice of Inquiry format:*

### **1. Structure of the Guidance Groups:**

- The group would be composed of designated, experienced and involved Forensic Art practitioners.
- They would have the ability to meet on a regular basis either physically or via video conference.
- A similar initiative occurred in the UK with a multi-year Working Group for Facial Identification to develop best practices and consensus documentary standards.
- Previous SWGs succeeded in bringing together the pertinent individuals and compiling their various concerns and ideas.
- It should be noted that Forensic Art functions have been consistently difficult to define and quantify, making standardization challenging. In the Forensic Art field, there are numerous viable techniques that may successfully lead to a favorable outcome. For this reason, the IAI group has, to date, focused its efforts on development of standard terminology. A Forensic Art guidance group would need to define a *range of suggested approaches* rather than defining extremely specific guidelines for best practice.
- Certain aspects of Forensic Art involve shared interests with the functions addressed by other SWGs such as: SWGANTH (anthropology), SWGIT(imaging technology) and FISWG (facial identification). Collaboration among disciplines whose interests intersect could lead to adoption of standards in terminology and encourage acceptance of principles mutually beneficial to all concerned.
- Related to revenue generation, a fee-based membership would likely not be well-accepted in the field of Forensic Art.
- The currently existing discipline structure within the IAI encourages standardized

practice. An example of a coordinating body is the IAI's Professional Programs Quality Assurance Governing Board. The long-standing Forensic Art Certification program is a part of the effort of this board.

## **2. Impact of Guidance Groups:**

-Despite the challenges for standardization of Forensic Art techniques, meaningful practical standards *are* possible. Efforts are already being made to achieve this. A "[Standards and Guidelines for Forensic Art and Facial Identification](#)" document exists and is currently posted on the IAI website. Regular updates and further refinement of these documents are on-going.

-In addition, standardized curriculum guidelines for instructors are currently being implemented as part of the Forensic Art Certification Program. The advancement of educational curriculum guidelines will further encourage uniformity of training and practice over time. Because these curriculum suggestions are already available to all forensic art educators via the IAI website, transparency is achieved. Ultimately, education may be the best avenue to lead to adoption of standards over the long term.

-The ongoing work of the IAI Forensic Art Discipline, with the enhancement from a new Guidance Group can recognize and identify prospective areas for NIST input. Through communication between experienced Forensic Art practitioners in the Guidance Group and the NIST, enhanced quality and consistency of terminology and techniques should naturally develop. Areas of needed research will also be identified and solidified by the coordinated effort as well.

## **3. Representation in the Guidance Groups:**

-Forensic artists on a Guidance Group should represent a diverse spectrum of geographical areas and types of law enforcement agencies. Consideration should also be given to inclusion of practitioners who work on a freelance basis.

-Guidance Groups should include a majority of individuals with proven accomplishments and contributions to Forensic Art. There should be a cross-section of practitioners with significant depth of experience.

-Guidance Group members should represent knowledge from the various sub-disciplines within the Forensic Art field: composite imagery, cranio-facial growth and aging, and post mortem identification techniques for deceased individuals.

-In addition, the group should include artists with skill sets in all art media, to include: drawing, sculpture, 2-D and 3-D digital imaging.

-Special benefit could be gained by inclusion of some artists with previous participation on Forensic Art boards or committees or other SWGs related to Forensic Art.

-Although not actually seated on the Guidance Group, other stakeholders in the process could include members of law enforcement, the forensic science community, crime victims, and the general public. More than most any other forensic discipline, Forensic Art involves direct interaction with people.

-The existing affiliation of the forensic art discipline and the IAI has already gone a long way toward achieving visibility with other related organizations. Groups such as the American Academy of Forensic Sciences, and the International Association of Chiefs of

Police currently have working interactions with the IAI. The Guidance Group can apply this same sense of affiliation with those and other groups that hold similar goals.

-To accommodate interested parties, it is quite easy to create a publicly accessible on-line group or website that allows input from various sources. It is recommended that such an Internet-based group or website be managed by members of a Guidance Group rather than by any one individual.

-Composition of a Guidance Group should be varied and balanced as described above. State and local law enforcement entities can contribute by offering any needed support for employees who are asked to participate in the group. This might include time away from normal duties, equipment or travel expenses, etc. The primary contribution of the Federal government should be funding.

#### **4. Scope of the Guidance Groups:**

-It is difficult to assess the need for continuation of SWGs for disciplines other than our own.

-No SWG has ever existed specifically for Forensic Art. The creation of a Forensic Art Guidance Group seems strongly indicated.

-As previously stated, certain SWGs have addressed material somewhat related to Forensic Art. However, more specific evaluation is needed. Findings and results could be compared with other Guidance Groups.

-Through amiable interaction and communication between Guidance Groups, reasonable correlation of material could be achieved.

#### **Respectfully submitted by:**

##### **Karen T. Taylor**

Facial Images, Austin, TX  
TX Dep't. of Public Safety Forensic Artist, Retired  
Former IAI Subcommittee member  
Current IAI Certification Board member

##### **Stephen Mancusi**

Forensic and Digital Artist & Illustrator  
Detective First Grade - NYPD, Retired  
Recent past IAI Certification Board Chair

##### **Donald C. Stahl, III**

Sergeant / Forensic Artist  
Charles County Sheriff's Office, La Plata, MD  
Former IAI Subcommittee Chair  
Current IAI Certification Board Chair

##### **Suzanne Lowe Birdwell**

TX Dep't. of Public Safety Forensic Artist  
(Texas Rangers' Division)  
Current IAI Subcommittee Chair

*Response from Brett M. D. Bishop Washington State Patrol, Spokane  
Crime Laboratory*

The commenter only has knowledge of SWGDOC's structure and procedures of operation.

**1. Structure of the Guidance Groups**

• **Given the scope and principles of the Guidance Groups outlined here, what are structural models that could best support the Guidance Groups, taking into account the technical, policy, legal, and operational aspects of forensic science?** There needs to be a governing GG and disciple GGs. The governing GG ensures that uniform products are coming from the disciple GGs. All GG members of the discipline GGs should be actively working casework and meet the technical qualifications. It would be beneficial to have experts in the areas of policy, legal, and editing on the GG or have access to them. There should be a minimum of a chair, vice-chair, and secretary. The GG members are put in subgroups of 3-5 people to develop and review standards. Members may also be assigned to membership, research, or other committees.

• **What elements or models would facilitate the sharing of best practices and uniform practices across the Guidance Groups?** A governing GG that oversees all of the GGs would help facilitate sharing and ensure uniform practices. It may also be appropriate for the governing GG to develop common terminology and standards like reporting, note taking, technical review, and other standards that can be applied to all GGs be drafted with input from disciple GGs. It would also help if there was standardization of bylaws and procedures for drafting standards.

• **Are there public policies or private sector initiatives in other countries that have successfully strengthened the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline? If so, what are they?** The commenter is unfamiliar with policies in other countries.

• **What are the elements which make existing forensic Scientific Working Groups (SWGs) successful? Are there examples of best practices in specific SWGs that ought to be replicated in Guidance Groups? If so, what are they?** The members of SWGDOC are active, efficient, diligent participants that are willing to work together. The meeting is at an economical location that allows for maximum participation. SWGDOC reviews and meets as a longer group to approve standards ready for publication. They work in smaller groups of 3-5 people as they draft standards.

• **Would partnership with a standards development organization (SDO) in which the standard is issued by the SDO present any obstacle for participation by a broad range of forensic science stakeholders in the development of a standard? If so, why?** SWGDOC felt it did present an obstacle. The commenter is unfamiliar with other SDOs, but ASTM did not work well for QD. The standards were not freely available to anyone and could only be obtained if purchased. Only members of the SDO could participate in the development of the standard. SWGDOC decided to self publish to make the information freely available and allow for more people to comment on development of the standards. SWGDOC addresses each comment as appropriate. The change from publishing through ASTM to self publishing has increased the speed of development.

*Response from Brett M. D. Bishop Washington State Patrol, Spokane  
Crime Laboratory*

- **Would partnership with an SDO in which the standard is issued by the SDO present any obstacle to broad adoption of a standard? If so, why?** Yes it may. Again, if the SDO is similar to ASTM where the only way the standards may be obtained are through purchase or a fee based membership, then some may not choose to adopt the standards. Unless courts, certification, or accreditation mandate or force the adoption of standards, there will not be complete compliance.
- **Would a fee-based membership model run through a not-for-profit organization (similar to the National Conference of Weights and Measures) present a significant obstacle for participation?** Yes, it may. It depends on fees, benefits, and participation roles. Little information was obtained regarding NCWM membership, benefits, and participation to be used as an example to determine if it may be a significant obstacle. Individuals or labs may not participate if they do not see the benefit outweighing the cost.
- **If the Guidance Groups followed a fee-based membership model, are there appropriately-tiered systems for fees that would prevent “pricing out” organizations, including individuals?** No comment.
- **Other than a privatized model, are there other means to maintain governance or coordinating body in the long term? If possible, please give examples of existing structures and their positive and negative attributes.** The commenter sees two options: privatized model or government funded. The privatized model has the governing body expenses paid through fees. There may not be complete participation because of the fees. Also, unless there are member qualification requirements, anyone can pay to be a member. This has caused some problems in the past. If it was government funded, then subsidized fees or no fees may be necessary. However, a problem with relying on government funding is that it is subject to approval, cuts, and battles over budget.

## **2. Impact of Guidance Groups**

**In its role in administering and supporting the Guidance Groups, NIST’s aim is to improve discipline practices by advancing forensic science standards and techniques through a collaborative consensus building process with Federal, state and local community partners. NIST thus seeks comments about the ways in which the structure, function and operation would best support the Guidance Groups by being a catalyst for such improvements.**

- **Given that the Guidance Groups cannot mandate the adoption of standards, what can they do to best leverage their position and encourage adoption? To what extent does membership and transparency impact possible adoption of guidance at the state and local level?** NIST could work with accreditation bodies to ensure use of standards. A court decision could also mandate the use of standards. NIST could work with Congress to implement standards. Availability of the standards has a greater impact than membership on the adoption of standards. Transparency also has an impact. NIST is not in the position to police the use of the standards.
- **Are there best practices or models to consider with regard to a structure that would encourage effective communication with the scientific community to explore research gaps**

*Response from Brett M. D. Bishop Washington State Patrol, Spokane  
Crime Laboratory*

**and aid in recognizing research priorities?** Each GG should have a research subgroup. This subgroup would publish research priorities and needs. They would coordinate with research labs and universities. Public concerns and comments received via website from the legal community, academia, or anyone else would be reviewed and published by the subgroup. The subgroup should have people with adequate background to ensure that projects are thorough and valid. A NIST researcher should also part of this subgroup.

**• How should NIST researchers engage with the Guidance Groups in support of the goal to strengthen the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline?** There should be a NIST researcher or representative in each GG Research subgroup.

### **3. Representation in the Guidance Groups**

**Given the diverse, multi-sector set of stakeholders in forensic science, representation in Guidance Groups must be carefully balanced and inclusive.**

**• Who are the stakeholders who should be represented on the Guidance Groups? What steps can NIST take to ensure appropriately broad representation within the Guidance Groups? What does balanced representation mean and how can it be achieved?** The membership shall, to the extent possible, provide representation from a balance of federal government, non-federal government, and private forensic laboratories, with consideration to geographic diversity. The GG should have a max number of members.

**• What is the best way to engage organizations playing a role in forensic science, standards development and practice?** Participation should be encouraged and advertised.

**• How should interested parties who may not be direct participants in Guidance Groups, engage in a meaningful way to have an impact on issues in front of the Guidance Groups?** Participation should be encouraged and advertised. There may be more participation if there is not a fee associated with participating.

**• To what extent and in what ways must the Federal government, as well as state, local, tribal and territorial governments be involved at the outset?** They should definitely be involved as they are major participants, so representation must be present.

### **4. Scope of the Guidance Groups**

**• Should all of the current forensic Scientific Working Groups (SWGs) transition to Guidance Groups?** Unsure. Reviewing the list of SWGs, there appears to be lab based and scene based. NIST has to decide if all are necessary and to what extent they can be funded. However, there should be GG for each forensic discipline representing common examinations in crime laboratories across the nation, both lab and scene based.

*Response from Brett M. D. Bishop Washington State Patrol, Spokane  
Crime Laboratory*

- **Are there broader groupings of forensic science disciplines that could form the basis of Guidance Groups than the current group of twenty-one SWGs? If so, what are those groupings?** Unsure. GGs could be grouped by examinations in the lab and those at scenes. It may be acceptable as long as the groupings don't adversely impact the function of the GGs or the production of standards.
- **Is there a need for a crossdisciplinary functional approach (i.e. statistical analysis) and how could the Guidance Groups be structured to best address that need?** The governing GG is aware of everything that the discipline GGs are doing. If a research proposal applies to numerous disciplines, then those GGs should be communicating with each other (for example, impression and pattern). If standards apply to multiple GGs, it is the governing GG responsibility to ensure collaboration of the discipline GGs. The governing GG monitors and coordinates these activities.
- **To what extent do Guidance Groups need to support different forensic science disciplines differently from one another?** They should be supported similarly. The commenter is unaware of the need for a GG to be supported more or less than another GG. GGs should have similar budgets for meetings and production of standards, number of members, and availability of resources.

Brett M. D. Bishop  
Forensic Scientist  
Questioned Documents Section

WASHINGTON STATE PATROL  
Spokane Crime Laboratory



*Response from Sue Black of Centre for Anatomy and Human Identification*

Dear Ms Ballou

I read with interest concerning the guidance groups for forensic science. In the UK we have just completed a first round of accreditation, curriculum setting and examinations for forensic anthropology. It has been a most sobering event and if our experiences were of any assistance to NIST then it would be our pleasure to feed into the groups.

Also, we run training programmes in Interpol standard DVI training and have written the practitioners guide to DVI - only text I believe on this subject to date. If our experience in this subject was also considered to be of any value, as we are practitioners within this field as well as trainers and researchers, then again it would be our pleasure to assist.

Kindest regards

Prof Sue Black OBE BSc PhD DSc FRSE FRAI FRCPSEd HFRCPHG Cert- FAI  
Director  
Centre for Anatomy and Human Identification

Deputy Principal  
University of Dundee

<http://cahid.dundee.ac.uk>

## NIST Response

### **1. Structure of Guidance Groups:**

Given the scope and principles of the Guidance Groups outlined here, what are structural models that could best support the Guidance Groups, taking into account the technical, policy, legal, and operational aspects of forensic science?

A Guidance Group's (formerly Scientific Working Group) purpose is discipline specific. Those practitioners who participate in the Guidance Group, producing standards and research needs, are trained and use the discipline on a daily basis. These individuals should form the core of any Guidance Group and have absolute control over the technical issues that are dealt with. They are not necessarily legal or policy experts. In my opinion, the Guidance Groups should be made up of numerous practitioners, with an external advisory committee available for consultation regarding the non-technical issues that the question refers to.

What elements or models would facilitate the sharing of best practices and uniform practices across the Guidance Groups?

An effort has been made to create a body of the current Scientific Working Group Chairs with this purpose as one of their goals. Standardization in format of standards is one of the goals. Vetting a SWG's standards through the other Working Groups, as well as the forensic community and general public, is another. Allowing this group to organize and progress will be beneficial to forensic science and the judicial system as a whole.

Are there public policies or private sector initiatives in other countries that have successfully strengthened the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline? If so, what are they?

While I'm not that familiar with it, I do know that the European Network of Forensic Science Institutes (ENFSI) is a model that can be emulated, with modification, for setting up the Guidance Groups. This organization, with its members, has generated Working Groups for various disciplines and generated best practices for use throughout Europe.

What are the elements which make existing forensic Scientific Working Groups (SWGs) successful?

As I am only fully knowledgeable of SWGDOC, my comments will reflect what is known with that organization. First and foremost, the members are practitioners. As members, they are trained in the discipline, whether in all aspects, or in several sub-disciplines within forensic document examination (an example of this would be an ink chemist). The members are

*Response from Ted Burkes of Federal Bureau of Investigation*

testifying examiners who know what is needed to conduct examinations and testify, in a court of law or other venue, to the result of their examinations. Additionally, the members of SWGDOC represent a balance of three sub-groups within the discipline – federal government practitioners, state and local government practitioners, and practitioners from the private sector. Draft standards are generated by small committees, generally consisting of five to seven individuals, and vetted through the entire body of the SWG.

However, to speak to one SWG that I am not as familiar with, SWGDAM is successful because the National DNA Index System (NDIS) database was established by law. According to Wikipedia, “The DNA Identification Act of 1994 (42 U.S.C. §14132) authorized the establishment of this National DNA Index. The DNA Act specifies the categories of data that may be maintained in NDIS (convicted offenders, arrestees, legal, detainees, forensic (casework), unidentified human remains, missing persons and relatives of missing persons) as well as requirements for participating laboratories relating to quality assurance, privacy and expungement.” Because it is established by law, it is enforceable (and successful).

Are there examples of best practices in specific SWGs that ought to be replicated in Guidance Groups? If so, what are they?

The group of SWG chairs mentioned above was creating a joint glossary of all of the terms in use by each SWG. While this is not a best practice, it is an example of a document that can be consolidated and used throughout the SWG community. As to a specific best practice that would apply to all of the SWG’s, I am not aware of one.

Would partnership with a standards development organization (SDO) in which the standard is issued by the SDO present any obstacle for participation by a broad range of forensics science stakeholders in the development of a standard?

Yes.

If so, why?

My only SDO experience is with ASTM, International (ASTM), so my remarks will reflect my experience with that particular SDO.

ASTM requires membership (\$75.00 a year) to participate, or pay to play. While ASTM did not require you to be a member to comment on a draft standard, to my knowledge that was the only way you got a notification that a draft was available for comment. Therefore, the commenters on a draft proposal were overwhelmingly ASTM members. Additionally, once the standard is finalized, it was copyrighted by ASTM and the standard had to be purchased to be used (other than a one-time use for each standard by a member). So even though the SWG drafted and wrote a standard, because they chose to publish through ASTM, they could not use the standard without violating copyright laws (unless they paid for the use). There was also a limitation on quoting from an ASTM standard in a report without paying for it.

## *Response from Ted Burkes of Federal Bureau of Investigation*

The effect of SWGDOC's experience with ASTM was that it was an unnecessary venue to use to publish standards. Other SWGs (SWGFAST and SWGTREAD, for instance) self published and had no difficulty in courts of law with acceptance of their standards in their discipline. As a result, SWGDOC voted for and decided to cease publishing through ASTM so that the standards that were being produced could be provided to all that needed them, free of charge.

Would partnership with an SDO in which the standard is issued by the SDO present any obstacle to broad adoption of a standard? If so, why?

While there is no limitation to adoption of a standard by those who use it, whether it be practitioner, attorney, or judge, use of an SDO unnecessarily delays the amount of time it takes to take a standard from draft to final, and adds an unnecessary expense. Additionally, our experience with ASTM limited the exposure of the draft for review.

Would a fee-based membership model run through a not-for-profit organization (similar to the National Conference of Weights and Measures) present a significant obstacle for participation?

Yes. The issue is not necessarily that fees are being charged or incurred, but that the standards that are published are followed by the practitioners and that they be required by law or regulation. The example of the National Conference on Weights and Measures is a good one, in that this body/group carries no enforceability of their standards, other than that mandated by laws and regulations (whether from Federal agencies and Congress, or from state and local entities). Yet there are laws and regulations for weights and measures, and as a result, there is enforceability for those standards. This is yet another example of the enforceability of the standards because there are laws or regulations requiring it (see NDIS example above).

If the Guidance Groups followed a fee-based membership model, are there appropriately-tiered systems for fees that would prevent "pricing out" organizations, including individuals?

I don't understand how this question applies to forensic science.

Other than a privatized model, are there other means to maintain a governance or coordinating body in the long term? If possible, please give examples of existing structures and their positive and negative attributes.

The current SWG system is not based on a privatized model and seems to be working well, as long as there is funding for them to operate. While the current SWG system is not standardized, efforts are in the works to do that. As I understand it, only ten of the current SWGs are/were funded by NIJ. The rest were funded by various other agencies or groups. To attain consistency between all of the SWGs, it would be beneficial if they were all working and reporting to the same entity.

## **2. Impact of Guidance Groups:**

## *Response from Ted Burkes of Federal Bureau of Investigation*

Given that the Guidance Groups cannot mandate the adoption of standards, what can they do to best leverage their position and encourage adoption?

Without a doubt, the best way to ensure that standards are adopted by practitioners and courts of law, is through laws and regulations. Short of that, the standards are used by practitioners as a result of training and/or integrity in their practice.

To what extent does membership and transparency impact possible adoption of guidance at the state and local level?

While membership (in a Guidance Group) is not necessary for a state or local practitioner (and this would also include the private practitioner) to adopt a standard, participation is. Every practitioner should have an opportunity to provide input to a standard. Transparency in the manner in which a standard is prepared and finalized is essential to that standard being used by practitioners.

Are there best practices or models to consider with regard to a structure that would encourage effective communication with the scientific community to explore research gaps and aid in recognizing research priorities?

Not that I am aware of.

How should NIST researchers engage with the Guidance Groups in support of the goal to strengthen the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline?

NIST researchers could be used to validate, or further validate, the underpinnings of a discipline or sub-discipline, as well as conducted directed research that would benefit the various disciplines.

### **3. Representation in the Guidance Groups:**

Who are the stakeholders who should be represented on the Guidance Groups?

Generally speaking, there are three levels of stakeholders in the field of forensic document examination: The practitioner, the courts, and the public.

The practitioners in this discipline are made up of government examiners (those working in a crime laboratory, funded at the federal, state, county, or local level, who work with evidence generally submitted to that laboratory by law enforcement agencies) and private practitioners (those who maintain a private business and are available for hire by anyone). These individuals are the technical experts for the discipline and also know the limitations of what can be done and said.

## *Response from Ted Burkes of Federal Bureau of Investigation*

The second level of stakeholder is the legal system, whether it be of a criminal, civil, or administrative nature. This is generally the group that the practitioner provides services to.

The last group of stakeholders would be the general public, who are either using an attorney or other legal representation that has hired a practitioner, or an individual who chooses to hire a practitioner for a non-legal issue.

What steps can NIST take to ensure appropriately broad representation within the Guidance Groups?

An announcement to the Federal Register, the American Academy of Forensic Sciences, and regional organizations should suffice.

What does balanced representation mean and how can it be achieved?

Balanced representation means that practitioners from throughout the discipline have a voice. In SWGDOC, this was achieved by balancing the number of 1) federal government, 2) state and local government, and 3) private examiners, with an additional effort to obtain broad geographic representation also.

What is the best way to engage organizations playing a role in forensic science, standards development and practice?

Make the use of the standards mandatory by law or regulation

How should interested parties who may not be direct participants in Guidance Groups, engage in a meaningful way to have an impact on issues in front of the Guidance Groups?

The interested party should address the issue to the Guidance Group through the web site's contact menu. The Guidance Group leadership should respond to, and carry it forward if appropriate, any issue that is raised.

To what extent and in what ways must the Federal government, as well as state, local, tribal and territorial governments be involved at the outset?

Funding, to the extent possible, and allowing discipline-trained experts to participate in the process.

#### **4. Scope of the Guidance Groups:**

Should all of the current forensic Scientific Working Groups (SWGs) transition to Guidance Groups?

There appears to be some overlap in what some of the SWGs do, but then you have SWGMAT, which has five (or six?) mini-SWGs under its umbrella. Where there is commonality among SWGs, there could be some joining of the work that is done.

*Response from Ted Burkes of Federal Bureau of Investigation*

Are there broader groupings of forensic science disciplines that could form the basis of Guidance Groups than the current group of twenty-one SWGs? If so, what are those groupings?

There are, but there is also overlap from several SWGs into another broader grouping. For instance, SWGDOC is primarily a comparison-based SWG, however, there are chemistry aspects to the discipline (ink and paper) which have to be addressed.

Is there a need for a cross disciplinary functional approach (i.e. statistical analysis) and how could the Guidance Groups be structured to best address that need?

There is some cross disciplinary consistencies among many disciplines. For instance, the impression and pattern evidence SWGs could be grouped. However, it is my understanding that the statistical analysis would vary from one discipline to another, even in this group.

To what extent do Guidance Groups need to support different forensic science disciplines differently from one another?

Similar Guidance Groups, grouped together as suggested in the previous question, would be useful for at least two functions. One is that their understanding would be very beneficial in reviewing draft standards. The other is that this Impression group could be used as an appeals level, if need be, for the production of standards.

Ted Burkes  
FBI

## LESSONS LEARNED FROM DEVELOPING TECHNICAL WORKING GROUPS

**Carole E Chaski PhD**

Institute for Linguistic Evidence  
ALIAS Technology LLC

### ***BACKGROUND***

As part of my visiting fellowship at the National Institute of Justice's Office of Science and Technology (NIJ OST) from 1995 through 1998 and subsequent grant funding, I provided technical support to Dr. Richard Rau, the Program Manager for Investigative and Forensic Sciences. At the time of my arrival at NIJ, Dr. Rau was the only person tasked with forensic science grant management, and I was the first visiting fellow for OST, so Dr. Rau and I immediately began to work on a multitude of issues that were facing the forensic science community and to develop a research agenda for forensic sciences. It was a very exciting time: several high profile cases such as the O.J. Simpson trial and the JonBenét Ramsey investigation as well as the successful challenge to handwriting identification in the Starzecpyzel case were demonstrating to both the forensic science community and the American public that training and methods in forensic sciences needed research support. The growth of NIJ's forensic science program was directly related to these cases and the public attention they generated.

While NIJ's means of fulfilling its mission primarily involved research grant solicitation and funding, and conferences on current issues, Technical Working Groups (TWGs) became another way that NIJ could support the forensic science community. With Dr. Rau, I authored the *NIJ Template for Technical Working Groups* (attached as Appendix 1) as a way to standardize the process for developing TWGs, and to teach the process to the new contractors, Lisa Kaas, Anjali Ranadive Swienton and Saralyn Borrowman, coming in to support the forensic science division.

I became very involved with two TWGs, planning and serving on subcommittees of TWGEYEE for Eyewitness Evidence and TWGDOC for Questioned Documents. I was involved in planning TWGSCENE for Crime Scene Investigation and TWGED for Forensic Science Education, and guiding the process for TWGECSI for Electronic Crime Scene Investigation, but my experiences with TWGEYEE and TWGDOC were much more extensive.

Since the NIST-administered Guidance Groups are clearly related to T/SWGs, I would like to address some lessons I learned in developing TWGs at NIJ, and my thoughts about the *NIJ Template*, looking back now and seeing how certain TWGs developed.

The danger of any consensus or standard-setting group is that it may become the rubber stamp of a clique who, by affiliation or funding, dominates the group even if the clique does not enjoy the same status within the particular forensic science community. Therefore, I suggest that, while the *NIJ Template* still serves as a good starting point for the NIST



Guidance Groups, lessons learned from inclusion, funding and process-initiation should inform NIST's process model for developing and sustaining Guidance Groups, as detailed below. Many of my experiences support and confirm the description of Guidance Groups in the Notice of Inquiry. I hope that my thoughts will add some helpful and practical dimension to NIST's current ideas.

### ***MAIN POINTS FOR NIST GUIDANCE GROUPS***

My main points are:

(1) Inclusion of all stakeholders lends credibility to the Guidance Group; unprincipled exclusion of individuals affiliated with certain groups or clique-based selective inclusion undermines the credibility of the Guidance Group and its work product. Decisions about group inclusion should be based on expertise, with all relevant stakeholder interests represented. The vetting procedure for membership is the most difficult and yet most fundamentally predictive process in the ultimate success of the Group.

(2) Decisions about funding support for the Group should be independent of decisions about inclusion or membership.

(3) The funding agency should not have representative subject matter experts in the group, lest the consensus appear to be purchased by the funding agency.

(4) Purpose and mission should be initiated by stakeholders and clearly defined to include both current issues and long-term research goals. Identifying research gaps typically requires researchers to be in the discussion because practitioners cannot always see the gaps.

(5) Standards should be clearly marked as being promulgated based on common practice and/or empirical research results. Otherwise, standards based on current common practices can misrepresent or exaggerate the empirical foundations of common practice, as lay readers and consumers such as attorneys or judges may assume that common practices are empirically validated simply because they appear in standards.

### ***Basic Principles of Group Structure***

As shown in Appendix I, NIJ's vision for TWGs has three fundamental characteristics: first, it relies on the forensic science community (defined inclusively) to initiate a group for consensus-building; second, it is inclusive, expanding the circle for membership to all possible stakeholders, and third, it uses the TWG as a problem-solving mechanism, where the problems are defined expansively, from standards-reporting, to standards-setting, to research identification.

Thus, the *NIJ Template for Technical Working Groups* is based on a few principles: (i) stakeholder initiation (i.e. market-driven), (ii) inclusivity, and (iii) problem-solving. These principles interact.

Stakeholders are seen inclusively, meaning that the stakeholders for forensic science include all jurisdictional levels (Federal, State, Local), all geographic areas (US regions; rural, metropolitan and urban), both prosecution and defense, forensic scientists/examiners both in government employment and in the private sector, researchers in government employment, academia and in the private sector, and law enforcement.

Stakeholder initiation shows problem-solving. When a problem in any forensic science discipline rises to a level that a stakeholder wants to address it with the help of other stakeholders, then forensic science is functioning proactively to better itself and the judicial system. Problem-solving can also be retrospective, in the sense that standards can codify what has been common practice in a field. However, even codifying standards can have a proactive effect because this process can highlight or expose research gaps, points where common practice lacks empirical foundation even if it has community endorsement.

### ***The Vetting Procedure***

In the NIJ Template, there are two stages for membership. First, the NIJ staff pulls together a TWG Consultant Panel (sometimes called the Planning Panel), and then the TWG Consultant Panel and NIJ staff pull together the Membership Resource Pool. Membership relies on the vetting procedure for developing the TWG Consultant Panel and the Membership Pool. It is worth quoting from the *NIJ Template* to describe this vetting procedure:

NIJ Staff (or contractor) researches the issues behind the request. This preliminary research may include:

- a. what are the most important research findings to date;
- b. who are the researchers working in this topic area;
- c. what are the current technologies related to this topic area;
- d. who are the developers and/or marketers of these technologies;
- e. what practitioner-based organizations concerned with the topic area are operating at the national, state and local levels;
- f. who are the current officers of these organizations.

This research enables NIJ to assemble a TWG Consultant Panel consisting of three or four experts in the field ... the TWG Consultant Panel reviews the NIJ Staff's initial research and insures that the research into the issue, major players, organizations, technologies, etc. is both complete and accurate.

Quoting again from the *NIJ Template*, note that expertise is crucial for selection (italics added):

Based on earlier discussions with the TWG Consultant Panel, NIJ Staff drafts an agenda of issues for the TWG. The draft plays an important role in determining the *necessary expertise and composition of the membership*.

The Membership Resource Pool consists of all national, regional, state and local organizations which are related by discipline to the community-articulated issue of the TWG, researchers within the discipline, and any private sector entities within the discipline. When NIJ's Director requests nominations from the Membership Resource Pool, he specifies three criteria to be met by the nominees. These three criteria are, first, that the nominees should represent a specific regional distribution; second, the nominees should have *the specific expertise needed for the TWG's tasks*; and third, that the nominees should be available and committed to active participation in the TWG, including the attendance of meetings and writing of reports.

The vetting procedure requires a strong ability for searching, reading, assessing and categorizing both scientific literature and news media. It is really crucial for NIST Guidance Groups, as it was for NIJ TWGs, that staff be trained in how to conduct this vetting procedure, as this can bring to the surface people who have a lot to contribute. For instance, practitioners do not normally publish in research journals, but practitioners can be found through professional organizations, law enforcement academies, and media reports on cases at the State and local levels. On the other hand, researchers can be found whose research indirectly relates to a forensic issue, and once the researcher understands this connection, a new possibility for basic scientific work in service to forensic science opens up for a field. This vetting procedure is how I found Dr. Sargur Srihari's work on handwriting recognition; I approached him with the possibility of converting the recognition algorithms into identification algorithms by collecting the measurements which are usually discarded in recognition. Dr. Srihari agreed that this algorithmic tweak was possible and eventually created CEDAR-FOX as an automated measurement system for forensic handwriting identification.

Clearly, some background knowledge enables the staff to perform the vetting procedure, and care should be taken to assign staff to their strengths. For example, Lisa Kaas had a B.A. in psychology and a strong ability to read and assess psychological research literature. Her work was especially important in the vetting procedure for TWGEYEE membership. NIST has a wealth of staff scientists who can support the Guidance Group vetting procedure, bringing their background knowledge to the table.

NIJ staff also conducted telephone conversations with potential participants. This would allow us to discuss issues in forensic science and frankly "get a feel" for the potential participant's ethics and commitment to justice and forensic science. Sometimes, as a team Lisa Kaas, Anjali Swinton and I would have separate conversations with the possible participants and compare notes. During these conversations we were extremely careful not to issue an invitation, because those would come from the NIJ Director, but to broach questions about the particular problem at hand.

While the vetting procedure serves to identify participants who can make or have made contributions to the particular forensic science, the vetting procedure also must serve the complementary function of screening out possible participants. It is just a plain fact that within the forensic science community there are the self-serving hired guns, fame seekers, recluses who refuse to work in community as well as the dedicated forensic scientists, forensic technicians and researchers who care deeply about justice and perform their work to the highest ethical standards of honesty, attention to detail, and protection from bias. In the past, some TWGs have relied on group affiliation and/or employment as the way to differentiate between the dangerous and the dedicated.

But the recent history of forensic sciences demonstrates that group affiliation and employment are not reliable ways to differentiate between these two types in the forensic science community. Even the AAFS, undoubtedly the premier organization for forensic science, has had expulsion cases; government crime labs throughout the country have been exposed by whistleblowers and independent re-testing. A vetting procedure that relies only on group affiliation or employment is blind. The TWG or Guidance Group that results from such blindness will not be productive or credible in the long run, and will not be protected from possible scandal.

### ***Three Models for Vetting Membership***

Currently there are three possible models for membership. I liken these to different kinds of sieves for screening.

- 1) The model associated with ASTM and other SDOs allows in any one who is interested, willing and pays the fee: trusting that everyone in the forensic science community has the best intentions, this sieve has the largest possible screen openings.
- 2) Some TWGs only allow in a very small portion of interested parties and disallow a large portion of willing and interested members of the particular community (see Appendix II, and later comments): this sieve has the smallest possible screen openings.
- 3) The *NIJ Template* model allows in only those who have proven their ability to make a contribution to solving a problem for the good of the community and justice system, while disallowing those whose work ethic is questionable. Like a sieve with just the right sized openings, the *NIJ Template* vetting procedure winnows ethical and sincere members of the forensic science community from the self-serving.

Getting the right sieve is crucial for the ultimate success and credibility of the Guidance Groups. In both models 1 and 2, the credibility of the group suffers. In model 3, the credibility of the group is enhanced.

In the first model, because there is no screening device for membership, there are bound to be fights about voting rights –because voting rights will substitute for a membership vetting procedure– and people who have seized official power can provide voting rights based on allegiances or cliques. A group cannot be credible as a consensus-building or

consensus-reporting body if its voting rights are riddled with qualifiers, excluding portions of the entire group. Consensus means consensus or nothing at all.

In the second model, because the screening device for membership is so tight, there are bound to be fights about who is allowed to squeeze into the group, who has been overlooked, and who meets certain criteria that do not have to do with expertise or potential contributions, but do have to do with affiliations, employment or some other criteria. A “consensus” group cannot be credible if its membership does not represent an entire discipline, as clearly the “consensus” is just staged. If such a group tries to enforce one particular viewpoint, sometimes controversial, on an entire discipline, this will result in a power struggle and deep resentment. The entire community will not “buy in.” Alternatively, the excluded will rush to a group organized along the first model where they will be accepted, and then competition between the groups will arise and another power struggle occurs.

The *NIJ Template* offers a vetting procedure that is moderate, realistic, expects conflict among disagreeing parties and engages all stakeholders that can be affected by consensus decisions. This vetting procedure uses proven expertise, potential for contribution, the telephone conversations, and appropriate but not overwhelming weight to group affiliation and employment. This moderate, realistic and expertise-driven perspective on group membership assembles a credible group since it includes people whose prior contributions to the particular forensic issue can be defended, and who represent a wide spectrum of the forensic science community.

### ***How The Basic Structure and Vetting Procedure Affects TWG Success and Credibility***

In my experience, TWGEYEE is a good example of a successful TWG that followed the NIJ template and fulfilled its mission, while TWGDOC is a good example of a problematic TWG whose planning and development did not follow the NIJ template.

### ***LESSONS FROM TWGEYEE***

From my experience with TWGEYEE, I would like to share several lessons for the NIST Guidance Groups.

#### ***Initial Request and Clear Purpose***

TWGEYEE came about because Attorney General Janet Reno requested that NIJ do something in response to the accumulating evidence that wrongful convictions were so often based on erroneous eyewitness evidence (as shown in “the green book,” *Convicted by Juries, Exonerated by Science: Case Studies in the Use of DNA Evidence to Establish Innocence After Trial* 1996).

As a Federal prosecutor and former State prosecutor, Reno brought the request representing prosecutors dealing with the growing problem of wrongful conviction. Reno’s

request mentioned research in cognitive psychology, some of which I was familiar with due to my research in psycholinguistics. This familiarity with the research literature led to my being tasked with forming the Planning Panel, the first step in deciding if a TWG is needed, its Membership Resource Pool and its first agenda. TWGEYEE was intended from the start to solve a problem in the criminal justice system by looking seriously at how eyewitness identification works and how it is used in trial. The goal was to improve the criminal justice system in a way that all stakeholders could agree upon, and find a way of operationalizing the best research results in practical and feasible ways for all jurisdictions, from the smallest to largest police departments.

The lesson for NIST Guidance Groups is that a successful group has a clear, unequivocal purpose, in which all sectors of membership can agree and commit to.

### ***Membership and Inclusivity***

TWGEYEE was structured and populated based on the NIJ Template. Generally, the vetting process relied on demonstrated expertise through publications, conference talks or years of experience in criminal investigation (prosecution or defense), and telephone conversations with potential participants for the Planning Panel. The Planning Panel of subject matter experts then helped NIJ staff determine the rest of the Membership Resource Pool from which the TWG membership would eventually come. While there were one or two academics who were not in TWGEYEE, this was due to budgetary constraints. To the best of our ability, the Membership Resource Pool did not reflect any personal favoritism, organizational animus, or academic rivalry, but it did reflect different stances.

Due to inclusivity of stakeholders, TWGEYEE automatically included sectors that could be antagonistic to each other: prosecutors and defense, researchers and practitioners. This cross-pollination is good: the potential for differing viewpoints produces benefits for the forensic science community and credibility for the TWG. In my experience with TWGEYEE, hearing police interrogators talk about their usual protocols enabled me to design my own research in ways that could ultimately be useful to the interviewing and interrogation process, but I also witnessed the way prosecutors and researchers hammered out the details of actually using sequential rather than simultaneous line-ups.

The lesson for NIST Guidance Groups is that dissent is not dangerous, but actually to be expected as part of the consensus-building process.

### ***Funding and Independence of Members***

TWGEYEE was fully funded by NIJ, and no one subpopulation had special funding status or a special relationship to NIJ. This was especially important because no one group could possibly threaten or insinuate that only a particular consensus was acceptable to the funding agency. As an independent broker, NIJ could not influence the discussions to go one way or the other, and NIJ staff's role was to facilitate consensus. (For full disclosure, I played two roles in TWGEYEE: I was a subject matter expert on the interview subcommittee and sometimes called into the identification subcommittee to function as a

discussion facilitator, because the identification subcommittee had more controversy and I was used to running faculty meetings and graduate-level seminars as a former university professor).

Again, quoting from the *NIJ Template*,

The Moderator of the TWG and TWG subcommittees must be independent of the group's final outcomes, must not have a vested interest in the group's final outcomes, and must serve to facilitate discussion and communication.

This kind of evenhandedness must be discerned during the vetting procedure. In TWGEYEE, we were fortunate to have Mark R. Larsen, a prosecutor from King County, Washington on both the Consultant Panel and TWG. His ability to lead discussion and keep the group on track was excellent.

### ***Lessons on Best Practices for Success in Consensus-Building***

TWGEYEE's discussions were vigorous, often heated, and conducted with the ultimate purpose of improving the criminal justice system. I am not speaking merely in platitudes, but in the reality of the project. I believe that this was possible for several reasons that are actually built into the NIJ Template.

- First, funding was independent of any participant or subgroup. All participants were on equal footing; none represented a position that the funding agency had a stake in.
- Second, from the start the group included potentially opposing viewpoints (prosecution and defense, researcher and practitioners) by the principle of inclusivity.
- Third, there was an initial, fundamental consensus among TWGEYEE members that the problem of wrongful conviction was real and worth solving, and this consensus of purpose was stronger than ego-alignments or occupational loyalties.
- Fourth, it was essential to have independent staff as well as TWG members to facilitate and moderate discussions. It cannot be assumed that everyone in the group will have the skillset to guide a discussion, especially one in which conflict is inevitable.

TWGEYEE was a successful group that fulfilled its purpose and has had a sustained impact on the criminal justice system. Jurisdictions throughout the United States have adopted scientifically-validated methods for line-ups and interview/interrogation methods based on principles of human memory. Training curricula have been developed and deployed across the United States.

## ***LESSONS FROM TWGDOC***

From my experience with TWGDOC, I would like to share several lessons for the NIST Guidance Groups. These lessons provide a contrast to TWGEYEE, with the exception that TWGDOC discussions, especially among Federal document examiners from different labs, were also often heated.

### ***Initial Requests and Mixed Purposes***

TWGDOC's origins are a bit complex. Crime lab directors first approached Dr. Rau after the Starzecpyzel ruling because they feared that a unit of the labs would lose admissibility and eventually become non-productive. Dr. Rau asked me to look into the problem because my work in forensic linguistics overlaps with forensic document examination via authentication of documents and author/writer identification. It is important to note that the request did not come from the forensic document examination (FDE) community *per se*, but from crime lab management. The crime lab directors were concerned about facing the Daubert challenge without an adequate body of research into the fundamentals and accuracy of handwriting identification.

In response to this request, I organized a workshop which was held in the summer of 1996. This workshop was fairly inclusive, bringing together document examiners from Federal and State crime labs, a Federal prosecutor, and researchers in fields that could engage in basic research relevant to handwriting identification, including neurology, computer vision, pattern recognition (not pattern perception but the subfield of machine learning), linguistics, statistics and the NIST UniPen Project. (For full disclosure, I was not the only linguist invited to the workshop but I was the only one who attended). The workshop was a good mix of practitioners and researchers who could address the fundamental issue of meeting the Daubert challenge, as outlined by the crime lab directors. However, at this meeting I realized that the document examiners were more focused on expedient ways of getting admissibility, such as proficiency testing, than on fundamental research validating basic assumptions in the field. This difference in purpose played a role in how the TWG was eventually developed and managed. The point is that the community related to forensic document examination did not have a united purpose.

In December of 1996, I convened a meeting of document examiners representing Federal labs, held at NIST OLES, to discuss the next step. At that meeting, in discussing possible options (conference, research solicitation, TWG), it was suggested by an FBI representative that a TWG should be formed. Afterwards, I discussed this possibility with Richard Stanko, the director of the QD Unit at the FBI Lab in DC, and he agreed.

In retrospect, I see that the visions of the NIJ Template and the FBI-sponsored TWGs were not really compatible. I am attaching a letter from the American Board of Forensic Document Examiners, dated May 5, 1998, that illustrates the tension and difficulty that TWGDOC encountered due to the difference in vision between NIJ and the FBI (see



Appendix II). The lessons originating in this different vision for technical working groups are detailed below.

### ***Exclusivity and Membership***

One of the major differences between the NIJ and FBI approaches was inclusivity. NIJ wanted to include researchers and other stakeholders in TWGDOC, as well as a broad representation of document examiners, including the private sector and researchers. The FBI wanted to include only Federal examiners and one FBI-funded researcher, Prof. Moshe Kam. Through Kathleen Mills with whom I worked to help plan TWGDOC, the FBI was persuaded to include State and local examiners as well as representatives from organizations such as AAFS. The AAFS representative turned out to be a private examiner, Linda Hart whose leadership was noted by everyone in the original group. Eventually, other private sector examiners created a coalition, insisted upon being included and were. So much energy was spent on the issue of excluding certain groups.

Current membership in TWGDOC still excludes a portion of the private sector such as Diplomates of the Board of Forensic Document Examiners (BFDE) and members of the Association of Forensic Document Examiners (AFDE); for full disclosure, in 2012 I accepted an invitation to join the Board of BFDE to serve as an appointed director, and started in 2013. BFDE was the first forensic document examination certification board to be accredited by the Forensic Specialties Accreditation Board (FSAB) and its certification testing was developed with and is administered by Dr. Steve Clark of Occupational Research and Assessment. AFDE has been open to research in the field of handwriting as associated with different American and European research teams since the early 1990's. However, BFDE-diplomates and AFDE members are excluded from serving on SWGDOC on the basis of full-time vs. part-time apprenticeship training; only full-time apprenticeship training is accepted by SWGDOC, while many BFDE-diplomates and AFDE members have been trained in part-time apprenticeships over several years with a qualified expert in the field.

Currently, SWGDOC's bylaws state that "non-forensic science practitioners such as academics, researchers, statisticians and legal representatives" can be approved for membership by the Membership Committee. However, SWGDOC has not included any researcher since 2005 (according to the last available documentation available on the web), and I resigned in 1999 of my own accord. I resigned from TWGDOC because I felt that the standards being developed were a dangerous case of "the cart before the horse." I felt that the protocols were actually laying the field open to an extremely damaging Daubert challenge because the protocols were so unfounded by validation testing or other research and exposed a pervasive subjectivity and potential for bias in decision-making especially for writer identification. Fortunately, before I resigned, I was still able to serve the forensic document examination community in another way, as mentioned later, beyond TWGDOC.

There are three lessons for NIST on this topic of membership, having to do with the private sector, researchers, and credibility.

### ***The Private Sector***

Inclusivity means that the private sector as well as government employees should be fairly represented in the Guidance Groups. Representatives from the private sector should not be restricted to those individuals who entered private sector after retiring from employment in the public sector, or to government employees who moonlight in the private sector, or to those individuals who hold memberships in professional organizations made up almost exclusively of current or former government employees. The inclusion of members representing all relevant private sector stakeholder interests is increasingly important for several reasons.

First, in some jurisdictions, crime labs have actually shut down, and both prosecutors and defense must use private sector forensic science practitioners. In Georgia, for instance, there are sections of the state where no crime lab has a questioned document (QD) examiner, so all QD work has to be performed by examiners in the private sector. Having truly representative private sector input supports the interests of justice, not merely the interests of law enforcement. If the private sector is not fairly represented in the guidance groups, any standards developed by such underrepresented groups will lack credibility and consensus support. Private sector input cannot be almost exclusively derived from retired government employees or active government employees who are allowed to “moonlight” and accept casework in the private sector. Government stakeholder interests cannot be seen as monopolizing the guidance groups, and in particular, the consensus standards development process.

One of the strengths of our criminal justice system is the ability to present a strong defense, and any forensic science guidance group therefore requires meaningful input from those forensic science practitioners who provide the majority of expertise to the defense.

Finally, in some forensic disciplines, the private sector has contributed significant advancements to methods and empirical standards in ways that crime lab employees have not been able to do. Crime lab employees typically do not have the time or budgets to undertake method validation projects, whereas corporations, universities and think tanks do.

### ***Researchers***

Additionally, I believe that researchers should automatically be included in the Guidance Groups. Forensic science researchers are found in academia, industry think tanks and corporate research and development workgroups. Researchers should be involved for complementary reasons and mutual benefit.

Putting researchers and practitioners in the same discussion group benefits the researchers as they discover the concerns of people who might eventually use the research. Inclusivity enables practitioners to ask questions and show the researchers how far the laboratory research is from real life situations. Researchers can produce better, more realistic research studies when they hear the concerns of the eventual end-users.

Practitioners are also benefited as they hear researchers explain their own research results, answer questions and even disagree with each other. Practitioners learn that science is fluid and probabilistic and cannot always be set in stone for every situation. This fact of science can make the standard-setting consensus difficult, but far more realistic than if practitioners alone set standards based on a practice that is common in a crime lab.

As a researcher, I personally found this to be true in my experience with TWGDOC. Learning about the issues from document examiners enabled me to make a strong case to Dr. David Boyd, NIJ's Director of the Office of Science and Technology, for research funding in forensic document examination; see for instance the first solicitation for research in validating handwriting identification I authored as a means of providing some support to the forensic document community <https://www.ncjrs.gov/txtfiles/sl297.txt>. Some of the research that NIJ funded in FDE has been crucial in helping the field retain admissibility and win Daubert challenges. Note that this funding solicitation did not arise out of TWGDOC, but because NIJ was able to provide support for the community outside of TWGDOC.

### ***Reduced Credibility Due to Exclusivity***

Since TWGDOC has always held to an exclusive membership, its credibility as a true consensus-building group has been reduced. Consensus can barely be said to exist when the only people allowed in the group are those whose doctrine is already blessed by the powers-that-be. Dissenting voices are not heard if the membership and vetting procedure is based on exclusion.

For NIJ, the purpose of TWGDOC was to determine ways of meeting the Daubert challenge, first by operationalizing protocols, even if that meant suggesting changes to some commonly used protocols, and identifying research gaps. However, as I regularly attended meetings for the first two years, it became very clear to me that the real purpose of TWGDOC was to create standards based on one Federal laboratory's common practices, even if the issue was untested, unvalidated and unresearched. For example, one of the most controversial issues, having to do with training requirements, has never been researched to discover if full-time training is really superior to part-time training. Basing a forensic discipline's membership on this issue would be like the American Bar Association not allowing attorneys who attended law school part-time to join the association, or State Bar Associations not admitting lawyers who attended law school part-time, regardless of their passing the bar exam. The fact that SWGDOC continues its exclusive membership criteria strains the perception that it can truly function to report, much less build, consensus.

The issue of membership has even affected the ASTM E30.02 Committee on Questioned Documents. As mentioned earlier, the ASTM E30 Committee offers membership to those who are interested and willing. This "wide door" approach has worked well for many forensic disciplines under the E30 umbrella. It is well known that a dispute in E30.02 broke out over who was allowed to vote when voting became restricted under a classification system enacted in 2005. Salaried government examiners and private examiners were

supposed to have equal voting power to maintain balance, until the government examiners moonlighting in the private sector were allowed to choose whether they wanted to vote as a government employee or a private examiner. Election to vote as a private examiner was known to displace the voting rights of full-time document examiners in private practice; this created an imbalance in representation and also effectively took away private sector input. Eventually, E30.02 was disbanded due to the voting controversy before some standards could be voted on. All of the sordid details of these events have been documented elsewhere by others who were directly involved.

My point --the lesson for NIST -- is that a policy of exclusive membership can derail the entire process and certainly discredit the group by allowing it to become so politicized that it would “cut off its nose to spite its face.”

### ***Funding and Credibility***

The funding of TWGDOC was an issue between NIJ and the FBI; it was far beyond my responsibilities as a Visiting Fellow. However, funding clearly played a role in how the TWG was developed and eventually managed, and the FBI became the primary funding agency.

The fact that the funding agency was allowed to populate the TWG with its preferred subject matter experts was, in my opinion, not a good idea. When the funding agency has unchecked power in the selection of subject matter representatives on the TWG, there is always the underlying sense or dreaded possibility that the money will be withdrawn if the funding agency's subject matter experts do not produce the “desired” consensus. The group consensus should not be bought or in any way even appear to be bought by the funding agency. Even the appearance of impropriety based on a funding agency's domination of a group undermines the credibility of the group and any so-called consensus reached by the group. Again, documented discussions in ASTM E30.02 show how far and deep the funding agency's influence can become on the standards-creation process. It would be far cheaper and time-consuming, and more direct, if a funding agency just set out its rules and regulations and implored everyone to obey rather than create a group whose credibility is suspect due to its relationship to the funding agency.

The lesson for NIST Guidance Groups is that the funding agency should be independent of the subject matter experts, i.e. the subject matter experts should not be salaried employees of any agency involved with funding the Guidance Group. While NIST staff scientists can and should contribute expertise to the planning of the groups, and should be called on for specific reports regarding the status of research in a field, due to this experience with TWGDOC, I would suggest that even NIST staff scientists remain independent especially of the standard-development function of the Guidance Groups.

I know and personally respect several NIST staff scientists, but there now --at least for some time-- has to be a complete independence of consensus-groups from funding agencies in order to restore the credibility that has been severely damaged by the lack of independence.

### ***A Final Note on Funding***

In the NIJ Template, technical working groups develop in response to a specific need and they are funded to address the need. I think this is a wise funding strategy that NIST should seriously consider.

If Guidance Groups are designed to solve a problem, they do not last forever. I do not believe that Guidance Groups should last indefinitely, but that, like TWGEYEE, they should meet for specific purposes, fulfill their mission, produce a work product with lasting value, and then be dissolved or cease meeting until the community articulates another issue to be resolved. There is no guarantee that the expertise to resolve one issue will automatically be obtained from an earlier assemblage; it is highly likely that a new community-articulated issue will require different group members with the requisite expertise.

Further, electronic meetings have surpassed what was available in the 1990's when I was involved in TWGEYEE and TWGDOC. Certainly, these technologies can be exploited to reduce the funding of Guidance Groups. NIST already uses such discussion methods. I have participated telephonically in biometric standards development for voice, and while it is not as much fun as meeting in person, it certainly allowed me to participate given my travel schedule.

Finally, I wish NIST, and Sue Ballou in particular, all the best of success in guiding the Guidance Groups, a mechanism that can support and improve the criminal justice system in many ways. I am grateful for my participation in technical working groups and the process of developing them, and I hope and expect that Sue will say that some day too. If I can be of any service beyond my thoughts and advice relayed in this paper, I am willing.

### **Appendices**

I – NIJ Template for Developing Technical Working Groups

II – Letter from ABFDE President Howard Riles to TWGDOC

## **NIJ'S Template for the Development of Technical Working Groups**

Dr. Carole E. Chaski, Visiting Fellow  
Dr. Richard M. Rau, Forensic Science Program Manager  
National Institute of Justice

### **The Mission of NIJ's Office of Science and Technology**

The National Institute of Justice (NIJ), within the Office of Justice Programs, is the research and development agency of the U.S. Department of Justice. The mission of NIJ's Office of Science and Technology is, in part, to provide state and local law enforcement and corrections agencies access to the best technologies available and help them develop capabilities essential to the improvement of efficiency and effectiveness in every aspect of the criminal justice system. In line with this mission, "the Institute actively solicits the views of criminal justice professionals and researchers in the continuing search for answers that inform policymaking in crime and justice," (quoted from NIJ's web page at [www.ojp.usdoj.gov/nij/about.htm](http://www.ojp.usdoj.gov/nij/about.htm)). Naturally, given our mission, the principles of (1) service to state and local criminal justice agencies and (2) active involvement with the criminal justice community have molded the way we approach the task of developing a Technical Working Group (TWG, pronounced "twig").

### **The Purpose of TWGS**

Technical Working Groups (TWGs) consist of practitioners and researchers who focus on issues within a particular discipline for the purposes of determining the best practices and tools available, standardizing procedures, and informing long-range policy. With these multiple purposes, TWGS can function to guide an established discipline, such as the FBI's Technical Working Group on DNA Analytical Methods (TWGDAM) has done, or to solve critical problems during a discipline's turbulent period, such as the FBI's Technical Working Group on Documents (TWGDOC). In recent years, NIJ's Office of Science and Technology has developed technical working groups which deal with issues within forensic science, such as The National Commission on the Future of DNA which was initiated in 1997, and the Technical Working Group on Death Investigation (TWGDI) which has recently completed the National Guidelines for Medicolegal Death Investigations. This article describes the template for developing NIJ-sponsored TWGS.

## **NIJ's TWG Template**

The flow chart in Figure 1 shows the essential components of the TWG Template, and can be followed sequentially. First, NIJ receives a request from the criminal justice community to form a TWG. This request triggers the entire TWG-development process. NIJ does not create TWGs in a vacuum; the development of TWGs is driven by a community-articulated issue. Second, in response to this request, NIJ Staff (or contractor) researches the issues behind the request. This preliminary research may include:

- a. what are the most important research findings to date;
- b. who are the researchers working in this topic area;
- c. what are the current technologies related to this topic area;
- d. who are the developers and/or marketers of these technologies;
- e. what practitioner-based organizations concerned with the topic area are operating at the national, state and local levels;
- f. who are the current officers of these organizations.

This research enables NIJ to assemble a TWG Consultant Panel consisting of three or four experts in the field.

Third, the TWG Consultant Panel reviews the NIJ Staff's initial research and insures that the research into the issue, major players, organizations, technologies, etc. is both complete and accurate. A most important function of the TWG Consultant Panel is to help NIJ decide whether a TWG or some other NIJ function is appropriate for the issue at hand. For example, it may be that the community-based request may be answered most effectively by a conference, or a directed solicitation for grant proposals. If the Consultant Panel advises NIJ not to develop a TWG for this issue, one of these other functions can be initiated. If, on the other hand, the TWG Consultant Panel does recommend a TWG, NIJ Staff moves into the planning phase.

The fourth step, or planning phase, involves funding, drafting the agenda, and determining the size and composition of the TWG. In the TWG template, the funding commitment is made at the start of the process. Funding is the most essential part of the planning phase, because all the other planning activities will be, at least in part, determined by funding. Since

budgetary decisions are made annually, the funding will affect the scope of the first year's agenda as well as the size and composition of the membership.

Based on earlier discussions with the TWG Consultant Panel, NIJ Staff drafts an agenda of issues for the TWG. The draft plays an important role in determining the necessary expertise and composition of the membership. If, for instance, the draft contains primarily issues regarding admissibility of evidence, legal expertise is required and the membership should be composed of prosecutors, defense attorneys, judiciary as well as crime scene investigators who gather the evidence and forensic scientists who produce and explain analytical results.

The fifth step, or nomination phase, begins when the Director of NIJ sends requests nominations for membership in the TWG from the Membership Resource Pool.

The sixth component of the TWG template is the Membership Resource Pool. The Membership Resource Pool is an essential part of the TWG template because it reflects NIJ's mission of providing state and local criminal justice systems with access to the best technologies and active involvement with the criminal justice community. Even more importantly, the Membership Resource Pool enables NIJ's TWGs to be representative of all regions within the United States, of all segments of a discipline, and of local, State and Federal parts of the criminal justice system.

The Membership Resource Pool consists of all national, regional, state and local organizations which are related by discipline to the community-articulated issue of the TWG, researchers within the discipline, and any private sector entities within the discipline. When NIJ's Director requests nominations from the Membership Resource Pool, he specifies three criteria to be met by the nominees. These three criteria are, first, that the nominees should represent a specific regional distribution; second, the the nominees should have the specific expertise needed for the TWG's tasks; and third, that the nominees should be available and committed to active participation in the TWG, including the attendance of meetings and writing of reports. We ask that the organizations select at least two candidates.

After NIJ receives nominations of candidates from the Membership Resource Pool, the seventh step is for NIJ's Director to send letters of invitation to the nominees.



The eighth step, when NIJ receives written commitments from nominees, reflects the active participation which is required of each TWG member. Nominees must be serious enough about their role on the TWG to make this commitment on paper.

The ninth step is the forming of the TWG based on written responses. All those who accept the responsibility of serving on the TWG are included. If there are gaps in regional representation, or a particular type of expertise, because some nominees have declined to participate in the TWG, we return to the seventh step, with the NIJ Director sending letters of invitation to alternate candidates from specific organizations. When written acceptances are received, these candidates are automatically included in the TWG.

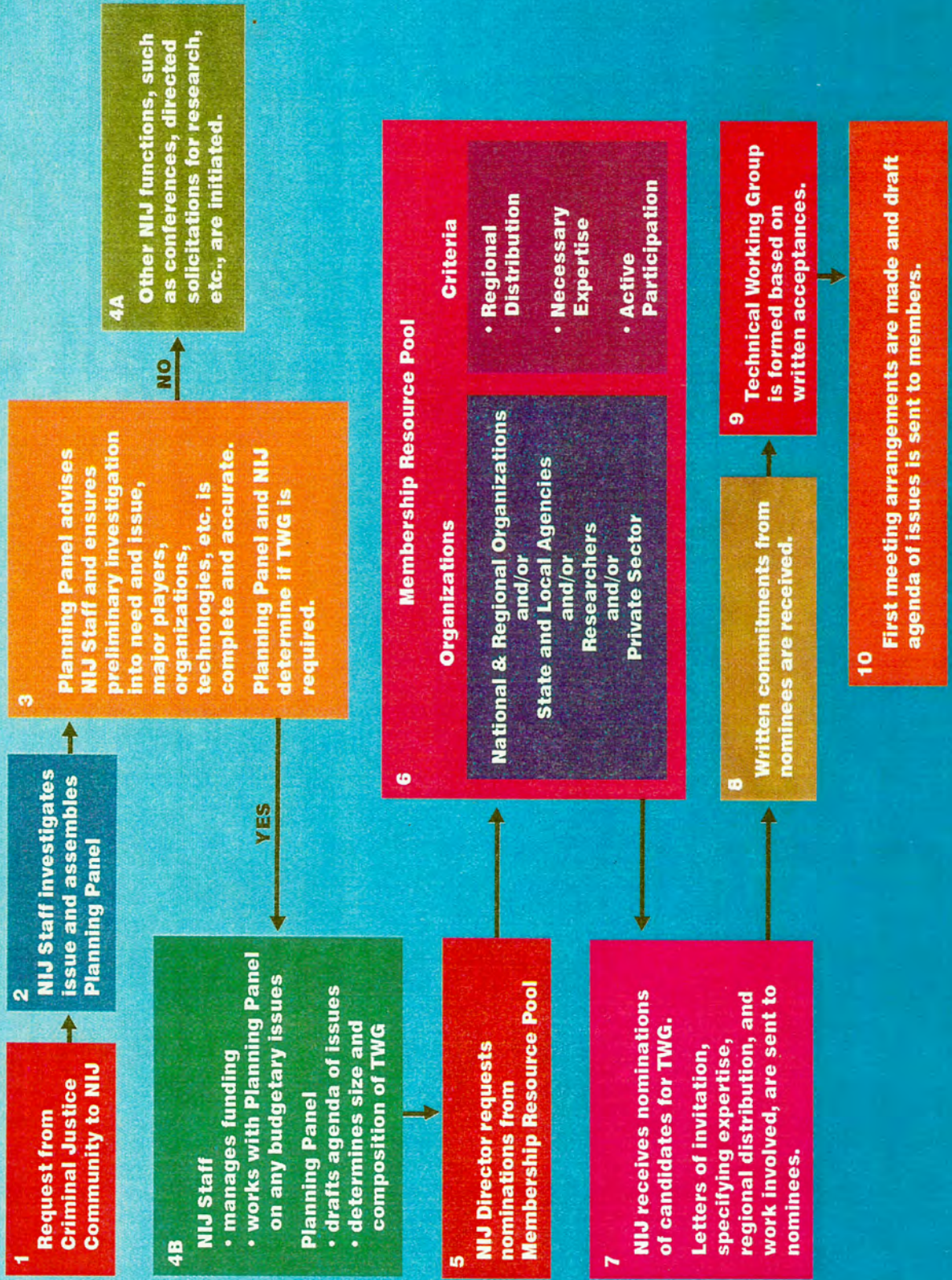
The tenth step requires that the NIJ Staff arrange the first meeting and send the draft agenda to the TWG members. After the first meeting, the TWG itself will be responsible for organizing its meetings, in line with the NIJ budget and the following general principles.

#### **General Principles for Operating TWGs**

1. The Moderator of the TWG and TWG subcommittees must be independent of the group's final outcomes, must not have a vested interest in the group's final outcomes, and must serve to facilitate discussion and communication.
2. The Composition of the TWG and any of the subcommittees which it determines to create must reflect both research and practice.
3. The Composition of the TWG must reflect Federal, state and local perspectives on the topic area. (If the issue is not a Federal issue, then representatives of federal agencies need not be included).
4. The group's decisions must be based on consensus of the group. These decisions will most likely affect the entire discipline represented by the TWG and must therefore reflect the consensus of the entire discipline.



# NIJ Template for Technical Working Groups





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# American Board of Forensic Document Examiners, Inc.

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May 5, 1998

SSA David W. Attenberger  
FBI Laboratory  
935 Pennsylvania Avenue, NW  
QDU Room 3206  
Washington, DC 20535

Re: TWGDOC

Dear Dave:

After a great deal of thought, I decided that it would be best to send you this letter to express my concerns about the TWGDOC process.

Frankly, I was very frustrated and disappointed as a result of our recent main TWGDOC meeting. I do not think that our time was well spent, and there is very little to show for the time and effort put in to date. I am very concerned about the ultimate success of TWGDOC.

Before I proceed, I want it clearly understood that I commend the FBI for the initiative that it has shown in committing its resources and funding to the process. I fully understand that this effort on the part of the Bureau is a major paradigm shift. The Bureau has reached out, not only to other federal and state agencies, but also to the private community. The FBI deserves the recognition and appreciation of all members of our discipline. We all recognize the severe challenges that have been made and will be made to our field. The TWGDOC process, the ASCLD process, the certification as established by the ABFDE, and the potential creation of an accrediting process to evaluate certifying bodies will hopefully ultimately create a method by which the legal community and courts can evaluate the reliability of the testimony that they rely on.

Having said all that, I also feel it necessary to express my concerns about the direction of TWGDOC as reflected by the recent meeting. Frankly, I'm very concerned that the process may not succeed. I don't think it's an exaggeration to say that if we are not successful at this time, the likelihood of ever reviving TWGDOC is extremely small. The failure of TWGDOC would undoubtedly provide the critics of our field with new ammunition to further denigrate our efforts.

It is very apparent that there is a major dispute going on between the FBI and NIJ. I am not now and have never been involved with federal agencies. I frankly do not understand what the dispute involves. I am quite confident, however, that both agencies desire that the TWGDOC process be successful. This dispute must be resolved.

In the first meeting that I attended in December of 1997, you went to great lengths to state that while the FBI was assisting and funding and providing facilities, it did not wish to dominate the process. I accepted your representation and frankly was very amazed and pleased at the effort that the FBI was making. It was apparent that everyone who was gathered in the room representing their various agencies and interests desired the same goal. I personally believe that what we were trying to do is a very good thing and long overdue.

The recent meeting, however, has greatly shaken my beliefs. You went to great lengths to explain to us the displeasure of the powers-that-be at the FBI with the ongoing process. I was particularly amazed when it was explained that the current examiners at the FBI did not agree with the work that had been done to date and would not conform to whatever standards were established. Quite frankly, if the FBI examiners do not buy into TWGDOC then the whole process is doomed from the start. If the FBI examiners do not agree with what has been done to date, would they be willing to provide their own policies and procedures for the group to evaluate? I was particularly concerned that several federal agencies were not present towards the latter part of the meeting. This made me wonder whether they are "buying into" the process or not.

I was also concerned when a decision was made to "uninvite" the NIJ. This decision was apparently made by the administration of the FBI. If it's possible for them to uninvite one participant, then undoubtedly it is possible to uninvite any other individuals or groups. This would clearly show that the main TWGDOC group is not in control of its own operation.

You repeatedly emphasized the cost that was being incurred by the FBI. I truly understand and appreciate costs. I respectfully point out, however, that this is a very expensive and time-consuming process for all involved. On my own personal level, the time expended on TWGDOCS has taken away from my private business. I appreciate having my airfare and other expenses paid for by the FBI, but I can assure you that the time that I am away from my office is considerably more costly to me. In addition, I have expenses that continue to accrue out of the office. As you can imagine, while I have a great desire for this process to be successful, I also

May 5, 1998

wish it to be accomplished in the shortest time and at the greatest efficiency. For all involved, this clearly is not happening.

There is very great interest in the document community in the success of TWGDOC. The TWGDOC process, the ASCLD process, the independent certification process established by the ABFDE and the proposed accreditation process of the certifying bodies to be established by the American Academy of Forensic Sciences are all headed in the same direction. That is, all are working to allow the courts and the legal community to clearly identify and evaluate the testimony provided to it. As was pointed out in the meeting, a clear line in the sand will be drawn to evaluate experts and the testimony they offer in the field of forensic document examination.

Please be advised that TWGDOC was a major point of discussion at the recent annual meeting of the Board of Directors of the American Board of Forensic Document Examiners. Several individuals involved with both the main TWGDOC and various subcommittees expressed their candid opinions. This letter was reviewed and I, as president, was instructed to send the letter. The entire Board of Directors shares my concerns. We are also confident that this present uncertainty can and must be overcome.

In closing, I want to re-state that, while I am very concerned about the direction of TWGDOC, I do not in any way, shape, or form, want this to be construed as an attack on the FBI or you individually. Both as president of the ABFDE and personally, I have the greatest respect for your efforts and the Bureau's efforts.

Yours truly,

  
Howard C. Rile, Jr.

HCR:nad

cc: Dr. Donald M. Kerr, Assistant Director  
Dr. Randall S. Murch, Deputy Assistant Director  
All members TWGDOC Main Committee  
ABFDE Board of Directors

## 1. Structure of the Guidance Groups

Given the scope and principles of the Guidance Groups (GG) one of the structural models that could best support the GGs is as follows: As a former member of the Technical and then Scientific Working Group for many years (TWGDAM/SWGDAM) I think we saw the group evolve from all bench scientists performing the analysis to members of management. As membership shifted, where the majority was actually people holding management positions, their priorities changed and their up to date knowledge of the trends in the specific discipline began to wane. Based on this observation I believe the majority of the membership should always be individuals currently performing the testing and or technical leaders/researches in the scientific discipline. I think lab directors and members of the legal community would provide useful and valuable perspectives but this definitely needs to be a minority portion of the overall makeup of the group.

- The GGs should have a voting group of 15-25 participants, depending on the forensic discipline
  - The voting group is responsible for reporting GG business to the NIST representative(s)
  - Voting Group membership:
    - **Practitioner:** This position must be clearly defined as a case working analyst/examiner which excludes individuals retired from the laboratory or those no longer reporting casework results.
      - At least 50% of the Voting Group should be practitioners
      - Federal/State/Local laboratories represented
      - Geographical representation
        - The practitioners should not all be from the major metropolitan areas or the most populated states
    - **Statistician:** must be knowledgeable and currently using the skill set associated with this role
    - **Researcher:** This must be clearly defined as an individual who is directly involved in the research pertinent to the GG objectives. If there has been a grant awarded to a researcher to conduct research directly associated with a GG's goals and objectives, they should be considered for the Voting Group or an Invited Guest for the specific GG Working Group.
    - **Academician:** This is an individual who has a position at a college or university and has the essential skill sets necessary to contribute the GG's goals and objectives. This individual may also be a researcher.
    - **Quality Assurance Manager:** An individual who spends at minimum 50% of their time performing quality assurance (QA) related tasks. The QA Manager provides accreditation support for

- the disciplines including compliance with ISO and Supplemental standards.
- The Voting Group should **NOT** allow membership from:
  - Private vendors, although there may be instances where an individual from a private vendor may be an Invited Guest
  - Retired practitioners, such as Crime Laboratory Directors unless the individual is still maintaining proficiency in their discipline.
  - Center of Excellence staff
  - Judicial advocates are not necessary at this level
- Invited Guests
  - Should be considered for relevant agenda-specific presentations
  - Potential for membership to GG Working Groups and ad hoc groups
- Anticipated GG agenda template:
  - Meeting
    - Day 1:
      - Travel, where necessary additional meeting time for Working/Ad Hoc Groups
      - Not open to the public
    - DAY 2:
      - Invited Guest presentations, “old business” as appropriate
      - Allow timed public comment with prior approval for speaker(s)
      - Open to the public
    - Day 3:
      - Working Group/Ad Hoc Group Break-out
      - Conduct work-product business
      - Not open to the public
    - Day 4:
      - Working/Ad Hoc Group present up-date report to the Voting Group
      - Open to the public
      - Close-out before 1:00pm
- Facilitating the sharing of best and uniform practices across the GGs could be accomplished through
  - Mandates
    - GG Charters with by-laws included but not limited to:
      - Term Limits for Chairs, Vice-Chairs, Secretary positions
        - Does not disqualify individuals in these positions for the general Voting Group once tenure is expired
      - Robert’s Rules of Order implemented for GG control
      - Voting Group Membership policy
      - Invited Guest policy
      - Mandated meeting schedules (2ce/year?)
      - Transparency policy

- Location of meetings
    - Budgeting for meetings
    - Charter amendment policy
  - Agendas available prior to meetings
- Site-specific website in which all GGs post
  - GG Voting Group Member information
  - GG Working Groups/Ad Hoc group member information
  - Items requesting public comment (not pre-work product)
  - GG specific public or laboratory-specific surveys
  - Agendas with pertinent date(s)
  - Application to give a public comment at a meeting
  - FAQ site for each GG
- Successful forensic Scientific Working Groups (SWGs) have the following attributes which may be drawn upon for the formation of the GGs:
  - A Charter
  - Enforceable standards
  - Definitive timelines for Working Group/Ad Hoc Group tasks
  - Relationship with academics, researchers, statisticians and forensic laboratories
- Best practices may be found in several current SWGs that may be drawn upon for the GGs. Using DNA as an example, SWGDAM has
  - All of the attributes delineated above
  - Public website with all pertinent documents published
  - The website is updated and maintained
  - Agendas are available to the public
  - Mission statement is published
  - Encourage public comment for ensuing standards or recommendations
- Regarding a potential partnership with a standards development organization (SDO) in which the standard is issued by the SDO: These standards are usually consensus standards and not necessarily forensic discipline specific. The standard may be more practical than scientific. However, the SDO may offer expertise in the design and development of a standard which would benefit the GG
- A GG fee-based membership model run through a not-for-profit organization may not present a significant obstacle for participation but the concern is:
  - Laboratories who can afford the membership may not be the best practitioner representatives.
  - Non-forensic members may not be able to afford membership and it would be difficult to complete the membership composite requirements.
  - A tiered fee-based system does not seem feasible.
- Long term governance, defined as administration and coordination of the GG, by a privatized model does not seem feasible and may have the same issues as a not-for-profit. This is not a trivial issue as the credibility or generation of the GG's work product could be affected by governance by a private entity, for example, if there were connections to vendors by the private vendor or if membership dues were increased.

## **2. Impact of Guidance Groups**



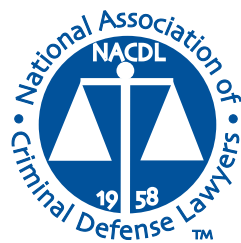
- The GGs cannot mandate the adoption of standards but they can request accreditation bodies such as ASCLD-LAB, FQS and A2LA to adopt the standards as a supplemental to the ISO standards.
  - NOTE: Without membership and transparency it would be very difficult to adopt the standards at the state and local level. The following are considerations regarding the adoption of GG standards:
    - May withhold federal grant monies if the State and Local level did not comply
    - Will not have access to federal databases
    - Courts may not accept testimony
    - Accreditation may be withheld
- The GGs should engage the professional organizations such as AAFS, IAI, AFTE, SOFT and NAME to coordinate and consolidate potential policies, standards and research opportunities.
- GGs may positively impact the certification process by forging a relationship with certification bodies to provide relevant questions.
- NIST researchers can engage with the GGs by being a source of individuals that the GGs can reach out to for additional work to be done on the topics of in question.

### **3. Representation in the Guidance Groups**

- The stakeholders are described above in Voting Group and Invited Guests.
  - NIST should be certain the right practitioners are part of the GGs.
    - Longevity should not be a consideration
  - Balanced representation means that all of the criteria necessary to design and generate standards and policies are addressed by subject matter experts who are active members of the GGs.
- Engaging organizations to play a role in forensic science, standards development and practice will occur by allowing public comment, invited lectureships and GG Working Group/Ad Hoc Group participation.
- There should be an application and culling process in place for individuals interested in invited lectureships or being an Invited Guest member in the Working Groups/Ad Hoc Groups.
- The Federal government must be able to appropriately fund all activities associated with the GGs.

### **4. Scope of the Guidance Groups**

- All Scientific Working Groups (SWGs) should transition to GGs
- There should be a cross-disciplinary functional approach (i.e. statistical analysis) for the GGs in order to share common issues. For example, GGs should share methodologies for statistical analysis such as uncertainty of measurement and documenting regarding traceability compliance.



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## Executive Director

**Norman L. Reimer** Washington, DC

November 7, 2013

National Institute of Standards and Technology  
c/o Susan Ballou  
100 Bureau Drive, Mailstop 8102  
Gaithersburg, MD 20899

Dear Ms. Ballou,

Please accept this letter as the National Association of Criminal Defense Lawyers' comments on the formation and composition of Guidance Groups. The National Association of Criminal Defense Lawyers (NACDL) is a nonprofit voluntary professional bar association that works on behalf of criminal defense attorneys to ensure justice and due process for those accused of crime or misconduct. NACDL was founded in 1958. It has a nationwide membership of approximately 10,000 direct members in 28 countries, and 90 state, provincial and local affiliate organizations totaling 40,000 attorneys. NACDL's members include private criminal defense lawyers, public defenders, military defense counsel, law professors, and judges.

NACDL urges the National Institute of Standards and Technology (NIST) to form Guidance Groups dominated by scientists who are independent of law enforcement and inclusive of statisticians, researchers, and quality control experts. Since the National Research Council (NRC) issued its clarion call for reform of forensic science, NACDL has consistently advocated for implementation of the NRC's overarching recommendation – that the validity of forensic disciplines be examined and standards be set by an entity independent of law enforcement and dominated by a culture of science.<sup>1</sup>

In its 2009 report, *Strengthening Forensic Science in the United States: A Path Forward*, (the NRC report) the NRC found a dearth of empirical research underlying the forensic sciences. It concluded that many forensic disciplines relied upon by the justice system to convict and exonerate have

<sup>1</sup> National Research Council, *Strengthening Forensic Science in the United States: A Path Forward* (February 2009).

not been scientifically assessed to determine either their reliability or accuracy. Further the NRC found that many forensic analysts did not understand scientific methodology or understand the limitations of their discipline. To address these failures the NRC Committee was unequivocal in its foremost recommendation that the development of forensic science must be independent of law enforcement and must engage the larger scientific community and scientific methodology.

As a result, with the goal of developing forensic science into an objective tool grounded in science to assist the justice system, NACDL's priority recommendation for the creation of Guidance Groups is that each group be dominated by independent scientists; that statisticians, researchers, and quality control experts be included among these independent scientists; and that the role of stakeholders (prosecutors, forensic scientists, innocence advocates, judges, current forensic science professional organizations and defense attorneys) should be limited and be evenly balanced between law enforcement and defense.

Stakeholders can inform the process by describing how the results of forensic methods are used and misused in criminal cases. Stakeholders can describe the circumstances under which forensic practitioners work and can identify existing research and standards. And stakeholders can offer both criticisms and defenses of existing standards and practices. But stakeholders cannot be relied upon to assess the scientific validity of forensic methods or their limitations. Nor can stakeholders be relied upon to establish the standards under which forensic disciplines should be conducted and how results should be reported. If stakeholders, including the current community of forensic organizations, could have fully accomplished these tasks, crime labs would not be riddled with scandals, faulty forensic science would not be among the leading causes of wrongful convictions, and the scientific shortcomings identified in the NRC report would have been caught and corrected long ago.

NACDL opposes any effort to use existing organizations as the backbone of the Guidance Groups, and specifically opposes the transition of Scientific Working Groups (SWGs) into Guidance Groups. The SWGs are not independent of law enforcement; they were created by law enforcement and employees of law enforcement laboratories comprise a majority of the membership of individual SWGs.<sup>2</sup> Many SWGs' bylaws preclude the meaningful involvement of independent research scientists, whose only stake in any given forensic discipline is ensuring the use of sound science, in favor of practitioners, who have a stake in maintaining the status quo of their discipline.<sup>3</sup>

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<sup>2</sup> See, e.g., Scientific Working Group for Friction Ridge Analysis, Study and Technology (SWGFAST), available at <http://www.swgfast.org/Members.htm>; Scientific Working Group for Firearms and Toolmarks (SWGgun), available at ([http://www.swgun.org/swg/index.php?option=com\\_content&view=article&id=46&Itemid=3](http://www.swgun.org/swg/index.php?option=com_content&view=article&id=46&Itemid=3)); Scientific Working Group for DNA Analysis Methods (SWGDAM), available at <http://swgdam.org/members.html>; Scientific Working Group for Shoeprint and Tire Tread Evidence (SWGtread), available at <http://www.swgtread.org/about-us/membership/current-membership>);

<sup>3</sup> See, e.g., SWGFAST bylaws at 3.1 (<http://www.swgfast.org/Bylaws.htm>) (“SWGFAST shall consist of up to 50 members involved in the discipline of friction ridge examination and shall include both latent print and tenprint practitioners. Members shall be from local, state and federal law enforcement agencies as well as the forensic community.”)

SWG work product demonstrates this extreme imbalance in membership. For example, in the wake of the NRC report, the SWGs published written responses that were simultaneously defensive and failed to grasp the import of criticisms leveled at their respective disciplines.<sup>4</sup> Moreover, every written response to the NRC report by the SWGs rejected the notion that their discipline lacked the foundational research to individualize to an “extremely high” degree of certainty.<sup>5</sup> Given that it will be the Guidance Groups’ mission to “monitor research and measurement standards gaps in each forensic discipline, and verify that a sufficient scientific basis exists for each discipline,” clearly it is inadvisable to use organizations that have already firmly and publicly made up their minds on these key issues.

Further, the SWGs have not shown any significant leadership in reform or in instituting best practices. Instead the SWGs show extreme deference to practitioners’ trade organizations and the variable practice in individual laboratories. This approach suggests a deliberate attempt to protect the admissibility of specific forensic methods and the admissibility of forensic evidence obtained without following best practices.

As a result most SWG guidelines – particularly those regarding interpretation of results – are so vague that they fail to provide any sort of standard for practitioners to follow. For example, SWGGUN’s interpretation guidelines,<sup>6</sup> re-approved just last year (more than three years after the NRC report was published), are contained in a one page document that simply states “The

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<sup>4</sup> See, e.g., SWGTREAD, Identification and Clarification of Inaccuracies in the National Academy of Sciences (NAS) Report, available at [http://www.swgtread.org/images/documents/nas/nas\\_response\\_inaccuracies.pdf](http://www.swgtread.org/images/documents/nas/nas_response_inaccuracies.pdf) (referring to “misrepresentations” in the report and incorrectly identifying “inaccuracies” in a number of the NRC’s conclusions about the discipline); SWGFAST, NAS Position Summary, available at [http://www.swgfast.org/Comments-Positions/SWGFAST\\_NAS\\_Position.pdf](http://www.swgfast.org/Comments-Positions/SWGFAST_NAS_Position.pdf). (brushing aside the NRC’s concerns about bias with the statement that “the Committee has exerted a disproportionate amount of effort in addressing it”, failing to understand the NRC’s concerns about the unconstrained subjectivity of their discipline, defending the discipline’s criticized methodology (ACE-V) as “a structured, logical procedure designed to minimize bias resulting in very few errors” and rejecting the NRC’s recommendation that laboratories be independent of law enforcement).

<sup>5</sup> See, e.g., SWGGUN, The Foundations of Firearm and Toolmark Identification (5/1/13), available at [http://www.swggun.org/swg/index.php?option=com\\_content&view=article&id=66:the-foundations-of-firearm-and-toolmark-identification&catid=13:other&Itemid=43](http://www.swggun.org/swg/index.php?option=com_content&view=article&id=66:the-foundations-of-firearm-and-toolmark-identification&catid=13:other&Itemid=43) (“[I]t is the conclusion of the Scientific Working Group for Firearms and Toolmarks (SWGGUN) that the discipline of Firearms/Toolmark Identification is scientific and reliable. Concomitantly, the identifications, individual associations or ‘matches’ effected in this discipline have firm scientific grounding with an extremely high degree of reliability based on the practical certainty of the validated theory. . . . The SWGGUN concludes that sufficient validation testing by competent examiners and collaborating scientists have been conducted to affirm the theory of firearm and toolmark identification over the past ninety years for it to be considered a legitimate science pursuant to the criteria set forth in the scientific method.”); SWGFAST, NAS Position Summary (*see supra*) (“SWGFAST maintains that a significant body of constructive scientific research has already been conducted that addresses some of the concerns expressed in the report. . . . The NAS states ‘With the exception of nuclear DNA analysis, however, no forensic method has been rigorously shown to have the capacity to consistently, and with a high degree of certainty, demonstrate a connection between evidence and a specific individual or source.’ SWGFAST respectfully disagrees. History, practice, and research have shown that fingerprints can, with a very high degree of certainty, exclude incorrect sources and associate the correct individual to an unknown impression”); SWGSTAIN, Response to the NAS Report (“the foundation for these opinions is based upon well-established scientific principles. The scientific literature supporting these principles extends back more than one hundred years.”).

<sup>6</sup> Available at [http://www.swggun.org/swg/index.php?option=com\\_content&view=article&id=28:criteria-for-identification&catid=10:guidelines-adopted&Itemid=6](http://www.swggun.org/swg/index.php?option=com_content&view=article&id=28:criteria-for-identification&catid=10:guidelines-adopted&Itemid=6).

laboratory shall adopt a Criteria for Identification as it pertains to the firearm/toolmark discipline.” The only guidance about what bounds a laboratory’s interpretation protocol should place on a practitioner’s discretion is an endorsement of the firearm examiner trade association’s definition of what constitutes “sufficient agreement” of toolmarks to declare a match to a particular firearm or other tool. Notably, this “sufficient agreement” statement was expressly criticized in the 2009 NRC report for its lack of specificity and guidance to practitioners. *See* NRC report at 155.

In addition, the SWGs’ “standards” often let laboratories and individual practitioners decide what quality control measures to adopt, while ignoring best practices. For instance, instead of stating that laboratories “must” or even “should” implement blind verification procedures in fingerprint examinations, SWGFAST’s only acknowledgment of blind verification is to treat it as a permitted practice.<sup>7</sup> Ignoring best practices in favor of vague and permissive guidelines is inconsistent with implementing sound science across a discipline. Instead this “guidance” allows labs to ignore best practices and still face little challenge when presenting evidence and/or testimony. The guidance provided by the SWGs is consistent with actors who are mindful that the wording of their guidance documents could carry legal implications for practitioners in their discipline. The courts routinely assess what is “generally accepted” by scientists when determining whether evidence obtained through a particular method can be admitted. In a system that assesses what is “generally accepted” in the field before admitting evidence, uniform standards incorporating best practices would be the undoing of labs who choose not to follow the guidance provided.<sup>8</sup> Protecting current laboratory practices and the admissibility of existing forensic methods must not factor into the decision-making processes of the Guidance Groups. Such non-scientific motives will not “improve the nation’s use of forensic science and promote best practices and standards.”

Instead of relying on existing forensic science organizations, the formation of the Guidance Groups must actively recruit independent research scientists and statisticians with the expertise to critically evaluate each forensic discipline. Guidance Groups staffed in this manner can assess the validity of specific forensic disciplines and set standards for validated methods that reflect the consensus of the larger scientific community. Such consensus standards will impact forensic practice at all levels (federal, state and local) as almost all court admissibility standards for specific scientific evidence include assessing the views of the larger scientific community on the validity of the methods and the standards by which the methods should be performed.

This is not to suggest that stakeholders should play no role on the Guidance Groups. As explained above, stakeholders can play a valuable, but limited, role. Even in this limited role, however, an additional level of balance must be struck. The stakeholder positions must be

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<sup>7</sup> Available at [http://www.swgfast.org/documents/blind-verification/121124\\_Blind-Verification\\_2.0.pdf](http://www.swgfast.org/documents/blind-verification/121124_Blind-Verification_2.0.pdf).

<sup>8</sup> Further evidence of this focus on admissibility over sound science is the effort and amount of space on SWG websites devoted to “Admissibility Resource Kits”, the goal of which is to ensure that a practitioner has the tools at hand to ensure his or her testimony is admissible at trial. *See, e.g.*, SWGGUN, [http://www.swggun.org/swg/index.php?option=com\\_content&view=section&id=7&Itemid=8](http://www.swggun.org/swg/index.php?option=com_content&view=section&id=7&Itemid=8)); SWGSTAIN, <http://www.swgstain.org/resources/ark>; SWGMAT, <http://www.swgmat.org/2012%20fiber%20Daubert%20-%20final.pdf>; SWGDOC, <http://www.swgdoc.org/index.php/resources>.

evenly divided between law enforcement and defense. Any imbalance between these two groups compromises the goal of independence.

When selecting representation for the defense, NIST should defer to the defense community to select its representative. The defense function and defense organizations are separate from the Executive Branch because of the adversarial nature of our criminal justice system. As a result, there is no defense function or defense organization within the Executive Branch. NACDL, on the other hand, is uniquely suited to identify dedicated criminal defense attorneys with expertise in the various forensic disciplines.<sup>9</sup>

NACDL is the largest criminal defense organization in the country. NACDL has an active Forensic Science Committee with members from a variety of jurisdictions, practicing in a variety of different court systems (state, local, and federal). NIST should consult with NACDL before selecting criminal defense representatives and give serious weight to NACDL's recommendations.

A final comment on the formation of the Guidance Groups is the need for transparency. The principle of transparency is essential to a fair and effective criminal justice system and is the hallmark of good science. The work of the Guidance Groups should be transparent and available for comment and review. Comment and review by scientists and stakeholders outside of the membership of the Forensic Science Commission and the Guidance Groups will advance the work of the Guidance Groups. The value of the reports prepared by the Guidance Groups will be determined not only by their content but also by the process under which they were created.

The National Academy of Sciences, long recognized as the most prestigious scientific organization in country, has established its reputation in part because of the exacting and transparent process the organization utilizes in researching and preparing its reports. This process includes meetings that are announced in advance and open to the public; submission of information by outside parties; review of the scientific literature; and investigation by the committee members and staff. Written materials submitted to the committee are maintained in a public access file that is available for examination. In all cases, efforts are made to solicit input from individuals who have been directly involved in, or who have special knowledge of, the problem under consideration. Once a draft report is prepared, the committee solicits individuals with expertise in the area being studied who have varying perspectives on the subject to provide comments. The committee must then respond to the reviewers' comments in some fashion either by accepting them and adopting the suggested changes or by providing a written "response to review."<sup>10</sup>

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<sup>9</sup> Kyle O'Dowd, NACDL's Associate Executive Director for Policy, may be reached at (202) 465-7626 or at [kodowd@nacdl.org](mailto:kodowd@nacdl.org).

<sup>10</sup> The entire process is described on the National Academy of Sciences website (<http://www.nationalacademies.org/studyprocess/>).

This is an example of a process that allows a diverse group of committee members to work together productively and independently while at the same time providing the necessary transparency that ensures a broad range of perspectives will be evaluated and incorporated if scientifically appropriate. NACDL strongly recommends the Guidance Groups be established in a manner that fosters independence, peer review and public comment.

In conclusion, NACDL strongly believes that each Guidance Group should be dominated by independent scientists; that statisticians, researchers, and quality control experts be included among these independent scientists; and that the role of stakeholders (prosecutors, forensic scientists, innocence advocates, judges, current forensic science professional organizations and defense attorneys) should be limited and be evenly balanced between law enforcement and defense. Finally, the work of the Guidance Groups should be transparent and peer review and public comment should be encouraged.

Sincerely,

  
Jerry J. Cox  
NACDL President

**PALM BEACH COUNTY**  
**SHERIFF'S OFFICE**

RIC L. BRADSHAW, SHERIFF



October 29, 2013

To Whom It May Concern,

The Palm Beach County Sheriff's Office Crime Laboratory submits the following response to the notice in the Federal Registry regarding the perspectives on the appropriate model for NIST administration and support of discipline-specific Guidance Groups.

1. **Structure of the Guidance Groups:** Given the scope and principles of the Guidance Groups (GG), a suggested structural model to best support these groups taking into account the technical, policy, legal and operational aspects of forensic science would be to first define the composite of each GG. It is suggested that within each GG, there will be two sub-groups to include a Core Group and an Invited Guest Group. These could be defined as follows:
  - o **Core Group:** The GG's should have a Core Group of 15-25 participants, depending on the forensic discipline
    - The Core Group is responsible for reporting GG business to the NIST representative(s).
      - There is a GG Chair and Co-Chair within the Core Group
    - The Core Group members have voting privileges.
    - Core Group composite:
      - **Practitioner:** This position must be clearly defined as a case working analyst/examiner.
        - Approximately 50% of the Core Group should be practitioners.
        - Federal/State/Local laboratories should be represented.
        - Geographical representation:
          - The practitioners should not all be from the major metropolitan areas or the most populace states.
      - **Statistician:** must be knowledgeable and currently using the skill set associated with this role. It is conceivable that a Practitioner may also have a statistical skill set and could fill this position.
      - **Researcher:** This must be clearly defined as an individual who is directly involved in the research pertinent to the GGs objectives. If there has been a grant awarded to a researcher to conduct research directly associated



with a GG's goals and objectives, they should be considered for the Core Group or an Invited Guest for the specific Working/Ad Hoc Group.

- **Academician:** This is an individual who has a position at a college or university and has the essential skill sets necessary to contribute the GG's goals and objectives. This individual may also be a researcher.
- **Quality Assurance Manager:** An individual who spends at minimum 50% of their time performing QA related tasks. The QA Manager provides accreditation support for the disciplines including compliance with ISO and Supplemental standards. A QA Manager should also be considered as an Invited Guest in an advisory position as necessary.
- The Core Group should **NOT** allow membership from:
  - Private vendors, although there may be instances where an individual from a private vendor may be an Invited Guest or to give a presentation to the GG.
  - Crime Laboratory Directors, unless the individual is still maintaining proficiency in their discipline.
  - Individuals retired from the laboratory or those no longer reporting casework results.
  - Judicial advocates are not necessary at this level
- There should be a mechanism whereby if a member of the Core Group is not actively engaged in the GG mission they may be replaced.
- **Invited Guests Group:** The size of the Invited Guest Group will depend on the needs of the Working/Ad Hoc Groups within the specific GG's. In general:
  - The Invited Guest Group members do not have voting privileges.
  - This group should consist of individuals who may provide relevant agenda-specific presentations.
  - Potential for membership to GG Working/Ad Hoc Groups.
  - Crime Laboratory Directors that are not proficient in a forensic discipline may be considered an Invited Guest in an advisory position to council a GG on the potential impact of a specific standard, requirement or guideline such as the laboratory's fiscal year budget, personnel or case backlog for example.
- There should be two scheduled GG meetings annually. A GG Meeting Agenda Template would most likely include a three (3) or four (4) day meeting. Here are two suggestions for the GG meeting format:
  - Meeting Template Consideration #1:
    - Day 1:
      - Travel, where necessary additional meeting time for Working/Ad Hoc Groups that may need extra time to coordinate work-in-progress
      - *Not open to the public*
    - DAY 2:
      - Invited Guest presentations, "old business" as appropriate
      - Allow timed public comment with prior approval for speaker(s)
      - *Open to the public*
    - Day 3: Working Group/Ad Hoc Group Break-out
      - Conduct work-product business
      - *Not open to the public*
    - Day 4:
      - Working/Ad Hoc Group present up-date status report to the Core Group

- No public comment, time most likely will not permit
    - *Open to the public*
    - Close-out before 1:00pm
  - Meeting Template Consideration #2:
    - Day 1: All Working/Ad Hoc Groups meet through webinars at their laboratories eliminating hotel/per diem costs for that day
    - Day 2: Travel to site meeting
    - Day 3: Invited Guest presentations, “old business” as appropriate
      - Allow timed public comment with prior approval for speaker(s)
      - *Open to the public*
    - Day 4:
      - Working/Ad Hoc Group present up-date report to the Core Group
      - *Open to the public*
      - Close-out before 1:00pm
- Successful forensic Scientific Working Groups (SWGs) have the following attributes which may be drawn upon for the formation of the GGs:
    - A sustainable, active, enforced Charter
    - Mandatory, enforceable quality standards
    - Definitive timelines and milestones for Working Group/Ad Hoc Group tasks
    - Relationship with academics, researchers, statisticians and forensic laboratories not represented on pertinent SWGs.
  - Best practices may be found in several current SWGs that may be drawn upon for the GGs. Using DNA as an example, SWGDAM has
    - All of the attributes delineated above
    - Public website with all pertinent documents published
    - Mission statement is published
    - The website is updated and maintained
    - Agendas are available to the public
    - Encourage Public Comment for ensuing standards or recommendations
  - Regarding a potential partnership with a standards development organization (SDO) in which the standard is issued by the SDO, it is the norm that SDO standards are usually consensus standards and not necessarily forensic discipline specific. The standard may be more practical than scientific. However, an SDO
    - May offer expertise in the design and development of a standard which would benefit the GG.
    - May add “teeth” to the implementation of a standard by its contribution to coherent standardized wording.
  - Financial and administrative support of the GGs:
    - Consideration of a GG fee-based membership model run through a not-for-profit organization may not present a significant obstacle for participation but the concern is:
      - Laboratories who can afford the membership may not be the best practitioner representatives.
      - Non-forensic members may not be able to afford membership and it would be difficult to complete the membership composite requirements.
      - A tiered fee-based system does not seem feasible or definable.

- Long term governance, defined as administration and coordination of the GGs, by a privatized model does not seem feasible and may have the same issues as a not-for-profit model as described above. This is not a trivial issue as the credibility or generation of the GGs work product could be affected by governance by a private entity, for example, if there were connections to vendors by the private vendor or if membership dues were increased thereby directly affecting laboratory's budgets and thus made unaffordable.

## 2. Impact of Guidance Groups

- The Guidance Groups do not have the authority to mandate the adoption of standards but it is proposed that they can request accreditation bodies such as ASCLD-LAB, FQS and A2LA to adopt the standards in a *supplemental* to the ISO standards.
  - NOTE: Even with the composite membership component and transparency where appropriate, it would be very difficult to mandate the adoption and implementation of the standards at the state and local level especially if there is a budgetary impact. The following are considerations regarding the adoption of GG standards:
    - May withhold federal grant monies if the State and Local level did not comply
    - Will not have access to federal databases
    - Courts may not accept testimony
    - Accreditation may be withheld
- The GGs should engage the professional organizations such as AAFS, IAI, AFTE, SOFT and NAME to coordinate and consolidate potential policies, standards and research opportunities.
- GGs may positively impact the certification process by forging a relationship with certification bodies to provide relevant examination questions.
- NIST researchers might engage with the Guidance Groups in the following ways:
  - Depending on the GG, a NIST researcher may be considered part of a Core Group.
  - As 'Invited guests' to meetings to discuss/obtain and give guidance/explain research projects that affect the forensic community.
  - Conduct research projects identified by the core groups or NIST should provide funding via grants to external researchers for this purpose.
  - Peer-review publish the research performed by their researchers and grantees.

## 3. Representation in the Guidance Groups

- The GG stakeholders are described above in Core Groups and Invited Guest Group discussion.
  - NIST should be certain the right practitioners are part of the GG's.
    - Longevity should not be a consideration
  - Balanced representation means that all of the criteria necessary to design and generate standards and policies are addressed by subject matter experts who are active members of the GGs.
  - Although there are many stakeholders that may not be a direct part of the GG's, they may be directly affected by the work product generated by the GGs. The stakeholders would include all of the entities that the GG Groups members represent such as the Federal, State and Local laboratories, accreditation bodies, certification bodies, academic institutions with forensic programs, the judicial system among others.
- Engaging organizations to play a role in forensic science, standards development and practice will occur by allowing public comment, invited guest lectureships, collaborative research efforts and GG Working Group/Ad Hoc Group participation.

- There should be an application and culling process in place for individuals interested in invited lectureships or being an Invited Guest Group member in the Working Groups/Ad Hoc Groups.
- The Federal government must be able to appropriately fund all activities associated with the GGs. This will provide an equitable, organized and uniformly managed program for the GGs.

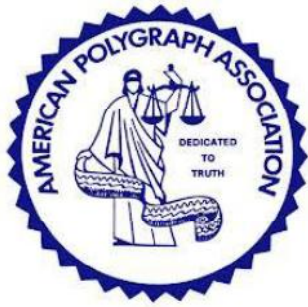
#### **4. Scope of the Guidance Groups**

- All Scientific Working Groups (SWGs) should transition to Guidance Groups.
- It may be advantageous for several groups to be combined. Suggested combinations include:
  - DNA, Wildlife Forensic Analysis
  - Medico-Legal Death Investigation, Disaster Victim Identification
  - Facial Recognition and Imaging Technology
  - Geological and Trace Evidence
- There should be a cross-disciplinary functional approach for the GGs in order to share common issues. For example, Guidance Groups should share methodologies for statistical analysis such as uncertainty of measurement and documenting traceability compliance. This would mean there would have to be a coordinated effort to know the status and agenda of the GGs so as not to miss an opportunity to contribute to the shared projects.

If you would like any further expansion of the comments presented, do not hesitate to contact me.

Thank you for this opportunity.

Cecelia A. Crouse, PhD  
Crime Laboratory Director  
Palm Beach County Sheriff's Office  
3228 Gun Club Road  
West Palm Beach, Florida 33411  
Ph: (561) 688-4226  
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# American Polygraph Association

PO Box 8037 • Chattanooga • TN 37414-8037 • 800-APA-8037

National Institute of Standards and Technology (NIST)  
c/o Susan Ballou  
100 Bureau Drive  
Mailstop 8102  
Gaithersburg, MD 20899  
Sent via email: [Susan.ballou@nist.gov](mailto:Susan.ballou@nist.gov)

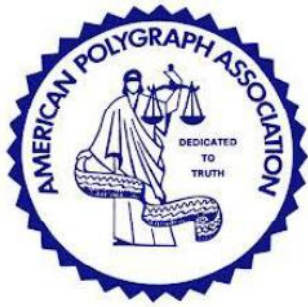
November 12, 2013

Dear Ms. Ballou:

I am writing on behalf of the American Polygraph Association (APA). The APA is an international association of polygraph examiners (practitioners) and those with a scientific or professional interest in the field through research or instrumentation. We currently have approximately 3,000 members. Since the 2009 NAS report on the state of forensic sciences in the U.S., we have been collaborating with the American Association of Police Polygraphists (AAPP), which has approximately 1,500 members of its own (with some overlap in membership). The goal of that collaboration has been to develop a strategy to implement the 2009 recommendations (as they relate to the forensic science sub-discipline of credibility assessment) in those areas in which the field is, like many of our sister disciplines, in need of improvement. Throughout our discussions, one continuous theme has emerged: there is a need for a credibility assessment scientific working group (SWG) – or some similar group.

We support partnering with a standards development organization (SDO) such as ASTM International. ASTM's Committee E52 on Forensic Psychophysiology was formed in 1998. The committee consists of approximately 100 members, and it has jurisdiction over 15 different standards. Membership includes researchers and academics; although, the largest subgroup consists of practitioners, most of whom hold memberships in the APA, AAPP or both. The scope of the committee is wide and includes standards for minimum basic education and training, research, instrumentation, quality control, and ethical practices.

As you are likely well aware, ASTM International has a fee-based membership structure, which, although modest, is often cited as a barrier to greater participation. Limited participation reduces input from the various facets of the field and slows consensus standards development. Our U.S. members include private forensic specialists, state and local law enforcement officers and criminal justice / national security agents of the federal government (which has 27 independent credibility assessment programs and likely conducts tens of thousands of examinations each year). Many of our members pay for membership in professional associations themselves, i.e., they are not reimbursed by their agencies, and they simply cannot budget additional funds to pay for membership in an SDO. Thus, while the structure of an SDO such as ASTM



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International is of great benefit to the practitioners and consumers, costs are always a limiting factor, and therefore must be considered when developing Guidance Groups or partnering with others.

Another problem we see with a private SDO is a different issue, although it is somewhat related to costs. Currently, only (ASTM International) members have access to published standards, which are protected by U.S. copyright laws. The resultant disconnect is obvious: practitioners in the field simply do not have access to the consensus based best practices that already exist. Moreover, consumers face a similar drawback in that they have limited means of ensuring they are receiving services consistent with those best practice standards. This is problematic given many states do permit polygraph evidence (despite common claims to the contrary). Of those that permit it, most do so by stipulation; although, New Mexico has allowed unstipulated polygraph evidence for several years. Polygraph evidence has also been permitted in some courts in administrative hearings and even some recent bench trials. While the APA and AAPP both have standards consistent with those of ASTM International's Committee E52, not all practitioners are members of either the APA or AAPP, and therefore we have no way of knowing how many practitioners may be operating in a fashion inconsistent with recognized best practices. Moreover, an SDO has the ability to bring together a wider group (i.e., all stakeholders) than do professional associations.

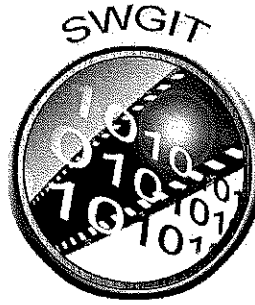
As the National Commission on Forensic Science considers how to best assemble Guidance Groups, we ask that its members consider the vast amount of work those in the field of credibility assessment do every day. Like our sister disciplines in the forensic sciences, we need to be represented, and we want to contribute to conversation. There is no sense reinventing the wheel, and there are programs in place now that are effective but limited (e.g., ASTM International), and they can serve as models on which to build. Whereas the many sub-disciplines of forensic science already work cooperatively in the field, it makes sense to come together to develop common standards where that is possible and beneficial (e.g., basic ethical standards, minimum reporting criteria, standardizing of technical terms, calculating accuracy estimates that consider how to address inconclusive findings, etc.). Additionally, a core group that well represents all of the sub-disciplines should establish general guidelines that provide direction to the sub-disciplines for the development of standards unique to those disciplines. In other words, even where sub-disciplines have unique needs or highly specialized practices, standards development at those levels should be consistent with the other disciplines.

Thank you for your consideration. If the APA can help in any way, please let us know.

Regards,

Barry Cushman  
Chairman of the board, APA





National Institute of Standards and Technology  
100 Bureau Drive, Mailstop 8102  
Gaithersburg, MD 20899

Dear Ms. Ballou:

The Scientific Working Group on Digital Evidence, the Scientific Working Group for Imaging Technology, and the Facial Identification Scientific Working Group are pleased to respond to the Notice published by the National Institute of Standards and Technology (NIST) published in The Federal Register on 9/27/2013 regarding Possible Models for the Administration and Support of Discipline-Specific Guidance Groups for Forensic Science. The combined SWG's representing digital and multimedia evidence (DME) will address the Notice in two sections. The first section consisting of an overview that directly correlates to the Notice's request for model perspectives for NIST administration and support as well as the requested approaches for Guidance Group structure. The second section will provide the three SWG's opinions to the questions asked in the Notice. Of note, this response reflects more than thirty-five years of the three SWG chairs' direct experiences with scientific working groups, quality assurance policy and procedure development, and technical assistance.

## Section 1 – Overview

### Model Perspectives and Structural Approaches

Using dynamic enterprise for modeling the NIST administration and support of the Guidance Groups (GG), the following topic areas are identified and listed with their recommendations:

#### 1) Control

- a) Disciplines – Current Scientific Working Groups (SWG's) exist for a reason, they are needed to support the forensic processes which provide information and test results to civil and criminal juries so that they can determine the facts. Whether they are providing technical assistance and/or quality assurance guidance, the existing SWG's work when they serve their existing practitioner base.

- (1) The Digital and Multimedia Evidence (DME) disciplines are currently supported by the three SWG's submitting this response. It is extremely important that the DME disciplines are represented as at least one, preferably by three distinctive GG's. While it is understood that DME is much different than traditional forensic sciences, the exclusion of any forensic discipline, especially one which has already been tested and accepted as a science by the judicial system with the need for expert testimony, not only is negligent in its mission of supporting the forensic science community as a whole, but automatically minimizes the NCFS' effectiveness, openness, fairness and trustability in the entire process. It permits exactly what the National Science Foundation's "Strengthening Forensic Science in the United States: A Path Forward" report condemns: a biased representation and treatment of a specific discipline.

- (2) Many SWGs are highly successful in their efforts and have been received as authority by numerous courts at all levels of judicial processes, therefore these successful implementations should not be replaced but rather incorporated and enhanced where possible. It would be counterproductive to build a new effort or duplicate what has already been proven successful and tested by the courts as such.

- (3) NIST will need to determine to what degree each current SWG is successful in their implementation to determine if they should be brought over whole as a Guidance Group (GG). The metrics for such a decision should be based on the



individual SWG's deliverables to include documents pushed for standard development, relevant and timely technical expertise offered, court acceptance of the SWGs guidelines, and quality assurance guidance to their respective industries.

- b) Membership – practitioners actively engaged in the discipline must make the bulk of the GG structure. This includes international, federal, state and local law enforcement agencies, academia, as well as private organizations that use forensic processes.
- c) Topic identification/submission – The process to identify GG deliverables must be clearly stated and delivered to the GG's primary customers (practitioners and the agencies/companies for which they work). This process can be a combination from both member and external topic identifications; however, the reasoning behind which topics are chosen and prioritized must be made available to all.
- d) Funding – All GG's will require consistent funding for scheduled meetings and administrative expenses (contracted secretary for each SWG and website support). While some GG's may require less, it is recommended that a minimum of three (3) meetings per year be facilitated by NIST to include all travel expenses for all members. Many SWG's vary meeting locations, some hosted by a member or an associate. Any potential cost of the location or venue should be included in the expenses.

## 2) Function

- a) Deliverables – The submitting SWG's follow a standardized process in the creation of their work product. This process is efficient and it is recommended that the GG follow something similar. The process is as follows: After a topic is picked by the membership for development (based on the needs of the forensic community for that discipline), SWGs use meetings to work on the documents within specific committees, e.g. in SWGDE the forensic committee may work on a new operating system technical document while the Quality Assurance committee works on an error rate document. Once a draft is completed by the technical experts of the specific committee, it is discussed and edited within the general membership. After the general membership has voted to release the document as a draft for public comment, it is then circulated throughout the forensic community via publishing to the SWG website (as a draft) and other means, e.g. list serves, other forensic publications, etc. This public comment period

allows the entire community to have input thereby affecting buy-in. This ‘ownership’ provides for a more complete, representative position. When the comment period has ended, comments are evaluated per the SWG’s published by-laws, changes may be made, and if the document does not go through substantial change, it is released as final. This process works very well as long as the membership is allowed to work within the committee that focusses on their expertise and all members are given open access to all committee documents. This model is relatively close to that used by existing standards development organizations (SDOs), and should be recognized – and approved - as such by NIST. If certain details of this process need to be clarified or modified to meet the requirements of an SDO, the submitting SWGs are more than willing to discuss such modifications.

- b) Scope – The scope of work to be accomplished by all GGs should be directed at a very high level by NIST in order to allow for some consistency across all GGs/SWGs; however, it cannot be mandated at a document-specific level due to the variety of disciplines covered by the GGs, as well as the state of the science for each discipline. It may be possible for NIST to define types of documents that should be developed, such as “Evidence Recovery, Preservation and Handling” and “Reporting Results”, but finer requirements are unlikely to span all GGs.
- c) Enforceability – Guidance Groups are not responsible for enforcement of standards. Accreditation organizations, the legal system, and perhaps the NCFSS would be more appropriate groups to address enforcement of GG-developed standards.

### 3) Process

- a) Meeting logistics – NIST should provide each GG with the administrative support necessary to communicate meeting logistics to all participants (as necessary), including arrangement of meeting space, lodging accommodations, and travel to and from meetings. Sufficient meeting space, a/v equipment and wireless internet must be provided for each GG to complete its work as planned. No single meeting space arrangement is likely to be satisfactory for all GGs, since some smaller ones will work as a single group, whereas others will split work between plenary and multiple committee meetings. NIST should also provide each GG with the ability to perform work through

on-line meetings, including both teleconference and Web-based online sharing capabilities. (Further detail is provided below.)

- b) Voting – Issues involving officer positions, document readiness, etc. can become very contentious. Providing a thorough explanation in the GG by-laws will be a necessity. What must be protected is no one agency/company/organization should have an unfair advantage in the voting process merely because it has more representatives working on the GG than any other. Fairness across all representative communities must take priority. As such, the following sections are recommended:

- (1) Regular Member Agency Voting - Each agency represented among the Regular Membership shall have one vote through its designated voting delegate who should be a Regular Member. Member agencies shall identify their designated voting delegate to the Executive Secretary prior to the vote. If the Regular Member voting delegate cannot attend a meeting, then the voting delegate may proxy their vote to another representative from their agency that may or may not be a regular member.
- (2) Proxy Voting - In the event a designated voting delegate is unable to attend a scheduled meeting and is unable to send another representative of that agency, that individual may proxy his/her vote to any Regular Member in attendance. This proxy must be declared in writing to the Executive Secretary prior to the vote.
- (3) Appointed Voting Rights - The Executive Board may appoint voting rights to other relevant organizations/committees whose participation in discipline specific issues is important and valuable. In such cases, each organization/committee shall have one delegate vote only. Said delegate does not have to be a Regular Member, but must be a member in good standing with their sponsoring organization/committee. The participating organization must inform the Executive Secretary whom they have chosen to represent them. If a Regular Member has both an agency delegate vote and an appointed delegate vote, it is incumbent upon the member to vote in the manner according to whom they represent. The Executive Board has the right to withdraw any appointed rights as deemed necessary.

- c) Submission to external SDO's - NIST should make a command decision to either select an external SDO to which all GGs would be required to submit standards, or it should establish document preparation procedures that are consistent with known SDO procedures. The latter option requires that NIST define a specific document standard to which all GG documents must comply. Care must be taken to ensure that all potential documents for preparation have document templates available within the given SDO or NIST-defined standard, lest incompatibilities arise.
  - d) Implementation - In order for any developed guidance to be of value, it must be supported with some level of required implementation. This does not necessarily mean forced implementation, but merely an element of required consideration. The way to accomplish this is to make the guidance a component of a standard, which may or may not be incorporated by accrediting bodies in their accreditation programs.
- 4) Organizational
- a) The roles and responsibilities of GG governing body should be as follows:
    - (1) Provide administrative support to the GGs in terms of meetings, secretarial support, and website support. The GG websites should be standardized.
    - (2) Provide clear direction regarding the types and nature of documents/standards that all GGs need to provide, including providing specific questions/or types of documents that all GGs must produce, in addition to their discipline specific documents.
    - (3) Define when a new GG is needed in order to address an emerging discipline.  
(Further detail is provided below.)
  - b) The roles and responsibilities of NIST should be as follows:
    - (1) Provide administrative support to operate GG Governing body and support individual GGs, including travel, meetings, and websites. Websites must NOT be subject to shutdown as part of the Federal Government, but must function at all times.
    - (2) Assign personnel to address technical issues and supply technical writers as requested.

## **Section 2 - Questions and answers**

### Structure of the Guidance Groups

QUESTION: Given the scope and principles of the Guidance Groups outlined here, what are structural models that could best support the Guidance Groups, taking into account the technical, policy, legal, and operational aspects of forensic science?

ANSWER: Strong leadership with specific detailed requirements will be necessary. From a "structural model" standpoint, there needs to be a Guidance Group (GG) oversight or executive board that directs the general function of all GGs, and can create ad hoc committees from GG members to address issues that affect all (or many) GGs. For example, there needs to be a consolidation of terminology across all pattern evidence (and other?) disciplines, to include the creation of a standard nomenclature for a conclusion scale. No single GG will create a standard that is acceptable to all, so there is a need to have a representative body create one. The oversight board could then mandate all GGs conform or, if they can argue for why they will not conform, explain how their scale relates to the GG standard.

For individual GGs to succeed, all of them will need comparable basic, sustained administrative support. This should include: (1) Travel funding for all members to attend regular meetings; (2) Website creation and full time website support for communication with those involved in the discipline; (3) Telecommunications support (e.g. "GoToMeeting" or "WebEx") to enable GGs to meet in full or in part when not at a face-to-face meeting, as well as to conduct business on-line via such things as Wiki pages and the ability to utilize on-line voting infrastructure; and (4) Full time secretarial support to provide meeting logistical requirements, meeting minutes, support during the time between meetings and, most importantly, for technical document preparation, to include participation in meetings to create documents that conform to SDO guidelines.

Under the 'Supplementary Information' in the Notice, during discussion of the MOU and its requirement to establish the GGs, the following statement is made, "Guidance Groups do not report to DOJ or NIST." The DME SWGs are concerned that this statement indicates a lack of clarity in roles and responsibilities. If there is no DOJ or NIST oversight, then does this indicate that neither NIST nor DOJ will determine the GG membership? The DME SWGs encourage NIST and DOJ (and any other relevant parties) to make a clear statement regarding oversight and responsibilities regarding the GGs at the earliest possible time.

QUESTION: What elements or models would facilitate the sharing of best practices and uniform practices across the Guidance Groups?

ANSWER: Create an Oversight or Executive Board that provides a common set of requirements for all GGs to address, e.g. by-laws, ethics, website content, etc. These common requirements should include having NIST identify a specific Standards Development Organization, or define an SDO-equivalent process, to which all GG products must conform and be routed.

QUESTION: Are there public policies or private sector initiatives in other countries that have successfully strengthened the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline? If so, what are they?

ANSWER: Yes, a fantastic model for reference is the European Network of Forensic Science Institutes (ENFSI). It's exactly what this effort proposes, but without the SDO portion. Instead they implement mutual agreements to participate and cooperate. While GGs deliverables should include standards production, ENFSI's level of cooperation, information exchange, consensus standards, proficiency test sharing, etc., is one of the best, if not the only, implemented forensic oversight processes for such a huge multi-jurisdictional/legal/community arena, done on a fully voluntary consensus based system. As it is a very successful organization, the DME SWG's learned to work closely with the international partners at ENSFI.

QUESTION: What are the elements which make existing forensic Scientific Working Groups (SWGs) successful? Are there examples of best practices in specific SWGs that ought to be replicated in Guidance Groups? If so, what are they?

ANSWER: SWGIT, FISWG, and SWGDE all have been very productive in their history due to strong leadership, consistent support for meetings, and dedicated members who recognize the importance of their work. Without consistent funding, regularly scheduled meetings, and strong leadership, nothing can get done. Showing no lack of motivation, these groups are regularly planning two or three documents ahead in their given disciplines. In addition, these groups have focused on having the practitioners lead the efforts and have not been distracted by

commercial entities or agency politics hijacking production. As each member is vetted through the application and meeting process before voted as a member, it is ensured that they are technically qualified to be a part of the group. This combined with the fact that membership and voting is by agency, as opposed to individual, the absence of particular individuals does not cause discussions and production to cease. Essentially, non-partisan consensus building work, showing no agency favoritism, all votes consisting of equal importance, drives a community product that is both timely and relevant.

QUESTION: Would partnership with a standards development organization (SDO) in which the standard is issued by the SDO present any obstacle for participation by a broad range of forensic science stakeholders in the development of a standard? If so, why?

ANSWER: Providing a GG with a mechanism for moving its products from consensus to standard is the preferred route; however, the first obstacle to working with an SDO for many agencies engaged in forensic science is the lack of funding to support membership fees or dues. If NIST provided member agencies with financial support to become members of these organizations, then participation could be guaranteed. The second obstacle is that the standard is not free to the forensic community or individual practitioners. This causes an undue burden on financially strapped practitioners who already pay membership dues to belong to forensic groups in their discipline. These facts also limit the audience viewing the documents. Many LEOs are not aware of what an SDO is or that standards in forensic science exist through an SDO. Outreach by the GG would have to be strong to raise awareness. A third obstacle will be choosing with which SDO to partner. NCFS/NIST will most likely have an issue with selecting any one SDO over another as the choice will ultimately provide financial benefit to the chosen SDO. Note - Selecting an SDO such as ANSI will provide the submission of a US based standard into the international realm as well since ANSI is a voting member of the ISO/IEC standards body (which in turn the reverse would be true – NCFS/NIST/GGs would be able to receive international updates and provide opinions).

QUESTION: Would partnership with an SDO in which the standard is issued by the SDO present any obstacle to broad adoption of a standard? If so, why?

ANSWER: Yes, it would be an obstacle because not all agencies who work in a given forensic field would be able or willing to pay for the standard. Only when required by accreditation or other oversight (e.g. state law) would many agencies feel compelled to use, and therefore purchase, the standard. Additionally, an agency/company doesn't typically implement a standard without an accrediting body to enforce that implementation. As there are not enough resources to provide for accreditation of all entities of the forensic community, the broad adoption of a standard is not possible. Without the funding behind it, there will not be a broad adoption. Furthermore, as evidenced by the recent disbanding of the Questioned Documents subcommittee of ASTM, some SDOs are incapable of overcoming the procedural roadblocks that determined individuals can create within the SDO process for certain forensic disciplines.

QUESTION: Would a fee-based membership model run through a not-for-profit organization (similar to the National Conference of Weights and Measures) present a significant obstacle for participation?

ANSWER: Yes, it would be an obstacle because not all agencies who work in a given forensic field would be able or willing to pay the dues or fees. Only when required by accreditation or other oversight (e.g. state law) would many agencies feel compelled to become members. The GGs should be comprised of the best chosen subject matter experts from their disciplines. The fee based membership will automatically result in exclusion of community members, which in turn will result in bias. A truly non-bias system must not be influenced by things such as financial resources. If the government is sincere in its effort to implement an open and truly representative system, then all required resources will be provided.

QUESTION: If the Guidance Groups followed a fee-based membership model, are there appropriately-tiered systems for fees that would prevent "pricing out" organizations, including individuals?

ANSWER: Requiring agencies to "pay to play" is the worst possible idea. Such a system would create a "haves versus have-nots" system in which only the most well-funded agencies would be setting the rules. This is not an appropriate way to create standards for disciplines that must be applied to tens of thousands of organizations within the United States. All international,



federal, state/local law enforcement and academia need to be equally brought to the table for a GG to be successful.

QUESTION: Other than a privatized model, are there other means to maintain a governance or coordinating body in the long term? If possible, please give examples of existing structures and their positive and negative attributes.

ANSWER: The SWGs have maintained coordinating bodies for over 15 years. Clearly the current structure and processes are successful. There is always room for improvement, but the wheel does not need to be reinvented.

#### Impact of Guidance Groups

QUESTION: Given that the Guidance Groups cannot mandate the adoption of standards, what can they do to best leverage their position and encourage adoption? To what extent does membership and transparency impact possible adoption of guidance at the state and local level?

ANSWER: Having the NCFS accept any GG standards will go a long way to having GG efforts recognized and adopted. Likewise, formal engagement with forensic science bodies such as AAFS and IAI and to have those bodies recognize the work of GGs would also promote their adoption. Inclusion of accreditation bodies, such as ASCLD-LAB, in the GG process would also be a mechanism for encouraging adoption – if practitioners cannot be accredited, then they may be incapable of working. Finally, engagement with the legal community – judges, prosecutors and defense attorneys – through regular meetings and training events at Judicial conferences, ABA meetings, NACDL meetings, and the National Advocacy Center in Columbia SC, would go a long way to educating court officials on the standards under development. NIST should include a significant effort as part of the GG system to have an outreach committee or board that consists of GG members or representatives. The outreach committee members should regularly engage with court officials, discipline specific groups for each SWG, and the law enforcement community (e.g. IACP) as a way of advertizing the standards, which will lead to their widespread adoption.

QUESTION: Are there best practices or models to consider with regard to a structure that would encourage effective communication with the scientific community to explore research gaps and aid in recognizing research priorities?

ANSWER: An oversight board should identify a set of high level “standards” to which all forensic disciplines would adhere. For example, DNA is recognized as the “gold standard” because of the existence of a statistical model that allows nearly unambiguous results to be determined. The oversight board, in conjunction with each GG, should set a standard for all forensic disciplines to define whether such statistical models are possible within their discipline. If they are possible, then they need to define the conditions under which such models can be developed. This would then provide the research community with guidance on what questions need to be answered for the given discipline. For those disciplines which do not lend themselves to an easily defined statistical model, there needs to be a clear definition of that as well as an explanation of what prevents the adoption of a model. That, too, will lead to the identification of research gaps. In some cases, the only statistical model that will be possible will be one of human performance in the given task, such as with the Latent Print Black Box test to establish error rates for latent fingerprint analysis.

All of the above comes back to the need for the GG Oversight Board to establish a set of “foundational questions” that every GG must answer up front before proceeding with other work.

QUESTION: How should NIST researchers engage with the Guidance Groups in support of the goal to strengthen the nation’s use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline?

ANSWER: The GG Oversight Board should establish a requirement for all GGs to address the statistical model issue discussed immediately above as well as require that all GGs identify a “living” document on “research gaps and needs.” This gap document would be revisited every two or three years by the GG. NIST researchers should be non-voting participants in given GGs to provide advice on these issues, but also to learn more about how forensic science operates in the real world.

### Representation in the Guidance Groups

QUESTION: Who are the stakeholders who should be represented on the Guidance Groups? What steps can NIST take to ensure appropriately broad representation within the Guidance Groups? What does balanced representation mean and how can it be achieved?

ANSWER: Practitioners should hold the most sway in GGs. Laboratories and private practitioners with an established record within the field should be the ones involved. After all, they are the ones who will have to live with the outcomes. Academics will have a secondary role in that they can define the limits of current science and engineering, while also gaining insight into what areas should be subject of future research. Lawyers should not be included in GGs, because the GGs should only be concerned with technical capabilities and limitations of given forensic applications. In the event there are GG issues that require legal answers, then lawyers could be invited on an ad hoc basis, but not as permanent members. Commercial entities should not be involved in GGs because of the potential for undue influence in favor of their commercial products. The DME SWGs exclude commercial entities as members through the use of a disclaimer form.

QUESTION: What is the best way to engage organizations playing a role in forensic science, standards development and practice?

ANSWER: Give them a seat at the table. However, the seat must be given to the appropriate representative from within that agency.

QUESTION: How should interested parties who may not be direct participants in Guidance Groups, engage in a meaningful way to have an impact on issues in front of the Guidance Groups?

ANSWER: Use an SDO or and SDO-comparable process that allows for full engagement in document preparation. Also incorporate an "open door" segment of given GG meetings in which interested parties would be allowed to bring issues before the GG for consideration. Care would need to be taken to preclude commercial entities from using such a segment to sell products. As discussed previously, provide draft document publishing, and the advertising of such, to encourage public comment. This process, along with review and incorporation of those comments, before final publication of any recommendation (preferably external to SDO process

due to financial requirements) is paramount. The outreach board must play an important role: provide a venue for communication with the board; pound the pavement to get the word out for feedback.

QUESTION: To what extent and in what ways must the Federal government, as well as state, local, tribal and territorial governments be involved at the outset?

ANSWER: Efforts should be made to ensure that entities from all levels are included in relevant GGs. However, care must be taken to avoid mandating set percentages from all levels for all GGs. Not all disciplines are equally represented at all levels of government, due to a variety of factors, not the least of which is cost.

#### Scope of the Guidance Groups

QUESTION: Should all of the current forensic Scientific Working Groups (SWGs) transition to Guidance Groups?

ANSWER: Due to their established history with their disciplines, the quality assurance issues they have encountered, the voluminous standards and best practices that have been initiated by them, and their existing establishment within all relevant communities, productive SWGs should actually be utilized AS the GGs. To not do so only duplicates established efforts, wastes federal resources, and minimizes the ability to produce the best community driven results. If however this is unobtainable, and knowing that productive SWGs will continue their work regardless of a mirror image GG, at a minimum it is recommended that the related SWG's executive boards be invited as members of the related GG. At a minimum, this will ensure a handshaking effort between the two groups so as to not cause conflict and to promote a more effective 'path forward' implementation.

QUESTION: Are there broader groupings of forensic science disciplines that could form the basis of Guidance Groups than the current group of twenty-one SWGs? If so, what are those groupings?

ANSWER: It is possible that broader groupings could be made, for example "patterned evidence". However, while broader groupings of disciplines could take place, ultimately breakdowns would have to occur in order for standards to be produced specific enough to be

valuable within a discipline. For example, grouping the three DME SWGs within one GG would be problematic as an imaging expert or an audio expert could not write a standard pertaining to a computer forensic process. Unfortunately, it is the nature of why so many disciplines have developed. As one person cannot be an expert across a broad range of disciplines, experts in each area are required for standards to be written in that area.

QUESTION: Is there a need for a cross-disciplinary functional approach (i.e. statistical analysis) and how could the Guidance Groups be structured to best address that need?

ANSWER: See the above discussions of a GG Oversight Board and ad hoc groups. The “statistics” question absolutely must be addressed by the GGs as a whole, but only from the stand point of defining guidelines (“standards”?) for how individual GGs should address statistical issues. That said, an excellent resource would be a separate “statistical analysis” group assigned to support the work of ALL GGs.

QUESTION: To what extent do Guidance Groups need to support different forensic science disciplines differently from one another?

ANSWER: It is fundamental to the success of the GGs that differences be allowed. However, per discussion above, it is incumbent upon NIST or the GG Oversight Board to attempt to standardize forensic science across disciplines to the extent possible. The oversight board would do this by defining requirements for all GGs to meet and by establishing certain standard tasks that each GG must address. In addition, the creation of a standard nomenclature of conclusions should be the number one undertaking by the Oversight Board through an ad hoc committee formed by members from all of the GGs.

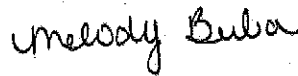
The Digital and Multimedia Evidence SWGs are thankful for NIST's Notice seeking input regarding the administration and support of forensic science Guidance Groups. It is our hope that the information provided will be of use to NIST and we would like to offer any future assistance we may provide in improving the quality of our country's forensic sciences.

Sincerely,



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James Darnell  
Chair, SWGDE



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Melody Buba  
Chair, SWGIT



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Richard Vorder Bruegge  
Chair, FISWG

November 12, 2013

National Institute of Standards and Technology  
100 Bureau Drive, Mailstop 8102  
Gaithersburg, MD 20899



Dear Ms. Ballou:

SWGGSR (Scientific Working Group for Gun Shot Residue) would like to thank NIST for allowing us the opportunity to provide input on matters concerning the prospective formation of Guidance Groups. We will provide comments and express our concerns to many of the bullet points listed in the notice dated September 27, 2013 of the Federal Register.

## 1. Structure of the Guidance Groups

Given the scope and principles of the Guidance Groups outlined here, what are structural models that could best support the Guidance Groups, taking into account the technical, policy, legal, and operational aspects of forensic science?

It would seem that a central question here is whether the term "Guidance Group" is synonymous with the current "Scientific Working Group"? As for SWGGSR it currently consists of twenty nine members representing forensic scientists from State, Federal, private and international laboratories with extensive experience in GSR analysis. In the past year we have also added a statistician to the group. Our members were originally "hand picked" based on their scientific record and are not just delegates of specific member-organizations. Is it envisioned that the SWGs will now take on additional "stakeholder" members including academia, industry (vendors), legal (defense, prosecutors, judges), statisticians and research scientists? If this means adding additional members to the SWG to make it a Guidance Group it runs the risk of increasing the size of the group to greater than 30 members which can make for a less effective discussion group. Perhaps a Guidance Group or oversight board to guide the existing SWGs in policy issues to bring more uniformity across the SWGs would be useful. NIST would oversee the membership of the group and provide the operational funding necessary for meeting on a regular basis. An option would be to use Guidance Groups to develop general best practices that would be relevant to all groups and then SWGs develop best practices that are relevant to each discipline. This will be discussed more appropriately in section 3.

What elements or models would facilitate the sharing of best practices and uniform practices across the Guidance Groups

The SWGs were created at different points in time and under different funding Agencies. This has lead to a certain lack of uniformity across the SWGs. Having all the SWGs fall under a single entity like NIST should allow for more uniformity. Areas that could be addressed include: uniform funding for annual meetings; a uniform model for document production with transparency and opportunity for stakeholder input and public review; a uniform code of ethics and bylaws which are more consistent across the SWGs. Most SWGs have already open access web-sites, so anyone interested in their output (manuals, guides and other resources) may review it. A central website for all SWGs falling under NIST may be desirable. SWGs web-sites should have, of course, retain a members-only section.

Are there public policies or private sector initiatives in other countries that have successfully strengthened the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline? If so, what are they?

European Network of Forensic Science Institutes (ENFSI) – Extensive information regarding the operation of ENFSI including its constitution and the framework for its Working Groups has been provided directly to Sue Ballou at NIST. In addition, details regarding Australia and New Zealand's approach with their Special Advisory Groups have also been sent directly to Sue Ballou. International membership in SWGGSR has been a boon in

pointing out different situations of concern that exist in Europe and Australia vs. the US. These concerns are then noted and discussed in our Guide. For example the Germans added a Gadolinium taggant element to Law Enforcement ammunition. All Law Enforcement agencies are required to use this ammunition and it is not available to the public. If particles are found on the hand of a suspect that contain Gd they can be discounted as having come from the discharge of the suspect's weapon. International participation in SWGs or Guidance Groups is highly recommended to establish a more global approach in developing best guidelines.

Here are some additional comments from one of our international members. ENFSI expert working groups (EWGs) are a little different, at least today. Membership in these groups is open to all representatives of ENFSI member institutes. This makes the EWGs less effective in this aspect, unless project groups are formed in them (like the ones of the Firearms & GSR EWG or other groups). Some of EWGs manuals and guides are not publically available, unlike the (desired) situation in the US SWGs.

- Our Lab is accredited (DAkKS) with a QA-system (LIMS) and procedures to follow
- certain procedures are accredited as well according DIN ISO 17020/17025 (e.g. GSR-analysis)
- Our Lab is ENFSI Member
- Our Lab Director is member in a working group to develop minimum standards for securing of evidence in Germany
- Participation in proficiency tests (e.g. ENFSI GSR)
- Participation in ENFSI Working Groups (e.g. Hair Group)
- Attendance at periodical meetings:
  - national (incl. guests from Suisse and Austria) for GSR-analysis e.g.
  - international (e.g. ENFSI Firearms/GSR)
- Own case related studies with presentation and discussion of results at the meetings
- Internal/external seminars/trainings for officers securing evidence
- Trainings for SEM operators (e.g. courses at Muenster University)
- Manufacturer User Meetings (e.g. at ZEISS/OXFORD)
- Last not least: participation in SWGGSR

□ What are the elements which make existing forensic Scientific Working Groups (SWGs) successful? Are there examples of best practices in specific SWGs that ought to be replicated in Guidance Groups If so, what are they?

The SWGs have produced a large number of Guides, Best Practices documents; ASTM methods and consensus standards over the years. Building consensus between twenty nine different scientists is not a simple task yet it is what SWGs do best! The SWGs work well because their members bring vast experience in their specific discipline to the table with them. That is something that should be maintained. In particular SWGGSR has an element of authenticity and is highly respected because its members must have at least 5 years of experience in the field and were chosen because they were writing articles and voicing opinions on the SEM listserv. So its members were already highly regarded as the best experts in the field. Documents produced by the SWGs are referenced frequently in bench work, updating of Agency policies/practices, and often in courtroom testimony. The ability to refer to a particular guideline that has been agreed upon by a significant representation of the analysts in the discipline is invaluable. SWGs all have websites forum for sharing information. Much like SDOs SWG produced Best practices and Guidelines ought to be replicated and updated when new information is gathered and deemed relevant. SWGs also work well when sub-committees with no more than 10-12 people with specific expertise/training/experience as members to prepare assigned documents for review and editing by the whole group. These documents are then collated into the final document.

□ Would partnership with a standards development organization (SDO) in which the standard is issued by the SDO present any obstacle for participation by a broad range of forensics science stakeholders in the development of a standard? If so, why?

SDOs can be a double edged sword. SDOs like ASTM have a clearly defined set of rules describing how to format and produce documents and a method for reviewing documents with input from individuals outside the Draft Committee. Some would argue that to provide input you must be a member of ASTM. To receive a copy of the final document you must purchase it from ASTM. Interestingly, the group that actually develops the document receives no payment from ASTM.



Perhaps a model for document production that mimics ASTM but allows all stakeholders to submit their comments and suggestions to NIST who would then refer these back to the SWG/Guidance Group that would incorporate them into the document or reject them with explanation and appeal. NIST could then post the final document, once approved on their website for free.

Would partnership with an SDO in which the standard is issued by the SDO present any obstacle to broad adoption of a standard? If so, why?

Other than the fee based system, which some would argue, does not allow unlimited stakeholder access, issuing the standard should not be a problem. Adoption of the standard practice has always been somewhat problematic. Can State laboratories be “forced” to adopt a specific standard?

If this is a developed standard in collaboration with the experts in the discipline then one obstacle that may present itself would be if a lab was not already up to date with accepted standards and practices. If the standard calls for not currently available due to funding issues the laboratory could cite the standard to help obtain funds for the purchase of the instrumentation required if they wish to perform the analysis described in the standard.

Would a fee-based membership model run through a not-for-profit organization (similar to the National Conference of Weights and Measures) present a significant obstacle for participation?

This is a question which needs to be answered by Laboratory Directors. Funding, especially in difficult budget cycles, could be problematic. There is a concern that the fee-based participation would severely restrict participation in the process. Experts working in GSR in a small or less funded organization or international members would not have the opportunity to contribute, thereby restricting input to only those from well funded entities. There is great value in the inclusion of analysts/experts from all sizes of agencies, including private and public labs.

If the Guidance Groups followed a fee-based membership model, are there appropriately-tiered systems for fees that would prevent “pricing out” organizations, including individuals?

The answer to this question is unknown at this time. Establishment of the Guidance Groups should be free, however, once established the question could be revisited to see if there could be a fee system appropriate to the membership type.

The simplest solution is to eliminate the issue by not having fee-based membership

Other than a privatized model, are there other means to maintain a governance or coordinating body in the long term? If possible, please give examples of existing structures and their positive and negative attributes.

Hasn't NIST been delegated this task? In the past, consistent funding has always been a major issue for SWGGSR.

## **2. Impact of Guidance Groups**

In its role in administering and supporting the Guidance Groups, NIST's aim is to improve discipline practices by advancing forensic science standards and techniques through a collaborative consensus building process with Federal, state and local community partners. NIST thus seeks comments about the ways in which the structure, function and operation would best support the Guidance Groups by being a catalyst for such improvements.

Structure, function and operation of the Guidance Groups. A defined structure for each group- to include a sufficient representation of experienced analysts whose function is to determine standards, guidelines, and best practices etc. with NIST who would finalize these and publish them. Operation of the groups would need to be funded and an appropriate amount of gathering time for each group to discuss pertinent issues. The number of meetings of the group would depend on the discipline itself, however, one time per year at least in the beginning.

Given that the Guidance Groups cannot mandate the adoption of standards, what can they do to best leverage their position and encourage adoption? To what extent does membership and transparency impact possible adoption of guidance at the state and local level?

This was one of the concerns brought up by the NAS report regarding the SWGs. We have no teeth. It sounds like Guidance Groups and SWGs are in the same boat here. Transparency with the opportunity to provide input, suggestions and concerns should help with adoption of the standard. Universal adoption of standards may continue to be elusive. SWGGSR documents are highly respected because its writing members are. The benefit of adoption of a standard may be during court testimony as following a recognized standard procedure could carry more weight with the jury or so legal council should argue. Another possibility is that the SWGs guides should be included in the accreditation requirements for forensic labs (like ASTM standard guides). SWGs representatives should attend scientific meetings, like the AAFS, IAI, AFTE and others, and present the outcome of their Groups, on a regular basis. In this way accreditation is being used as leverage. In addition, the Guidance Groups could reach out by providing webinars and more localized presentations at symposiums and local meetings. Encourage colleges/universities/other training resources that have forensic science curricula introduce Guidance Group standards as part of the course activity.

Are there best practices or models to consider with regard to a structure that would encourage effective communication with the scientific community to explore research gaps and aid in recognizing research priorities?

The SWGs/GGs should list areas where future study/research is needed on their web page. Some SWGs like SWGGSR may need to conduct collaborative research projects with other labs that have the specific instrumentation required for the work. For example, Scanning Electron Microscopes with Energy Dispersive X-Ray Spectrometers can be found at numerous academic institutions but very few have the necessary automated stages with GSR classification and relocation software found in forensic laboratories. A portion of the SWG meeting should be devoted to this topic. This would include scientists participating in SWGs activities (as members or as invited guests); SWGs soliciting scientists to perform research in specific areas of interest. There are currently several ENFSI EWGs that are performing research using EU funding. Discipline specific Yahoo groups can also be helpful, for example Forensic SEM. Where possible partnerships with colleges/universities to incorporate research projects with the graduate student programs could help fill these gaps.

How should NIST researchers engage with the Guidance Groups in support of the goal to strengthen the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline?

- This may be one of the biggest advantages of having the Guidance Groups fall under NIST. Many Forensic Science laboratories have heavy caseloads and backlog issues. This can lead to limited time where the instrumentation can be devoted to research. NIST's powerful research capabilities could be put to good use investigating areas where further study is needed. An example in the field of GSR analysis would be the capability to perform organic and inorganic analysis on the same sampling device using instrumentation readily found in most forensic science laboratories. Academic entities (universities, etc) and NIST have the expertise to design and conduct sound research using scientific and statistical standards but may not have a clear appreciation of the issue at hand. The ability to have professional researchers collaborating with bench analysts in order to complete useful research would be ideal. The Guidance Group could be a means of prioritizing the issues needing research and a resource for researchers to gather real-life information on the discipline. The question as to who becomes the entity "verifying the scientific basis exists for each discipline" is an interesting one. NIST certainly has the resources to verify scientific basis. Proposed research could be submitted by the group and discussed and designed with NIST who could then facilitate the verification, either on their own or through group collaboration. Should NIST be the "Gatekeeper" (does this create a conflict with Judiciary?) or should NIST act as a "stakeholder" expressing their opinion if enough peer reviewed research has been done in the field to demonstrate that the scientific basis exists for a specific forensic discipline? At any rate Guidance Groups should establish a liaison committee to communicate with NIST researchers.

### 3. Representation in the Guidance Groups

Given the diverse, multi-sector set of stakeholders in forensic science, representation in Guidance Groups must be carefully balanced and inclusive.

□ Who are the stakeholders who should be represented on the Guidance Groups What steps can NIST take to ensure appropriately broad representation within the Guidance Groups What does balanced representation mean and how can it be achieved?

It may be worth taking a step back and examining what the SWGs are designed to do. We use highly specialized practitioners, many of which have published research in this field, to develop best practices or standard guides. The production of these works allow for more uniformity in the analysis of physical evidence in Forensic laboratories in the United States and potentially across the globe.

Perhaps an analogy is appropriate. Consider for a moment, a group of cardiac surgeons who decide to write a manual describing the procedures to follow when performing a heart transplant. While it is true that hospital administrators may have valid concerns about some of the instrumentation required to perform the surgery. The administrators and hospital staff may also have concerns about the recuperation time and how frequently the procedure can be performed due to availability of beds and intensive care staffing. An ethics expert may raise questions regarding who should be receiving the transplant and how that decision is being made. All of these are valid concerns but having these individuals meet as part of the team that is actually writing the technical heart transplant surgical procedure is not necessary. Their input should come into play at a different point. Perhaps as an "Oversight Board" to include a small representation of, ASCLD/LAB, Prosecutors, Defense Attorneys, Statisticians, Academic Researchers, and Investigators. The makeup of these groups should be well advertised.

There has been some discussion about limiting the SWG/GGs to thirty members. Removing a large number of highly specialized practitioners and replacing them with "stakeholders" is probably not the best way to increase efficiency in the production of forensic science consensus documentary standards. Perhaps a model where all SWG draft documents would be sent to the NIST website which would have links to stakeholder organizations alerting them that a draft document was ready for public review and comment, would be more useful. Undoubtedly the best members of a SWG are those that are passionate about the discipline in which they practice and are willing to contribute to the progress. The worst members are those that are motivated by the ability to include another accolade in their CV. Active participation in the SWG is critical. As is experience in the discipline, a history of involvement in research to further the knowledge in the expertise, and specialized experience in related topics (instrument design, statistics, etc.). NIST could adopt the current SWG's whose membership could be evaluated periodically using an application/review process. Balanced representation means various types of experience in a discipline with public and private representation along with statistical support either within the group or through NIST.

□ What is the best way to engage organizations playing a role in forensic science, standards development and practice?

- There has been conversation about membership but what about another possible avenue for involvement such as allowing individuals or entities (public or private labs) to register with specific SWGs, allowing them access to meeting agendas and an opportunity to submit discussion to the topics as well as contribute to research? Not a "voting" member but still a pathway for inclusion in the conversation by those who are not a member. Yes, guidelines for involvement would be necessary to restrict an individual with outlier opinions from possibly monopolizing or burdening legitimate conversation. The use of other venues such as AAFS to update practitioners regarding the progress and plans of the SWG could be quite useful. Another possibility would be to introduce a Skype or a live audio/visual segment during the SWG meeting for input. This would provide a regular forum for them to exchange information and discuss research etc. for collaborative development.

□ How should interested parties who may not be direct participants in Guidance Groups, engage in a meaningful way to have an impact on issues in front of the Guidance Groups

See the response to the 1<sup>st</sup> question in section 3. Non-direct participants could submit information, issues, or questions to the Guidance Group, which could then be discussed at the meetings. This could be done through a website. It's possible that additional Webinars with Q&A sessions at the end of the presentation could be developed. Monitoring of Internet based groups that are open to all practitioners. Topics that are current "hot issues" could be forwarded on to the Guidance Groups to make sure they are considered when drafting new documents or revising older ones. This would help to create an environment where all users feel some involvement, hence some level of ownership. An open environment can help to avoid a myopic outlook and the appearance of elitist practices.

To what extent and in what ways must the Federal government, as well as state, local, tribal and territorial governments be involved at the outset?

Perhaps they should be involved in the support of these groups since the forensic work the group participants conduct, impacts all levels. Financially supportive and the assistance through NIST would be a start. This would represent more stakeholders to add to the "Oversight Board".

#### 4. Scope of the Guidance Groups

Should all of the current forensic Scientific Working Groups (SWGs) transition to Guidance Groups

Yes, provided these terms are synonyms...

Are there broader groupings of forensic science disciplines that could form the basis of Guidance Groups than the current group of twenty-one SWGs? If so, what are those groupings?

The proposal presented by NIST at the SWG Chair meeting in June 2013 involving four general headings of Biology/Pathology, Physics, chemistry and Digital/Multimedia is also a possibility.

Is there a need for a cross-disciplinary functional approach (i.e. statistical analysis) and how could the Guidance Groups be structured to best address that need?

Is this question referring to whether each Guidance Group should have its own statistician as a member of the group or could a statistician provided by NIST or a group of statisticians be used to give input for all Guidance Groups. There is some merit to having a statistician who is familiar with specific concerns of the discipline in the Guidance Group. For example, a great deal of research is currently being done in Europe exploring the pros and cons of using the Bayesian statistical model for various disciplines including GSR. In any case, statisticians should be included in the "stakeholder" group and have the opportunity to offer input.

To what extent do Guidance Groups need to support different forensic science disciplines differently from one another?

A "one size fits all" approach for the SWGs/GGs may not be practical or even feasible. Some SWGs in their current form are very large (> 100 members) and comprise multiple disciplines like SWGMAT and SWGFEX. Other SWGs like SWGGSR are relatively small and cover a single discipline. There are SWGs where issues of concern arise frequently and rapidly which may require having these groups meet twice a year or more frequently. This is not the case for SWGGSR where an annual meeting should be sufficient.

#### Additional Considerations:

A fixed meeting date and location could potentially save the funding organization money through simplification of logistics. This would also allow the attendees to plan in advance and avoid court conflicts.

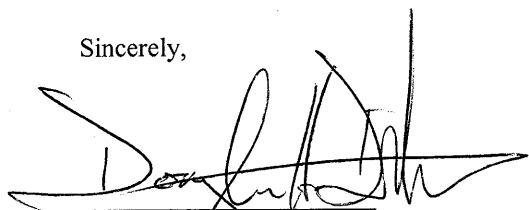
Vendors have also been suggested as being part of the Guidance Groups. While vendor input could certainly be useful, one must be careful that a vendor does not influence how an analysis method is developed to the exclusion of other possible vendors.

One proposal is that, at the outset, such Guidance Groups adopt the existing guidelines, promulgate them, and request samples of procedural guidelines for each forensic discipline and sub discipline. These would include Training SOPs and Technical Processing SOPs. Internet groups of practitioners could vote, and Guidance Groups could narrow the options to those which best reflect the current guidelines and industry practices. One or more options of each could then be posted as the Guidance Group accepted and recommended SOPs. There is real value to a practitioner who uses procedures with this type of endorsement.

It is also recommend that the Guidance Groups develop a relationship with Competency and Proficiency providers to develop guidelines and test validation processes. Again, there is real value to a practitioner who uses process testing methods with this type of endorsement.

SWGSR appreciates this opportunity to contribute cumulative input from its members regarding the development of Forensic Science Guidance Groups to NIST. We look forward to future participation in this endeavor.

Sincerely,

A handwritten signature in black ink, appearing to read 'Douglas DeGaetano', written over a horizontal line.

Douglas DeGaetano  
Chair - SWGSR



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November 26, 2013

Susan Ballou  
National Institute of Standards and Technology  
100 Bureau Drive, Mailstop 8102  
Gaithersburg, MD 20899

Dear Ms. Ballou,

The Innocence Project would like to express our thanks to the National Institute of Standards and Technology (NIST) for the opportunity to provide feedback on possible models for the administration and support of discipline-specific Guidance Groups for forensic science. Our organization is a national litigation and public policy organization dedicated to exonerating wrongfully convicted people through DNA testing and reforming the criminal justice system to prevent future miscarriages of justice. To date, post-conviction DNA testing has exonerated 311 innocent people who had been wrongfully convicted of serious crimes. That number continues to grow. The Memorandum of Understanding (MOU) between the Department of Justice (DOJ) and NIST creating the National Commission on Forensic Science as well as the NIST Guidance Groups are both important to creating a scientific support network for the forensic science system. These initiatives are the most significant embodiment of the recommendations of the National Academy of Sciences report, *Strengthening Forensic Science in the United States: The Path Forward*, to date and we greatly anticipate the impact that the Guidance Groups can make on the forensic science landscape.

The Innocence Project advocates for reforms developed through rigorous research that can identify, prevent, and remediate the factors that contribute to wrongful convictions. The top priorities informed by our findings address systemic problems in eyewitness identification, forensic science, false confessions, incentivized jailhouse informant testimony, and unnecessarily limited access to

Benjamin N. Cardozo School of Law, Yeshiva University



post-conviction DNA testing. In our review of the contributing causes of the nation's first 311 post-conviction DNA exonerations, reliance on forensic evidence that was either applied before full validation or improperly applied has proven to be the second most frequent contributing factor in wrongful convictions, having played a role in approximately half of those cases. It is important to note, however, that relevant biological evidence is only present in a small percentage of serious crimes and that, according to crime laboratory directors, DNA testing may be viable in fewer than 10% of all felonies - other forms of forensic evidence may be probative in a large percentage of those other cases. The need for reliability in non-DNA forensic evidence and newly developing DNA technologies is critical to the integrity of our criminal justice system.

For the reasons stated above, the development of rigorous technical standards is an imperative. In considering the organization of Guidance Groups, the Innocence Project ascribes to two primary principles. First, experts should be incorporated into this process in the areas of their expertise. Second, the Guidance Group structure is an important opportunity to introduce, encourage, and incorporate the collaboration of forensic scientists and academic/private sector researchers. Under these principles, we recommend Guidance Groups organized by general scientific areas of study under a Forensic Science Standards Advisory Committee (FSAC). We believe this structure and the corresponding processes we recommend will ensure the development of scientifically rigorous standards as well as the practicality of their implementation.

### **Key Terminology and Definitions**

The Innocence Project realizes that the wide range of applications and uses of forensic science in many contexts makes developing definitions difficult. For consistency, the following definitions, in part adopted from the NIST Guidance Group NOI, will be used henceforth.

- **Forensic Investigation:** investigations into criminal, atrocity, intelligence and homeland security matters, or investigations used in civil litigation or for mass disaster victim identification.
- **Forensic Analysis(es):** analysis(es) intended for casework during a forensic investigation related to a criminal, atrocity, intelligence and homeland security matters, or an analysis(es) conducted for civil litigation or for mass disaster victim identification.

Another complicating but enriching aspect of forensic science is that the field requires the participation of members of two divergent groups – the scientific and criminal justice communities – but also includes members who identify with both communities. The following are definitions for terms that will be used to describe people who will participate in the organizational structure that will oversee and serve as members on Guidance Groups. We understand that there will be many



valued members of the criminal justice and scientific community who may not be perfectly defined by the specific terminology below or who may qualify in more than one category. We offer these terms as a best effort to broadly characterize the participants in our proposed organization of Guidance Groups under a Forensic Science Standards Advisory Committee.

- Forensic Science Expert:
  - Forensic Science Practitioner: an individual working as an independent consultant or working in a public or private crime laboratory or medical examiner office that collects crime scene evidence or conducts forensic analyses.
  - Forensic Scientist: a researcher or scientist from industry, a university setting, or scientific or governmental agency who conducts basic or applied research specific within forensic science disciplines or methods.
- Relevant Expert:
  - Academic or Private Sector Researcher: a scientist, statistician, or engineer from a university setting or scientific, governmental agency or industry who conducts research within life, physical, cognitive, or computer science subjects relevant to forensic disciplines or methods and not previously focused on forensic science.
- Stakeholders: non-scientific and non-technical members of communities who interact with forensic evidence as a result of forensic investigations; these stakeholders may include judges, attorneys, prosecutors, criminal defense attorneys, members of innocence or wrongful conviction groups, law enforcement, and members of advocacy organizations that pursue improvements in the application of forensic science to criminal justice whose members are neither Forensic Science Experts nor Relevant Experts, etc.

The following terminology refers to the bodies represented on the organization chart in Table 1 (see page 6). Below, each body and its membership will be defined. Subsequent sections of this letter will provide support for the organization of these bodies, their membership, and how they will work together to develop technical standards in a process that incorporates transparency and public feedback.

- Forensic Science Standards Advisory Committee (FSAC): This Advisory Committee is responsible for finalizing and approving technical standards and recommending their publication to the Director of NIST. The FSAC will be composed of the co-chairs of each



Guidance Group and NIST scientists that represent the scientific areas represented by the Guidance Groups.

- Scientific and Technical Groups: These standard setting bodies will develop discipline-specific technical standards. These are standards that relate specifically to the conduct, analysis, and interpretation of forensic evidence intended for forensic investigation.
  - Technical Guidance Groups: The responsibilities of the Scientific Working Groups (SWGs) will be transitioned to discipline-specific Subcommittees. These Subcommittees will be organized under a Technical Guidance Group that covers the general scientific field that governs the practice of that category of forensic disciplines. These Technical Guidance Groups will review technical standards created by the Subcommittees and recommend them for publication by the FSAC. Each Technical Guidance Group will be Co-Chaired by one Forensic Science Expert and one Relevant Expert. Its membership will be equally represented by Forensic Science Experts and Relevant Experts.
  - Subcommittees: SWG responsibilities will transition to discipline-specific Subcommittees. These Subcommittees will be the entry point for Standards Development Organizations (SDOs) and coordinate their work for submission to the Technical Guidance Group that oversees that Subcommittee. The SDOs will conform to the attributes by which voluntary consensus standards bodies are defined by OMB Circular A-119<sup>1</sup> and the National Technology Transfer and Advancement Act of 1995 (NTTA).<sup>2</sup> Subcommittees will be composed of appropriate members from the parent Technical Guidance Group and other Forensic and Relevant Experts as needed.
- Court Interactive Groups: These standard setting bodies will develop cross-disciplinary technical standards. These are technical standards that are relevant for all forensic investigations.
  - Quality Infrastructure Guidance Group (QI Guidance Group): This Guidance Group will cover cross-disciplinary scientific and technical topics that relate to improving quality assurance, quality control, and other improvements in the forensic science system. Forensic Science Experts and Relevant Experts will recommend technical standards for accreditation, certification, education, training, personnel requirements, evidence collection, and any other quality issues that may arise. This Guidance Group will be the point of entry for SDOs or SDO generated standards. Before the QI Guidance Group recommends standards to the FSAC, it must consult with Guidance Group Advisors and the Legal Advisory Group.

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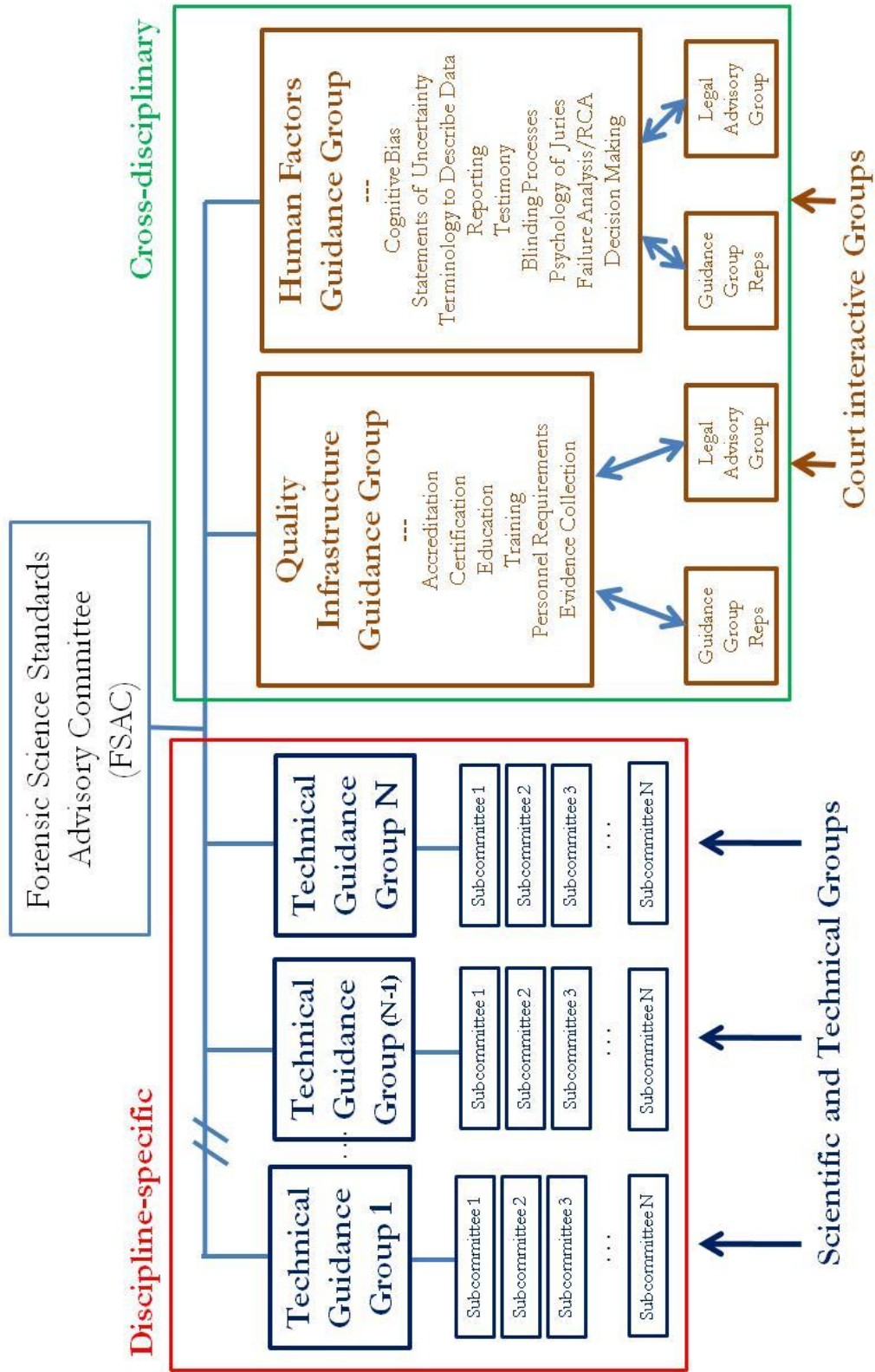
<sup>1</sup> Office of Management and Budget, Circular No. A-119 Revised, February 10, 1998, available at [http://www.whitehouse.gov/omb/circulars\\_a119](http://www.whitehouse.gov/omb/circulars_a119) (last accessed, October 24, 2013).

<sup>2</sup> 15 USC § 272, the National Technology Transfer and Advancement Act.



- Human Factors Guidance Group (HF Guidance Group): This Guidance Group will cover cross-disciplinary scientific and technical topics that relate to improving human factors issues in forensic science. Forensic Experts and Relevant Experts will recommend technical standards for cognitive bias, statements of uncertainty, standard terminology to describe data or categorize results of forensic analyses, reporting, testimony, blinding processes, the relevance of jury psychology and decision making psychology to forensic processes, failure analysis/root cause analysis, and any other human factors issues that may arise. This Guidance Group will be the point of entry for SDOs or SDO generated standards. Before the QI Guidance Group recommends standards to the FSAC, it must consult with Guidance Group Advisors and the Legal Advisory Group.
- Guidance Group Advisors: This group will be composed of one Forensic Expert and one Relevant Expert from each Technical Guidance Group. There will be two Guidance Group Advisors groups – one to provide consultation to the QI Guidance Group and the other to the HF Guidance Group.
- Legal Advisory Group: This group will be composed of stakeholders from the criminal justice, atrocity, intelligence and homeland security, civil litigation, and mass disaster victim identification communities. There will be two Legal Advisory groups – one to provide consultation to the QI Guidance Group and the other to the HF Guidance Group.

**Table 1.** Organization of Guidance Groups under a Forensic Science Standards Advisory Committee



## **Organization & Composition of Guidance Groups and Forensic Science Standards Advisory Committee**

In order to support high quality, valid, and reliable forensic science technical standards that are well-designed and practical, the input of a wide range of experts will be required. However, some technical standards are a completely scientific and technical endeavor while others will require the input of a diversity of stakeholders because they govern aspects of the forensic science process that includes interactions with the non-scientific and non-technical members of communities which utilize forensic evidence. This dichotomy makes it more difficult to recommend a simple, minimalist structure. Although our proposal for organizing Guidance Groups under the FSAC creates different processes for discipline-specific and cross-disciplinary technical standards development, the purpose is to ensure that feedback is sought from the communities whose expertise is directly applicable to the standards being deliberated. This section will describe the organization of the Guidance Groups followed by a description of how the FSAC will function.

### *NIST Guidance Groups*

According to the March 2013 Memorandum of Understanding (MOU), DOJ and NIST entered into an agreement to establish the National Commission on Forensic Science (NCFS). As part of NIST's standalone responsibility, it will "continue to develop methods for forensic science measurements and will validate select existing forensic science standards,"<sup>3</sup> thereby creating test and measurement standards. NIST has also been designated to establish successors to the present day FBI Scientific Working Groups (SWGs) in the form of Guidance Groups "intended to develop and propose discipline-specific practice guidance that will become publicly available and may be considered (along with other relevant and publicly-available materials) by Federal agencies and forensic science-related groups." This coordinated effort is designed to standardize national guidance for forensic science practitioners at all levels of government.<sup>4</sup> We propose that Guidance Groups be divided into two categories – one group will address discipline-specific technical standards and another group will address cross-disciplinary standards.

### *Guidance Groups Should Be Grouped by General Scientific Areas of Study*

Currently, 21 FBI SWGs cover a wide range of specialized forensic science disciplines. Since SWG disciplines can generally be categorized into broad scientific areas of study, we propose that SWG responsibilities be absorbed into Subcommittees that are arranged by Guidance Groups covering scientific areas such as biology, chemistry, physics, information technology, etc. Cross-disciplinary topics which are relevant to every forensic discipline will also require technical standards setting by

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<sup>3</sup> "Possible Models for the Administration and Support of Discipline-Specific Guidance Groups for Forensic Science; Notice of Inquiry" 78 *Federal Register* 188 (27 September 2013), pp. 59655

<sup>4</sup> *Ibid.*

Guidance Groups. For example, the topics of reporting and blinding procedures can be designated to a Guidance Group covering human factors issues. Creating a limited number of Guidance Groups by general scientific areas of study is paramount in order to facilitate scientific support and promote flexibility. Guidance Groups will establish scientific and technical leadership in each broad scientific area of forensic science. Grouping Forensic Science and Relevant Experts within broad disciplines will allow expertise and content knowledge within sub-disciplines to be easily exchanged. Certain scientific, research, or reliability techniques native to a particular specialty may be exchanged within the Guidance Group level and eventually filter down into various Subcommittees. As technology improves and develops, new forensic disciplines and new topics of consideration will require technical standards setting. This approach to organizing Guidance Groups will allow for the inclusion of new technology and methods under the aegis of an extant body that can provide experienced scientific and technical leadership, will understand the fundamental issues that would challenge the application of that class of forensic science, and will not require an administrative expansion.

Furthermore, limiting the number of Guidance Groups will streamline the administrative work required to support them such as establishing membership, scheduling meetings, and managing work product. This categorization method would centralize the Guidance Groups and make it possible to harmonize their work – a tenet of standardization.

Guidance Group standard setting will be organized into two paths – discipline specific Guidance Groups will follow one path and cross-disciplinary Guidance Groups will follow another path. Creating this distinction will allow the Guidance Groups to have a balanced and broad representation that properly utilizes experts in their areas of specialty.

#### *Discipline-Specific Guidance Groups and Subcommittees*

Under this proposal, SWG responsibilities would be transitioned to Subcommittees and organized under Technical Guidance Groups by general scientific areas of study such as biology, chemistry, physics, and information technology. In this section, we will regard these Technical Guidance Groups in generalities and will not opine on how SWGs will be absorbed into Subcommittees and how those Subcommittees will be organized under Technical Guidance Groups. This is a question that we will leave to the Forensic Science Experts and Relevant Experts to answer.

The charge of discipline-specific Guidance Groups is primarily to develop technical standards and other scientific guidance, and, therefore, a balanced representation permits that such groups be composed exclusively of Forensic Science Experts and Relevant Experts. Forensic Science Experts include forensic scientists with research experience in the specific discipline and forensic practitioners with relevant technical expertise. Relevant Experts are researchers who work in



academic or private sector settings in relevant fields underlying a specific forensic science discipline. Each Technical Guidance Group will have a balanced representation of experts having practical experience in conducting forensic analyses with those who are steeped in the underlying scientific fields of study, research methodology, quality assurance and quality control practices, and experimental design. In these scientifically focused groups, it is our position that criminal justice stakeholders with no scientific or technical expertise are not needed. There are few fora in which Relevant Experts and Forensic Science Experts can interact purely at a scientific level, and it is important to create opportunities to facilitate the development of these relationships. Criminal justice stakeholders are unable to contribute to the scientific questions that are central to the focus of these discipline-specific Guidance Groups, and because these stakeholders derive from an adversarial system that could draw divisions among the Forensic Science Experts and Relevant Experts, it seems unnecessary to introduce these external influences. In addition to technical standards, Technical Guidance Groups can suggest research agendas, establish product standards for the equipment to be used in analyses, and establish terminology standards. Each Technical Guidance Group will be co-chaired by one Forensic Science Expert and one Relevant Expert elected by the members of the group.

Subcommittees will be the point of entry for SDO activity or existing standards developed through an SDO. Subcommittees will send completed technical standards to the parent Technical Guidance Group for review. Since these Subcommittees will share a foundational basis, the Technical Guidance Group will develop an expertise and be able to spot and recommend fixes for issues in the standards setting process. Subcommittees will be composed of members of the parent Technical Guidance Group and additional Forensic Science Experts and Relevant Experts as determined by the Technical Guidance Group.

#### *Cross-Disciplinary Guidance Groups*

Cross-disciplinary Guidance Groups will be designed to address the application of a standard across many or all forensic disciplines. These cross-disciplinary groups include two topical Guidance Groups – one for Quality Infrastructure and a second focused on Human Factors. The Quality Infrastructure (QI) Guidance Group will cover issues related to improving quality assurance, quality control, and other improvements in the forensic science system such as accreditation, certification, education, training, personnel requirements, evidence collection, and any other quality issues that may arise. These activities were grouped together because they all affect the quality of the final forensic product and because accreditation, as practiced through ISO 17025 and ISO 17020, either tangentially or directly addresses these topics. The QI Guidance Group will be composed of Forensic Science Experts and Relevant Experts who specialize in quality and laboratory performance issues and co-chaired by one Forensic Science Expert and one Relevant Expert elected

by the group. This Guidance Group will not include a Subcommittee structure because so many of its members will have a high level of cross-over expertise on many of the issues addressed by this Guidance Group.

The second cross-disciplinary Guidance Group will cover issues related to Human Factors. The Human Factors (HF) Guidance Group Forensic will cover issues such as cognitive bias, statements of uncertainty, standard terminology to describe data or categorize results of forensic analyses, reporting, testimony, blinding processes, the relevance of jury psychology and decision making psychology to forensic processes, failure analysis/root cause analysis, and any other human factors issues that may arise. This Guidance Group will also be the point of entry for SDOs or SDO generated standards. The HF Guidance Group will be composed of Forensic Science Experts and Relevant Experts who specialize in human factors and will be co-chaired by one Forensic Science Expert and one Relevant Expert elected by the group. The work of this Guidance Group is not broken into Subcommittees because there will be few Forensic Science Experts and Relevant Experts on each of the topics to be addressed by the group. Keeping these experts together will preserve the depth of their expertise because the contribution of all these experts is additive.

When cross-disciplinary Guidance Groups develop technical standards, they must first be sent for feedback by the Guidance Group Advisors and the Legal Advisory Group. The Guidance Group Advisors will include representatives from each Technical Guidance Group. This cross-over will allow the Guidance Group Advisors to take developments at the QI and HF Guidance Groups back to the Technical Guidance Group. Additionally, the QI and HF Guidance Groups will receive advice from the Guidance Group Advisors to make their standards practicable for forensic practice. The Guidance Group Advisors will include one Forensic Science Expert and one Relevant Expert from each Technical Guidance Group. The Guidance Group Advisors detailed to the QI Guidance Group will be organized separately from the group detailed to the HF Guidance Group. This spreads responsibility among the members of the Technical Guidance Groups to prevent one person from shouldering a disproportionate level of responsibility and to ensure a diversity of feedback.

The Legal Advisory Group will play the same consultative role and will provide feedback on the needs of non-scientific and non-technical members of the communities that interact with forensic science. Their role will ensure that the technical standards incorporate stakeholder needs and allow for the effective application of forensic science in the courts. The Legal Advisory Group will consist of judges, attorneys, law enforcement, members of innocence or wrongful conviction groups, and members of communities who interact with forensic analyses or interact with forensic investigations.

Among criminal justice members, a balance between prosecuting and defense attorneys is imperative.

#### *Forensic Science Standards Advisory Committee*

The Forensic Science Standards Advisory Committee (FSAC) will operate as the coordinating body for the Guidance Groups, the Advisory Committee to the NIST Director, and will be the central body coordinating public feedback. The FSAC will be composed of the co-chairs of each discipline-specific and each cross-disciplinary Guidance Group as well as NIST scientists with expertise in the general scientific areas of study specified by each Technical Guidance Group. This composition allows standards to be shared and reviewed by a diverse set of scientific and technical leaders and ensure that measurement standards and other research developed by NIST in the interest of improving forensic science standards is applied to the standards that are set. This body will recommend standards to the NIST Director for publication by NIST.

### **Ensuring Transparency in Standard Setting Processes**

#### *Necessity for Transparency*

In order for the NIST Guidance Groups to develop technical standards with strong scientific foundations and proven practicability that will benefit all criminal justice stakeholders, it is important that the process is characterized by a high level of transparency and openness. Public engagement can enhance the work done by Guidance Groups and the FSAC and can improve the quality of their decisions. When the decision-making and standards development process is transparent, it will ultimately lead to the creation of technical standards that are widely and readily accepted by all stakeholders. At the heart of transparency lies the inherent need for collaboration and public engagement where possible. A combination of extant law and policy can provide the transparency measures that promote public engagement and quick disclosure of information for NIST Guidance Groups. A commitment to these measures will not only improve public trust in the work of the FSAC and Guidance Groups, but it would speed and encourage adoption of these standards by state and local forensic science providers.

The NIST-DOJ MOU describes, as a part of NIST's stand-alone responsibility, that it will "continue to develop methods for forensic science measurements and will validate select existing forensic science standards,"<sup>5</sup> thereby creating test and measurement standards. NIST has also been designated to absorb the present day FBI Scientific Working Groups (SWGs) and establish

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<sup>5</sup> "Possible Models for the Administration and Support of Discipline-Specific Guidance Groups for Forensic Science; Notice of Inquiry" 78 *Federal Register* 188 (27 September 2013), pp. 59655.



Guidance Groups as part of the coordinated effort designed to standardize national guidance for forensic science practitioners at all levels of government.<sup>6</sup>

According to the Notice of Inquiry (NOI), Guidance Groups are to operate with “[t]ransparency/openness, balance of interest of stakeholders, due process for stakeholder input, consensus process for decision making, and an appeals process.”<sup>7</sup> These principles are also the attributes by which voluntary consensus standards bodies are defined by OMB Circular A-119.<sup>8</sup> Circular A-119 provides guidance to Federal agencies on the implementation of the National Technology Transfer and Advancement Act of 1995 (NTTA).

#### *Transparency in the Standards Development Process*

In the proposed model for the structure of the Guidance Groups under the FSAC, standards will be developed through two paths. The Technical Groups will oversee Subcommittees that will develop standards by forensic science disciplines. The cross-disciplinary Guidance Groups will not have a Subcommittee structure and are themselves at the standard development level. According to the NTTA, technical standards must be developed in collaboration with SDOs which incorporate a process for public comment and suggestions by outside groups. Therefore, the work at the standards development level represents the entry point for an open, transparent process that embodies SDO principles such as balance of interest and an appeals processes.

#### *Statutory Authority for SDOs*

Based on its statutory authority, NIST is authorized to “cooperate with other departments and agencies of the Federal Government, with industry, with State and local governments, with the governments of other nations and international organizations, and with private organizations in establishing standard practices, codes, specifications, and voluntary consensus standards” and to “advise government and industry on scientific and technical problems.”<sup>9</sup> However, NIST’s ability to establish standards has been limited by the NTTA which directs NIST such that:<sup>10</sup>

“(1) In general.—Except as provided in paragraph (3) of this subsection, all Federal agencies and departments shall use technical standards that are

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<sup>6</sup> *Ibid.*

<sup>7</sup> *Ibid.*

<sup>8</sup> Office of Management and Budget, Circular No. A-119 Revised, February 10, 1998, available at [http://www.whitehouse.gov/omb/circulars\\_a119](http://www.whitehouse.gov/omb/circulars_a119) (last accessed, October 24, 2013).

<sup>9</sup> NIST Organic Act, Title 15 USC §272(b)(10-11):

<sup>10</sup>15 USC § 272, the National Technology Transfer and Advancement Act.

developed or adopted by voluntary consensus standards bodies, using such technical standards as a means to carry out policy objectives or activities determined by the agencies and departments. “

(2) Consultation; participation.—In carrying out paragraph (1) of this subsection, Federal agencies and departments shall consult with voluntary, private sector, consensus standards bodies and shall, when such participation is in the public interest and is compatible with agency and departmental missions, authorities, priorities, and budget resources, participate with such bodies in the development of technical standards. “<sup>11</sup>

The NTTA revised the NIST authority to require it to use technical standards that are developed or adopted by a consensus standards body or a standards development organization (SDO). The NTTA provides the following exception:

“(3) Exception.—If compliance with paragraph (1) of this subsection is inconsistent with applicable law or otherwise impractical, a Federal agency or department may elect to use technical standards that are not developed or adopted by voluntary consensus standards bodies if the head of each such agency or department transmits to the Office of Management and Budget an explanation of the reasons for using such standards. Each year, beginning with fiscal year 1997, the Office of Management and Budget shall transmit to Congress and its committees a report summarizing all explanations received in the preceding year under this paragraph.”<sup>12</sup>

Therefore, unless NIST deems it otherwise impractical, it must use standards that are either developed by or adopted by voluntary consensus standards bodies. Under the NTTA, the Subcommittees for Technical Groups and the cross-disciplinary Guidance Groups in the proposed model must develop standards in an open, transparent fashion. Therefore, the core of the standards development process begins with complete transparency, opportunities for public engagement, and participation that enables the development of high quality standards that will lead to wide adoption.

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<sup>11</sup> Public Law 104-113, National Technology Transfer and Advancement Act, Sec. 12. Standards Conformity. (d)(1-2).

<sup>12</sup> Public Law 104-113, National Technology Transfer and Advancement Act, Sec. 12. Standards Conformity. (d)(3).

### *Selection of Standards Development Organizations*

We recognize that the NIST Guidance Group NOI posed a number of questions regarding the use of Standards Development Organizations (SDOs). We understand that NIST has had a long history working with SDOs such as ASTM.<sup>13</sup> Due to the expertise and vast experience of NIST in working with a diverse array of SDOs, we do not name specific SDOs here and are confident that NIST will determine the best applicable SDO for each Guidance Group or Subcommittee.

### *Reviewing Technical Standards*

In the suggested model for NIST Guidance Groups, the process begins at the standards development level and includes a hierarchy to ensure that developed technical standards both adhere to strict scientific principles and also benefit all stakeholders in the criminal justice system. Since the points of entry for SDOs are different for the Technical Guidance Groups and the cross-disciplinary Guidance Groups, the review processes are different.

The Subcommittees under the Technical Guidance Groups deliver the technical standards to the appropriate Technical Guidance Group for review. The Technical Guidance Group can either 1) approve the technical standards and forward the technical standards to FSAC or 2) find that improvements are needed and send the standards back to the Subcommittee along with comments explaining their decision. The Technical Guidance Groups should not have the ability to alter the Subcommittee's technical standards, as this task is required by the NITTA to be conducted through the SDO process. Although the Subcommittees included participation from the public, the decision to approve or send the standards back to the corresponding Subcommittee for improvements should be made entirely by Forensic Science and Relevant Experts to ensure complete scientific integrity in the technical standards.

Once the technical standards are forwarded by the Technical Guidance Groups to the FSAC, the decision to recommend these technical standards for publication by NIST is similar; the FSAC can either 1) approve the technical standards or 2) find that improvements are needed and send the standards back to the Technical Guidance Group and the corresponding Subcommittee along with comments explaining its decision. Likewise, the FSAC should not have the ability to alter the technical standards.

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<sup>13</sup> ASTM.org, "NIST & ASTM International," Standardization News, January/February 2008, available at [http://www.astm.org/SNEWS/JANUARY\\_2008/p\\_ausura2\\_jf08.html](http://www.astm.org/SNEWS/JANUARY_2008/p_ausura2_jf08.html) (last accessed, October 25, 2013).

The cross-disciplinary Guidance Groups develop technical standards with SDOs. The standards development process will incorporate the consultation of the Guidance Group Advisors and Legal Advisory Group. As standards are being developed, both cross-disciplinary Guidance Groups will share drafts of the technical standards being developed with the Guidance Group Advisors and Legal Advisory Group. These two bodies will respond with feedback on improving QI and HF Guidance Group technical standards to improve their application to specific disciplines or to improve their effective use in the courts. Drafts of standards will be shared and improved until the SDO processes at the QI and HF Guidance Group levels are complete.

Once the technical standards are forwarded by the cross-disciplinary Guidance Groups to the FSAC, the recommendation for publication by NIST is similar; FSAC can either 1) approve the technical standards or 2) find that improvements are needed and send the standards back to the cross-disciplinary Guidance Groups along with comments explaining its decision. Likewise, the FSAC should not have the ability to alter the technical standards.

Certain measures can ensure that stakeholders and the general public understand the technical standard review process taken by Guidance Groups (Technical, QI, and HF Guidance Groups). In order to incorporate a sufficient level of transparency, the Guidance Groups will be required to post all technical standards, meeting agendas, meeting minutes, and other materials to a NIST website location in advance of its meeting. Stakeholders and public engagement does not stop at the standards development process, as it is useful for the public to monitor the actions taken by the Guidance Groups and view how the technical standards pass through Guidance Groups. A certain level of transparency ensures that the Guidance Groups are reviewing technical standards forwarded by the Subcommittees in a diligent, timely manner. Stakeholders and the public can advocate for a quick response from Guidance Groups when the meeting agendas and result of technical standards deliberations are posted online.

#### *Transparency at the FSAC*

The Notice of Establishment in the Federal Register states that the National Commission on Forensic Science (NCFS) will be established pursuant to the Federal Advisory Committee Act (FACA).<sup>14</sup> Given that the NCFS will operate under FACA, the Forensic Science Standards Advisory Committee (FSAC), which is responsible for finalizing and approving technical standards and recommending their publication to the Director of NIST, should operate under FACA or FACA-like terms. By working under FACA or FACA-like terms, the FSAC will become an ideal body that

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<sup>14</sup> “Notice of Establishment of the National Commission on Forensic Science and Solicitation of Applications for Commission Membership” 78 *Federal Register* 36 (22 February 2013), pp. 12356

oversees forensic science improvements in the United States and fosters standards setting of the highest quality through an independent, conflict-free, and transparent process.

Advisory groups subject to FACA are managed by very specific rules and regulations that dictate how they function. A notice to the public in the Federal Register is required when a discretionary advisory committee is established, renewed, or reestablished; and when a new committee is created, the notice must include a description of the purpose of the advisory committee and affirm that the advisory committee is necessary and in the public interest. Additionally FACA requires open, pre-announced meetings; public access to discussions, deliberations, records and documents; opportunity for the public to provide written (and often oral) comments; fairly balanced membership; and the evaluation of conflicts of interest for certain members.

Merely establishing an advisory committee or group does not trigger FACA; the agency must be seeking advice and/or recommendations and must exercise actual management or control over the committee or group. While there is no precise legal formula to determine when an agency has crossed this threshold, the General Services Administration (GSA), the agency responsible for FACA compliance, provides a list of factors to determine if FACA applies.<sup>15</sup> Additionally, there are public accessibility provisions to information generated by the advisory committee such as open and transparent meetings, structured public comment, and stakeholder input. All committee minutes and materials must be made public. Committee meetings are noticed, public, and transcripts must be made available.<sup>16</sup> All of these transparency measures can be incorporated in the absence of FACA designation. Additionally, the FSAC shall create a set of bylaws by which it will operate and can codify its transparency practices. For example, the FSAC shall not consider and vote upon a set of standards at the same meeting. Instead, a standard can be introduced at one meeting, deliberated at a second meeting, and the vote for approval can take place at a third meeting. Between the first and third meetings, public comment will be solicited and the FSAC can receive feedback before and after the body deliberates on the standards. It is in the interest of the FSAC and Guidance Groups to incorporate public comment and transparency measures. The more actively the public is engaged in the standards setting process, the more likely it is to adopt or seek the published standards.

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<sup>15</sup> See: [http://www.gsa.gov/portal/content/104514?utm\\_source=OGP&utm\\_medium=print-radio&utm\\_term=faca&utm\\_campaign=shortcuts](http://www.gsa.gov/portal/content/104514?utm_source=OGP&utm_medium=print-radio&utm_term=faca&utm_campaign=shortcuts)

<sup>16</sup> Section 10. Advisory committee procedures; meetings; notice, publication in Federal Register; regulations; minutes; certification; annual report; Federal officer or employee, attendance, Federal Advisory Committee Act, 5 U.S.C. App. 1 (Public Law 92-463).



## Conclusion

The Innocence Project advocates for a forensic science system grounded by scientific standards and for excellent research that includes input from a vast array of stakeholders. We are grateful that NIST requested public feedback as it reflects the transparent, open process through which important forensic science standards that strengthen that criminal justice system should be developed. We hope our comments and our suggested structure for the Guidance Group model are beneficial for NIST. The Innocence Project believes that the foremost scientific and technical expertise and knowledge for developing technical standards resides with the Forensic Science Experts, Relevant Experts, researchers and scientists at NIST, and that Guidance Groups will only be successful when Forensic Science Experts and Relevant Experts work together to create scientifically rigorous and practicable guidance. We eagerly await NIST's final model for organizing the Guidance Groups as it will undoubtedly improve the forensic science disciplines used in the criminal justice system.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Madeline deLone". The signature is fluid and cursive, with a long horizontal flourish at the end.

Madeline deLone

A handwritten signature in black ink, appearing to read "Peter Neufeld". The signature is cursive and somewhat stylized, with a prominent loop at the beginning.

Peter Neufeld

A handwritten signature in black ink, appearing to read "Barry Scheck". The signature is very stylized and cursive, with a large, sweeping initial "B" and a long horizontal line.

Barry Scheck

Member, American Society of Forensic Document Examiners  
Associate Member, American Academy of Forensic Sciences, Questioned Document Section  
Member, Midwestern Association of Forensic Scientists  
Member, ASTM, Section E.30 (Forensic Science)  
Member, SWGDOC (Scientific Working Group for Forensic Document Examination)

October 22, 2013

## NIST Response

### **1. Structure of Guidance Groups:**

Given the scope and principles of the Guidance Groups outlined here, what are structural models that could best support the Guidance Groups, taking into account the technical, policy, legal, and operational aspects of forensic science?

Structural models based on those that serve the scientific community as well as the legal community would be better than those business (profit-based) structures. The majority of forensic work is performed by analysts employed by law enforcement agencies with case work generated by criminal investigations. These agencies are funded by federal, state, and local government, and not by the sale of products, goods, or services. Therefore it would be a huge disservice to the forensic community to force them into a model created for the business industry.

What elements or models would facilitate the sharing of best practices and uniform practices across the Guidance Groups?

Standardizing all of the SWG groups could be a start. Having uniform structure, by laws and procedures would make it easier for groups to share their knowledge. Technical and administrative review of best practices by interdisciplinary, yet closely related, groups would help the sharing of information. For example, a best practice created by the shoe and tire mark impression evidence group could be vetted by members of the document examination group and vice versa.

Are there public policies or private sector initiatives in other countries that have successfully strengthened the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline? If so, what are they?

The European Network of Forensic Science (ENFSI) is an organization that exists in Europe that permits membership of analysts from ISO accredited labs. ENFSI is governed by a 5-member Board, elected for 3-year terms by the membership of its member laboratories. ENFSI is comprised of 16 separate "Working Groups", each separately named (i.e. Analysts who perform handwriting examination and comparison are assigned to the group "ENFHEX". More information concerning the goals and structure of ENFSI may be found at these websites: <http://www.enfsi.eu/about-enfsi> and <http://www.enfsi.eu/about-enfsi/structure/working-groups>

What are the elements which make existing forensic Scientific Working Groups (SWGs) successful?



## *Response from Marie E. Durina of San Diego Sheriff's Regional Crime Laboratory*

Funding: This allows the SWG members to meet in person at a minimum of twice a year to discuss, write, re-work, vet, and finalize necessary standards.

Dedication: All SWG members are dedicated to the advancement of their science, and must be willing to work to achieve this without compensation. SWG members are expected to contribute and generate a great deal of work without expecting reward or recognition.

Compromise: There are many brilliant examiners in the world, but not all of them have the ability to work well with others. A successful SWG group has members who speak their minds, but also listen and are willing to learn from others. A successful SWG member is able to see many sides of a single issue and understand the effects any decisions may have on multiple additional organizations and users of their work product. SWG members must be well-versed in their discipline and able to articulate their knowledge in an effective and efficient manner. They must be able to interact successfully with their "customers" at all levels including the legal community, government and laboratory administrators, investigators, and other forensic analysts.

Smaller Groups: With regard to SWGDOC, we have found that breaking the large group out into smaller "teams" of 3-6 analysts and assigning each team a number of work products provided better results than having a large group work on a single product at one time. In the early days of SWGDOC all of the members would meet in a large room and attempt to wordsmith a single document. Typical of a scenario where there are "too many cooks" hours of discussion and arguing members would result in frustration, log jams, or apathy. Much more was accomplished at a rapid production rate when the larger group was broken out into smaller teams.

Are there examples of best practices in specific SWGs that ought to be replicated in Guidance Groups? If so, what are they?

The system used by SWGDOC has worked well for many years. The SWGDOC members meet twice a year at the same hotel in Woodbridge, VA. While not a high-end hotel by any means, the chosen site offers the group ample space in their meeting room all week and free wireless internet service. At any one meeting, more than half of the members are from out of town and stay at the hotel, while the rest commute locally. The entire membership meets the first day (Monday) to discuss any broad topics or to vote on any pending issues, but then break out into committees consisting of 4 or 5 examiners. It is in these smaller, more manageable groups that the bulk of the work gets completed. Each committee is assigned a Presiding Officer who oversees the meeting. The Presiding Officer will also coordinate remarks, praises, and criticisms when the work product goes out for comment. A committee may have one or multiple tasks to complete during the week. The assigned task(s) usually involves the creation of a new standard or the revision of an existing one. When completed, the finished product is presented to the entire SWGDOC membership for a vote. If it is accepted, it will then be posted on the SWGDOC website for public comment for an additional period of 60 days. All comments are vetted and considered and changes are made to the standard where needed. The standard is then adopted by the forensic community.



## *Response from Marie E. Durina of San Diego Sheriff's Regional Crime Laboratory*

Would partnership with a standards development organization (SDO) in which the standard is issued by the SDO present any obstacle for participation by a broad range of forensics science stakeholders in the development of a standard?

We have tried this in the past (with ASTM), and the results have been disastrous. It would definitely be an obstacle.

If so, why?

1) Since SDO's are membership-based, examiners must pay membership fees in order to participate. It has already been shown that many qualified examiners balk at this idea and will not join. Conversely, many other non-qualified examiners WILL pay the fee and join, just so they can have a paid-for "credential" that they hope will give them an air of legitimacy.

2) SDO's copyright the standards they produce making it illegal for examiners to openly share the standards with others in their field, including the courts and other end users. This requirement reduces openness and transparency in forensic science.

3) SDO's charge a fee for copies of the standards they publish. If an examiner is in court and a judge or an attorney wants a copy of a standard, the examiner would be required to advise them they must go to an SDO website and purchase that standard themselves. This is counter-productive to the field of forensic science and to the justice system.

4) It's foolhardy for a scientific group to spend an exorbitant amount of time and energy to create a product and then immediately surrender the intellectual property rights of that product to an SDO who in turn copyrights the product and, in turn, "sells" that work product back to those who created it.

5) SDO's have no membership criteria; anyone who pays their fee can become a member. This opens the door for criminals, charlatans, and the untrained to have input concerning a product in which they have limited or no knowledge about.

6) SDO's can have deleterious voting criteria for their members. One example is ASTM's "redundant interest" which is a "member of a committee whose voting interest is already represented on the committee by an official voter" In laymen's terms, this means that if ten forensic scientists work in a laboratory only ONE of those scientists is allowed a vote when it comes to adopting standards. This alone is enough to deter most forensic scientists from joining an SDO. There is no impetus to join an organization that publishes standards for their field when they cannot comment or vote on those standards as they're being created.

7) Lastly, since nearly all of the SWG groups self-publish their standards, forcing them into an SDO could have catastrophic consequences. This has, in fact, proven to be the case in past dealings with an SDO. The SWG group would work for months on a standard. After a great deal of discussion, the research, arguing, frustration, and comprise, a high quality standard was developed. THEN this finely-tuned work product was submitted to the SDO. The SDO then required that it go through yet ANOTHER vetting process. Often, this meant the standards was subjected to "sabotage" by other members of that SDO did not have what's best for the discipline at heart. Often, the SDO may contain members not qualified to perform the work. Or it may contain members who think they are qualified, but who have no formal training. This results in an inferior, sub-standard, and essentially "dumbed down" work product, that has essentially been destroyed by obstructionists.

## *Response from Marie E. Durina of San Diego Sheriff's Regional Crime Laboratory*

Would partnership with an SDO in which the standard is issued by the SDO present any obstacle to broad adoption of a standard? If so, why?

Partnership with an SDO will delay and obstruct the adoption of any standards due to the mind-numbing and tedious vetting and voting requirements imposed on the standard development process by the SDO. The SDO adds an unnecessary level of inefficiency to the process of writing, developing, and adopting standards for the profession.

At the present time, nearly all of the existing SWGs currently self-publish their standards. Forcing the SWGs to relinquish their work products to an SDO will result in disaster.

Would a fee-based membership model run through a not-for-profit organization (similar to the National Conference of Weights and Measures) present a significant obstacle for participation?

It will be difficult, if not impossible, to persuade examiners to add another fee-based organization to their annual budget, especially if the organization has no membership criteria and allows anyone to join. If, however, legitimate, fully trained, examiners are allowed to create membership criteria (as does the American Academy of Forensic Science) this might be acceptable. In the case of questioned document examination (QDE), with which this examiner is familiar, there is a large contingent of people whom are not properly trained yet pretend to be document examiners. If these charlatans were allowed to become members, NO legitimate document examiner would join. If that happened the organization would not have any of the legitimate stakeholders and therefore could not function effectively. In addition, if this theoretical organization required that laboratories, like the FBI's QDE section for instance, only have one vote, even though they have over 20 examiners, no legitimate examiner would join.

If the Guidance Groups followed a fee-based membership model, are there appropriately-tiered systems for fees that would prevent "pricing out" organizations, including individuals?

Imposing any fee will be problematic. Many laboratories will not participate and the pool of participants would be limited only to those who were willing to pay their own way.

Other than a privatized model, are there other means to maintain governance or coordinating body in the long term? If possible, please give examples of existing structures and their positive and negative attributes.

The SWG groups are currently very high-functioning groups. These are dedicated, hardworking examiners who devote enormous amounts of time and energy to their discipline free of charge. Nearly all of the SWG's self-publish their standards, have always done so, and they've never had issues with acceptance. A few include the Scientific Working Group for Shoeprint and Tire Tread Evidence (SWGTTREAD), the Scientific Working Group on Friction Ridge Analysis, Study, and Technology (SWGFAST), the Scientific Working Group for Firearms and Toolmarks (SWGgun), and the Scientific Working Group on DNA Analysis Methods (SWGdam). The Scientific Working Group for Forensic Document Examination (SWGDOC) created or updated every standard in the QDE field and, until 2012, only used ASTM (an SDO) as its publishing vehicle. After years of creating standards only to relinquish all rights to them to ASTM, and additionally be forced to pay for them, SWGDOC ultimately decided to self-publish their standards.

A negative of the SWG's is their over-all lack of continuity. Each SWG functions as a single entity with its own bylaws, membership criteria, and voting rules. It would be far more efficient to streamline the existing SWG's and

get them all on the same page than it would be to create over 20 separate organizations, or force the current SWG members into an SDO.

## **2. Impact of Guidance Groups:**

Given that the Guidance Groups cannot mandate the adoption of standards, what can they do to best leverage their position and encourage adoption?

These groups will HAVE to have the support of their respective forensic communities. Having qualified examiners participate in the process will help persuade other qualified examiners to accept the work product. If organizations in a forensic field adopt the standards the more likely they will be accepted by their members.

To what extent does membership and transparency impact possible adoption of guidance at the state and local level?

Membership is important because without enough stakeholders involved there will be no acceptance.

Transparency is important because forensic examiners want to see the standards during their creation and be able to comment on them as they see fit.

Are there best practices or models to consider with regard to a structure that would encourage effective communication with the scientific community to explore research gaps and aid in recognizing research priorities?

In June, 2013 NIST sponsored a symposium in Handwriting Analysis and Comparison that drew all the known experts together to present research and ideas about forensic document examination over a 3-day period. This was web-cast all over the world and allowed for brainstorming by participants at all levels. Venues like this might be again considered to explore research gaps and priorities.

How should NIST researchers engage with the Guidance Groups in support of the goal to strengthen the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline?

NIST researchers should be included as members of specific SWG (or guidance) groups. Once NIST members, they can attend meetings, participate in discussions, and make recommendations for future plans. If a researcher is a member of a particular SWG group he or she will have vested interest in seeing that the group succeeds and accomplishes its objectives.

NIST researchers should contact forensic scientists actively performing research projects. By contacting these examiners the researchers can gain knowledge about these projects, ask questions about the goals of the research, and give advice on how to better implement the research.

## **3. Representation in the Guidance Groups:**

Who are the stakeholders who should be represented on the Guidance Groups?

The majority of the stakeholders should be legitimate, fully trained examiners, currently working in their respective field. Some form of criteria regarding training, experience, and knowledge must be considered for

## *Response from Marie E. Durina of San Diego Sheriff's Regional Crime Laboratory*

membership. These majority stakeholders should have final say on any and all decisions concerning the standards they write, the research they conduct, and the treatise they produce. They are the real players in the game here, they do the work, they are the experts and it's their reputations on the line when their results are questioned in court or otherwise.

The next level of stakeholder should include those in the legal and academic fields e.g. attorney's judges, professors, statisticians, and researchers.

A third level of stakeholder should include those individuals with an indirect interest such as vendors, instrument technicians, students, administrators, and the general public.

What steps can NIST take to ensure appropriately broad representation within the Guidance Groups?

The major stakeholders could be divided into Federal, State, and local government examiners, as well as private examiners. The same could be done with the lower tiered stakeholders. Membership should represent geographic areas throughout the U.S. Members from other neighboring countries should also be encouraged to join and or participate.

What does balanced representation mean and how can it be achieved?

Equal numbers of Federal, State, or Local government examiners. Equal numbers of examiners from various regions of the United States.

What is the best way to engage organizations playing a role in forensic science, standards development and practice?

First and foremost the standards development organization has to attract legitimate, trained, competent examiners in its representative field. If that is done the forensic science organizations will become engaged and so will the forensic examiners in practice. Forensic professionals will not participate in a group wherein they do not have the final word on the product they produce. They also will not participate in a group consisting of untrained, illegitimate examiners.

How should interested parties who may not be direct participants in Guidance Groups, engage in a meaningful way to have an impact on issues in front of the Guidance Groups?

Stay abreast of information posted on the guidance group website. Get on the email list for said guidance group. Participate in any online discussions or webcast symposiums.

To what extent and in what ways must the Federal government, as well as state, local, tribal and territorial governments be involved at the outset?

Federal funding for the groups should continue. The state and local governments must recognize the importance of these groups and continue to allow their employee's to participate.

### **4. Scope of the Guidance Groups:**

Should all of the current forensic Scientific Working Groups (SWGs) transition to Guidance Groups?

*Response from Marie E. Durina of San Diego Sheriff's Regional Crime Laboratory*

Although that decision should be left up to the individual SWG groups, the need and importance of uniformity and standardization should be stressed. Willingness by the SWGs to transition will be easy to attain if the future guidance groups offer a solid platform for creating standards that doesn't disrupt or destroy their current standards production.,

Are there broader groupings of forensic science disciplines that could form the basis of Guidance Groups than the current group of twenty-one SWGs? If so, what are those groupings?

I am a member of many of the leading forensic science organizations in my discipline; however, I am not familiar enough with the other SWGs to comment.

Is there a need for a cross disciplinary functional approach (i.e. statistical analysis) and how could the Guidance Groups be structured to best address that need?

I do not believe there is a need for such an approach, but an approach could look like this.

Groups could be separated into Analytical and Impression forensic groups. The analytical group could include; Drugs, Toxicology, Implied Consent, et al. And the Impression group could include; Questioned Documents, Firearms, Latent Prints, and Shoeprint and Tire Tread. If this occurred these groups would still have to be broken down into sub-groups. This would be necessary because even though they share some similarities each discipline is still unique and has its own special needs and nuances. Having three separate groups come together at one large meeting would be a waste of time (and likely of funding).

The more closely related disciplines, like the Impression Groups (as discussed earlier) could be involved in cross disciplinary technical review of work product. For example, the members of the Latent Print group would be allowed to have technical input on a standard created by the Questioned Document group. The Questioned Document group, however, would have the final say on the end product. The unrelated disciplines could be allowed input on each other's work product in an administrative capacity, e.g. spelling, grammar, clarity.

To what extent do Guidance Groups need to support different forensic science disciplines differently from one another?

There should definitely be support, but to what extent is a subjective question. This examiner envisions the process like this:

The more closely related disciplines, like the Impression Groups (as discussed earlier) could be involved in cross disciplinary technical review of work product. For example the members of the Latent Print group would be allowed to have technical input on a standard created by the Questioned Document group. The Questioned Document group, however, would have the final say on the end product. The unrelated disciplines could be allowed input on each other's work product in an administrative capacity, e.g. spelling, grammar, clarity.

*Response from Heidi Eldridge of Las Vegas Metropolitan Police Department*

November 7, 2013

Dear Susan Ballou:

This letter is in response to the Federal Register solicitation from the National Institute of Standards and Technology (NIST) seeking input for the administration and support of discipline-specific guidance groups that would promote scientific validity and reliability in forensic science.

Throughout the solicitation document, the Scientific Working Groups (SWGs) are referred to as a possible blueprint for moving forward with the Guidance Groups (GGs). While they are treated as a single entity in the solicitation, I believe it is important to distinguish between them. In recent years, criticism has been leveled at the SWGs, accusing them of being ineffective, of being an "old boys' club", of being nothing more than an excuse for friends to get together and hang out at taxpayer expense, and of forming their recommendations based upon their own opinions, without reference to practitioners or other stakeholders.

Before moving forward with the formation of GGs that may be based upon the old SWGs, I believe it is important to examine as a model one SWG that has addressed these criticisms, taken them into account, and provided a model of operations that avoids these pitfalls. Not all SWGs operate under the same rules. In fact, in 2011 and 2012, all of the SWGs were in the process of writing new unified bylaws that would bring transparency, consistency, and higher quality to all of the SWGs. These bylaws were nearly complete at the time information about the new GGs was released, and were largely based upon the bylaws of the Scientific Working Group on Friction Ridge Analysis, Study, and Technology (SWGFAST). SWGFAST has long been an organization committed to transparency, excellence, and thoughtful consideration of stakeholders' comments. While it is not a perfect organization by any means, the SWGFAST (and draft unified) bylaws would be an excellent place to start in designing the GGs, and will be referred to throughout these comments.

The solicitation queries whether all of the current forensic SWGs should transition to GGs. This is an important question. Several of the existing SWGs have invested a great deal of time and effort into providing standards and guidance to their disciplines and this work should not be discarded, nor should the current memberships be summarily disbanded. That being said, I don't believe that all members of the current SWGs should be transferred over to GGs wholesale. Some of them are very large, while others are so small as to be ineffective.

I propose that each of the SWGs should be examined on its own merit. Its track-record (including frequency of meetings, number and quality of documents produced, and membership number and makeup) should be evaluated to determine whether it should continue, and in what numbers. If a SWG is selected to transition to a GG, the current membership should be given the first opportunity to *apply* for any positions available on the new GG. If any positions remain once this process is complete, they should then be offered to the community at large.

In selecting members for the new GGs, several factors should be taken into account. First, a balance should be maintained between practitioners, managers, academics, researchers, lawyers, and judges. While lawyers and judges should be present in smaller numbers, as they

*Response from Heidi Eldridge of Las Vegas Metropolitan Police Department*

do *not* have an intimate understanding of the operational needs and pressures of the forensic science community, they should have some representation on these GGs because they have insight into the needs of the legal community that forensic science serves. I also feel it is vital that *both* bench level practitioners and managers be included in the makeup of the groups. While managers are making the decisions for their labs, many have not actually done casework in many years and have lost perspective on the challenges that are faced on a day-to-day basis. Additionally, it is imperative that representatives from federal, state, and local agencies be represented in the GGs. Many small agencies already fear that policies will be handed down to them and compliance will be forced (whether through funding opportunities, accreditation standards, or court mandates), and that they will have no say in the matter. To get buy-in on standards and guidelines, these agencies must feel that they have a voice.

Each member of the GGs should be selected based upon what they can offer to the GG. Their past record of contribution to the forensic science community (through publications, research, teaching, participation on other committees, specific experience, etc) should all be considered, as well as the niche they can fill (practitioner, manager, state, local, federal, academic, lawyer, judge). One criterion that should *not* be used to select members is strict seniority. The current climate of forensic science is one of change and cutting-edge research. While many of the senior generation of examiners / managers have embraced this change, many others have not. The GGs *must* be made up of innovative thinkers who are willing to reform the way forensic science is done, not people whose mantra seems to be, "That's the way we've always done it, so that's the way it should be done". Naturally, I am not arguing against the inclusion of senior managers or examiners on the GGs – I am merely suggesting that their seniority should not be given weight in the decision. *All* interested persons who meet the desired criteria should be given strong consideration – too often it seems that committees are selected for people who have "years of experience", but in the case of a discipline that is trying to evolve, those years of experience may actually work against the goals of the GGs.

Regarding multi-disciplinary GGs, I can see a benefit to this. Some of the SWGs, as mentioned previously, are very small, and do not need to have their own dedicated GG. Likewise, critics and the NAS report have both repeatedly stressed the need for standardization across disciplines on things such as terminology, reporting language, and codes of ethics. One barrier to this standardization is that each SWG meets independently and comes up with its own language, standards, etc. On the other hand, each discipline does have issues, needs, and challenges that are uniquely their own and it would be a waste of time for the members of one discipline to sit around while the members of another argued issues that do not impact the first at all.

I propose a hybrid model to address this duality of needs. There should be, within the GGs, groupings of similar disciplines, for example, a Pattern Evidence GG, which would include disciplines such as Latent Prints, Firearms, Toolmarks, Questioned Documents, Tire Track and Footwear. The Pattern Evidence GG would meet all at the same time and in the same place, but each specific discipline would be treated as a sub-committee. In this way, the larger group could meet for part of the time to discuss issues that affect them all, while each discipline could also have a portion of the meeting to themselves to hash out issues that affect their discipline

*Response from Heidi Eldridge of Las Vegas Metropolitan Police Department*

alone. This would make the most efficient use of meeting time, while allowing global issues to be discussed by all impacted parties, rather than wasting time reinventing the wheel, as it were, as each discipline comes up with their own different definition of “individualization”, for example. Using this model, smaller disciplines could be accommodated by simply having them only attend a portion of the meeting, so long as the full group discussions were confined to a day or two, rather than being spread out throughout the meeting.

The size of the GGs must be carefully constructed to maximize diversity and effectiveness, while minimizing expenditure. Within each GG, there must be room to accommodate representatives of all of the groups mentioned above. Additionally, a larger group allows for the formation of sub-committees, which means that several projects can be worked upon at once. Without sub-committees, each GG might only be able to prepare one or two documents in a week-long meeting, while many more may be accomplished otherwise. SWGFAST at last count had 40 members. While this is a very large number, particularly with budgeting issues, something closer to 20 seems not unreasonable. If each “main” forensic discipline was allotted 20 members, and each “small” discipline was given 5 seats on the larger GG (such as the proposed Pattern Evidence Guidance Group), I believe it would be possible to represent all necessary groups, have enough people to get work done, and curtail spending to the maximum extent possible.

Communication with non-GG members must be easy and bi-directional. The GGs should have a public website on which the names and contact information of members, dates of meetings, deadlines for membership applications and public commentary, and documents produced should all be readily available. Interested parties must be allowed to comment on documents before they are adopted and have a mechanism for receiving feedback on those comments. Each comment must be thoughtfully considered by the GG prior to adoption of the document. SWGFAST has an excellent mechanism already in place for this process, which should be adopted by the GGs (under this mechanism, it is required that every publicly submitted comment be addressed by the subcommittee responsible for the document, and every submitting individual be personally provided with feedback regarding whether or not their comment was incorporated, and why).

Similarly, the community should have a forum for making recommendations of topics they would like to see addressed. If the GGs are going to represent the needs of the forensic science community, there needs to be a mechanism by which that community can tell the GGs what is of greatest concern to them at the time, and on what topics they are most wishing for guidance. These suggestions can then be incorporated into the agenda for the next meeting.

One of the functions of the GGs should be to make recommendations for research needs, and to review current research in the field. Ideally, these recommendations should be updated at least annually. It would be nice if a summary was also released each year (on the website) of the publications that have come out that year that address each of the recommended areas. This will help to equip practitioners and lawyers with the latest research that has been done in pertinent areas that are frequently addressed in court. It will also provide managers with a tool for regularly updating their training manuals with the latest research.



*Response from Heidi Eldridge of Las Vegas Metropolitan Police Department*

GGs should ideally meet twice a year. This is how often SWGFAST met, and it was frequent enough that it was possible to keep up with current topics, but not so often that members were struggling to get approval from their home agencies to be away.

The solicitation queried regarding whether a fee-based model of membership would be effective for sustaining the GGs. My concern regarding incorporating fees is that the SWGs have historically struggled to spread awareness of their documents and to get buy-in from agencies to actually implement their suggestions, and the SWG documents are currently available free of charge. If one were to begin charging a fee to access these documents, it may be even more difficult to get agencies to use them.

One possible way to mitigate this would be to offer some perks to membership that make it attractive (such as the National Conference of Weights and Measures mentioned in the solicitation does), or to bind the GG recommendations to accreditation standards such that they must be implemented to obtain accreditation. If fees were implemented, they should be done in such a way that large agencies, small agencies, and even individuals were all able to afford them. Perhaps it could be done such that there is a low price for an individual membership, a slightly higher one for a small agency (less than 5 employees?), a still larger one for a medium-sized agency, and so on. It is unclear whether this model would generate sufficient revenues to sustain the GGs. Were there not funds allocated for the maintenance of the GGs in the charter for the Commission? There should not be any fees associated with membership on a GG. The people who are selected to serve on the GG should be selected because they are well-suited to contribute to the aims of the GG, by position, knowledge of the field or contributions to the field. There should not be even the slightest impression of “pay to play” where those with deep pockets are invited to participate and others are not.

Finally, because the membership of the GGs will necessarily be limited, yet other subject matter experts may from time to time have valuable information to contribute to GG discussions, there should be a mechanism for inviting “guests” to GG meetings. These guests would be invited for a particular date to give a presentation, or contribute in some other way, and would be brought to the meetings at the expense of the GG budget. They would not be given voting privileges, but would be there solely to contribute some specialized information for a limited time.

Thank you for allowing me the opportunity to voice my suggestions for the formation of the Guidance Groups. If you have any questions regarding any of my suggestions, please do not hesitate to contact me.

Sincerely,

Heidi Eldridge, MS, CLPE  
Forensic Scientist II  
Las Vegas Metropolitan Police Department

*Response from Sandra Enslow of Los Angeles County Police Department*

November 12, 2013

Ms. Susan Ballou  
Program Manager, Forensic Sciences  
Law Enforcement Standards Office/NIST  
100 Bureau Drive, Mailstop 8102  
Gaithersburg, MD 20899

Dear Ms Ballou –

Thank you for the opportunity to provide our perspective on the appropriate model for NIST administration and support of discipline-specific Guidance Groups. As managers of the only scholarly collaboration between Forensic Artists and their related colleagues, we appreciate this opportunity to present our responses to the Notice of Inquiry.

We want to provide some background data on our discipline in order to bring you up to speed on the state of our field. There are currently 28 full time forensic art units employing 53 Forensic Artists within the U.S. Most of these forensic artists are trained in the full scope of forensic art. This includes composite sketches, post mortem images, facial reconstruction and image clarification. In addition there are another 150 individuals who are working within law enforcement at all levels, Medical Examiners Offices and other educational organizations who have another position and in addition create composites sketches.

Forensic artists require specialized education and training beyond possessing natural artistic skills. The forensic artist uses a scientific knowledge base that is derived from such diverse fields such as psychology, criminology, sociology, anatomy, anthropology, and medicine when interviewing a witness to drawing a composite, to reconstructing a face from a skull or creating a post mortem drawing for purposes of identification of the unidentified.

We envision the NIST administration and support of Guidance Groups as a critical opportunity for our discipline to establish best and uniform practices currently not available for Forensic Art practitioners.

In 2009, a SWG effort was initiated and brought to the International Association for Identification, however the IAI withdrew support for reasons never formally documented. Ms. Catyana Skory Falsetti, the chair of that effort, then established the Forensic Artists Discussion Group on the Professional Discussion Site LinkedIn as a means by which practicing forensic artists could share ideas and remain cognizant of current research.

Ms. Falsetti and I created the National List of Government Agencies with Forensic Artists, listing only those who wanted to participate. The list has been distributed at law enforcement and forensic conferences to demonstrate the wide reaching and availability of forensic artists. These forensic artists are practitioners who work directly with law enforcement in order to assist in matters pertaining to human identification. Between the members of the LinkedIn Discussion Group and the National List there are more members (213) than either in the AAFS (2) or in the IAI (104). We see the Guidance Group model as an exciting opportunity for all Forensic Artists to be organized under a single group working toward uniform and best standards under the supervision of NIST and DOJ.

At the AAFS, 2011 in Chicago, Mr. John Paul Jones of NIST advised me to demonstrate that there is a compelling and significant interest for Forensic Artists to unify under a single entity. We strongly believe that the National List of Government Agencies with Forensic Artists and the LinkedIn Discussion Group have demonstrated that such persuasive interests has been established and that forensic artists are looking for unification and uniform practices that will represent our professional future. We don't want to be overlooked in this exciting and new era for forensic science and look forward to participating fully in this new future forward via NIST and NIJ.

Respectfully,

Sandra Enslow, BA  
Graphic Arts Coordinator, Forensic Artist  
Los Angeles County Sheriff's Department  
Associate Member, AAFS

Catyana Skory Falsetti, MFS  
Special Projects, Instructor, Forensic Artist  
CSI Academy of Florida  
Associate Member, AAFS

Addressing Issues for Guidance Groups

### **1. Structure of Guidance Groups**

Gathering a group of practitioners who represent a cross section of the entire discipline is an ideal model.

#### **Elements to assist in sharing best practices -**

A strictly NIST monitored Guidance Group website would be a good resource for not only sharing best & uniform practices.

- On this website, offer a boilerplate(s) for a GG. This would support those needing to justify procedures in the GG startup to contentious participants wanting to re-invent the wheel.
- List the finalized GG Standards for each discipline. This should be easy to find and list each forensic science discipline, so that anyone can find the "final say" as to how something is done.

**NIST would be the most appropriate organization** to assist with handling final GG documents and housing the above mentioned website.

The National Policing Improvement Agency of Wales has created a document that is a Facial Identification Guidance that was created in 2009. This has extensive explanation for the organization and function of facial identification, which includes forensic art. The International Association of Identification has created a model of certifying forensic artists and also a Standards and Guidelines for Forensic Art and Facial Identification that was finalized in 2010, that Catyana Skory Falsetti (nee Sawyer) and I were a part of.

Partnership with a SDO who is non-partisan and focused on the betterment of the field would be ideal. It would be imperative for this SDO to be open to gaining and understanding of the field in which they are overseeing and that there are no fiscal or political issues that would overshadow the betterment of the profession.

#### **Maintaining coordination in the long term--**

Any group or organization that maybe considered for oversight of the GGs must have a track record of successfully handling such responsibility. (Again, I consider NIST or ASTM a neutral and positive authority with a great track record.)

With some disciplines, new technology breakthroughs will mean that some must continue to caucus. While others, such as Forensic Art, may only need to caucus a limited number of times.

However, there should be a source, perhaps at NIST, where practitioners can come and raise awareness of something new in their discipline that maybe would require the establishment of another guidance group for any given discipline.

*Response from Sandra Enslow of Los Angeles County Police Department*

A fee-based membership may cause a loss in participation unless a benefit is shown to be a member. Depending on the cost of the fee the potential members may not be able to participate if their department does not fund it or if there is no visible value in the membership.

## **2. Impact of Guidance Groups**

How can the GGs encourage adoption of what they develop?

Perhaps it should be a GG obligation to identify who makes the decisions about the use of their disciplines and how to reach those decision makers. It is more than encourage adopting – it is to influence to adopt. Reaching decision makers within an organization is vital. The value of those who follow the guidelines must be shown through the legal system. Those with a certain education or certification, or one who can demonstrate their methods are transparent. Those who follow these guidelines should be demonstrated as more valuable to those in power to hire individuals, such as the IACP or the NSA.

A campaign of web and/or print that notifies organizations of a discipline's GG consensus would be of value. Highlighting a website, through ASTM or NIST, that houses those results would be good – these organizations are neutral and effective. NIST has a good track record and this bodes well.

This will mean also reaching out at conferences – educational, forensic science and law enforcement.

Organizations want best practices. Unfortunately, their SME (subject matter expert) maybe using less than best practices and unless the organization is made aware it may continue. At a minimum, the organization will encourage those changes or make the SME re-think their process. Maximum, the SME will get ahead of the count and embrace the changes needed.

Practitioners and their organizations, nationwide must see that someone from their region is on the GG – there must be regional representation. Transparency is critical and will help with influence.

### **How should NIST researchers engage with the GGs in strengthening the use of FS?**

NIST Researchers could serve as member-monitors and facilitators and help encourage individual participants to reach consensus as well as suggesting topical areas for discussion. Having a neutral entity announce these changes will help in with its reception. Once organizations know about the website and where to look and check regarding update news, the website may function quite well.

The GGs may also be the arena where new issues arise and they identify where new research is needed. NIST advisors can assist in assessment of what may need a new GG or for a continuation of the current GG.

## **3. Representation in the Guidance Groups**

Representation should come from multiple arenas, such as:

1. State and Federal Law Enforcement and Justice agencies
2. State and local police and sheriff's departments - small, medium and large agencies
3. Researchers and Educators from recognized higher education institutions
4. Leaders in the field
5. Representative citizen organizations that have an interest in the discipline as stakeholders (i.e., NCMEC, NamUs, Doe Network)

**What is the best way to engage organizations?**

*Response from Sandra Enslow of Los Angeles County Police Department*

Before a GG is launched, there should be a way to notify interested parties, maybe on the earlier mentioned website. Interested parties should be able to send papers and information in for the GG to consider.

**How much involvement for Feds, state and local agencies at the outset**

They employ the very Forensic Scientists that are needed in the GGs and thus they will be active participants in the GG process.

**4. Scope of the Guidance Groups**

**SWGs must transition**

Keep it simple and clean. No two-tiered class system.

**Are there broader groups that could combine and form GGs?** Perhaps, but not necessarily for Forensic Art since this is a new concentration.

**Different disciplines will need different approaches -**

We can only comment on Forensic Art. Our structure is very different from those in the DNA discipline. But we are similar to those in Fingerprints and other identification disciplines.

The Forensic Artist Discussion Group is the broadest and most representative organization of practicing forensic artists available and should be looked at to form the basis of the Guidance Group for Forensic Art.

Thank you for your time and attention.

Sandra Enslow, BA  
Graphic Arts Coordinator, Forensic Artist  
Los Angeles County Sheriff's Department  
Associate Member, AAFS

Catyana Skory Falsetti, MFS  
Administrator, Instructor, Forensic Artist  
CSI Academy of Florida  
Associate Member, AAFS



SCIENTIFIC WORKING GROUP FOR  
MEDICOLEGAL DEATH INVESTIGATION

November 11, 2013

To Whom It May Concern,

The Scientific Working Group for Medicolegal Death Investigation (SWGMDI) wishes to offer comments in response to the recent Federal Register Notice regarding “*Possible Models for the Administration and Support of Discipline-Specific Guidance Groups for Forensic Science*” (Docket No. 130308459-3459-01). The comments provided by SWGMDI are not intended to represent the opinions of other Scientific Working Groups and should be taken as the opinion of SWGMDI only.

The SWGMDI was established in 2010 and to-date has been a productive working group. With respect to stakeholders and the SWGMDI Board Members, all deliberations and product development activities have been conducted in a way to ensure transparency, openness, and balance. In addition, the SWGMDI has a defined decision making process which includes a mechanism for stakeholder input and appeals when necessary. In short, the SWGMDI already operates in a construct identical to that envisioned for proposed Guidance Groups. Thus, we believe that the SWGMDI could easily transition to becoming a Guidance Group for Medicolegal Death Investigation (GGMDI) almost seamlessly. SWGMDI already includes practitioners and other stakeholders from government, academia, and the non-profit sector. Membership of the GGMDI could easily be modified via existing SWGMDI bylaws to include additional members from industry.

As the proposed Guidance Groups are NOT expected to report to the National Institute of Justice (NIJ) or the National Institute of Standards Technology (NIST), it appears that the Guidance Groups will function somewhat autonomously in their development of guidance and standards documents. However, the occupational scope of the GGMDI would require collaboration with all relevant professional organizations that may have developed professional standards of their own. This could be accomplished by the development of a GGMDI standards "model," or recommendations designed to assist organizations and agencies in the improvement of their own standards and guidance documents.

For a GGMDI to be effective and sustainable, the SWGMDI believes that a GGMDI should be funded via the NIST at a level, which allows at least two physical meetings of the GGMDI per year. The NIST might have a Guidance Group Management Office (GGMO), which manages the funds to support Guidance Group operations. Although the SWGMDI has been productive in the face of insufficient funds to hold physical meetings, its progress has been hampered and delayed by having to conduct business electronically. There are certain topics and projects which absolutely require face-to-face discussion and debate, and any GGMDI should be funded to allow physical meetings to occur. SWGMDI does not believe that a fee-based membership model is appropriate for medicolegal death investigation. The interested stakeholder organizations and other entities are already financially strapped and lack funds to support a fee-based membership model. However, it is conceivable that professional organizations might be able to fund the travel of GGMDI members who officially represent the organization on the GGMDI. However, provision of such funding may introduce the potential for bias, whereas independent Federal funding would lessen this potential, allow for appropriate stakeholder participation and keep the process transparent and on mission.

The SWGMDI does not feel a need to address all of the question posed in the Federal Register Notice as detailed in Sections 1 through 4 on pages 59655 and 59656 of the Notice. However, the SWGMDI does have comments regarding some of the questions posed.

- Each Scientific Working Group (SWG) should decide for itself if, and how it should/could transition to a Guidance Group, and whether any existing SWGs might benefit by combining or fragmenting into additional Guidance Groups. The SWGMDI believes it should simply transition to its own Guidance Group.
- The current processes used by SWGMDI have made it successful and a key element is that SWGMDI has among its membership relevant stakeholders who are committed and productive. Its ability to function somewhat autonomously should continue if it becomes a GGMDI, and processes similar to those currently utilized should be incorporated if SWGMDI becomes a GGMDI.

- Partnerships with interested stakeholder organizations such as the National Association of Medical Examiners (NAME), the International Association of Coroners and Medical Examiners (IAC&ME), the American Academy of Forensic Sciences (AAFS), the American Board of Medicolegal Death Investigators (ABMDI), the Society of Medicolegal Death Investigators (SOMDI), the College of American Pathologists (CAP), and the American Society of Clinical Pathology (ASCP) would be critical in the development of guidance and standards documents, as such entities are already involved in the development of organizational standards. State associations of coroners and medical examiners need also be involved because of variations in death investigation systems among states. It is expected that the GGMDI would collaborate with such entities as needed. The GGMDI should include members from the entities, and such is already the case in reference to the SWGMDI.
- Because a GGMDI would not have authority to mandate standards, the key to success is to involve the stakeholder organizations that develop standards with a goal of improving existing standards and to collaborate in the development of new standards. The GGMDI should be free to develop its own model standards for consideration and adoption by stakeholder organizations and practitioners.
- Interested parties who may not be direct participants in GGMDI can be easily involved by using the existing SWGMDI practices of due process and public review and comment.
- Although there might be a Forensic Science Guidance Group website, the SWGMDI believes that such a site should mainly be one which contains links to individual Guidance Group websites which should be managed by the individual Guidance Groups. Funding and management (including website hosting, security management, software updates, tech support etc) should be provided by NIST for each Guidance Group to independently manage the organization and content of that GG's information and products whether this be a mini-website within the overall GG website or a stand alone individual GG specific website. Some of the advantages of one overall GG website with mini websites for each guidance group would be streamlined management and public review processes as well as enable search capabilities across all GG's instead of just one. NIST should also provide funding and support for web-based project management systems to enhance the efficient work of the GG (Basecamp as an example).

In summary, the SWGMDI believes that it should transition to a Guidance Group (GGMDI), and that such transition can be virtually seamless. Its membership might be expanded slightly to include industry representatives. The NIST should provide funding through a Guidance Group Management Office to ensure at least two physical meetings of GGMDI annually, as well as funding for operational costs and electronic technology such as a website and project management software.

Although the future of the proposed National Forensic Science Commission remains unclear, the SWGMDI believes that if such a Commission materializes, the commission should use information developed by Guidance Groups, but not oversee Guidance Group management. The Commission could, and should make recommendations to Guidance Groups regarding work task identification and prioritization, however the most critical assistance may come in the form of identifying potential funding opportunities and support resources to ensure effective and ongoing operations of the Guidance Groups.

Respectfully,

SWGMDI Board



**Chair**  
Ken Furton, PhD

**Vice-Chair**  
David Kontny

**Executive Secretary**  
Jessie Greb

## Subcommittee Chairs

7 November 2013

### **1. Unification of Terminology**

Ken Furton, PhD  
ken.furton@fju.edu

Ms. Susan Ballou  
Office of Special Programs  
National Institute of Standards and Technology

### **2. General Guidelines for Training, Certification, and Maintenance**

Rex Stockham  
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### **3. Selection of Serviceable Dogs and Replacement Systems**

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### **4 Kenneling, Keeping, and Health Care**

Robert Gillette, DVM, PhD  
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### **5. Selection, Training of Handlers and Instructors**

John Pearce  
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### **6. Procedures on Presenting Evidence in Court**

Mark Rispoli, JD  
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### **7. Research and Technology**

Melissa Stormer  
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### **8. Substance Detection Dogs**

Dave Kontny  
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### **9. Scent Detection Dogs**

Jan C. Zoodsma  
jczoodsma@hotmail.com

### **10. Knowledge Management**

Terry Anderson  
t\_bandit94@hotmail.com

We write in response to NIST's invitation for comments on "Possible Models for the Administration and Support of Discipline-Specific Guidance Groups for Forensic Science," Docket No. 130508459-3459-0, September 27, 2013. Detection canine teams are one of the most versatile forensic tools used globally and play an increasingly important role in law enforcement investigations. While canine detection and olfaction is not considered a formal forensic science discipline, we feel strongly that scientific research is the foundation for improvement of canine detection capabilities, and that a Scientific Working Group model is the appropriate model for the continuation of the work of the SWGs and other discipline-specific guidance groups as they will be supported by NIST in the future. With the expanded use of detection canine teams by law enforcement, there has been an increase in prosecutorial inquiries and judicial reviews in regards to the scientific basis for detection canine team performance. The Scientific Working Group on Dog and Orthogonal detector Guidelines (SWGDOG) provides a comprehensive resource for prosecutors and courts to answer questions or provide information about best practices for training, certification and establishing reliability of canine detection teams. As an example, one member organization, following SWGDOG best practices, successfully defended a Daubert challenge to the scientific basis of canine evidence and most recently SWGDOG was cited by the United States Supreme Court in its opinion ruling of *Florida v. Harris*. SWGDOG also has impacts all over the world, including serving as the model for the recently formed European Union (EU) Explosives Detection Dog Working Group.

SWGDOG is a catalyst in prioritizing research and development in both canine and orthogonal detector areas, in direct support of local law enforcement activities. Furthermore, the documents prepared thus far by SWGDOG members have been used to support the requirements set forth in Homeland Security Presidential Directive -19 (HSPD-19), Combating Terrorist Use of Explosives within the United States issued in February 2007 and the White House Policy Statement on Countering Improvised Explosive Devices released in February 2013. The expanded policy statement specifically identifies "Finalizing and implementing national guidelines for explosives detection canine teams" a process that relies heavily on the best practices and guidelines developed and vetted through SWGDOG and the canine community. It is critical to maintain funding to support SWGDOG activities in order to successfully execute the required tasks associated with this national security effort and other critical canine detection activities.

Although SWGDOG has adapted a collaborative online process for coordination of documents prior to in person meetings, thus reducing the overall costs, the need for in person meetings is also critical to the successful coordination and discussions in order to produce viable content.

*The need for global cooperation and understanding*



The Guidance Groups will require funding for at least two meetings per year as well as administrative and website support. The ability to meet in person on a semi-annual basis is vital to the drafting and editing of proposed standards. The location of these meetings may vary but they should be able to accommodate full group discussions and up to three subcommittee breakout sessions at any given time.

We are writing to request that the current SWGDOG model be considered as the framework for future Guidance Groups. SWGDOG is unique in that our best practices and guidelines follow a scientific model. SWGDOG has volunteer members in all of the suggested stakeholder areas (science, practitioners, levels of government, international, academia, non-profit, and industry) and maintains a public website ([www.swgdog.org](http://www.swgdog.org)) to solicit public comment and share all work products. Attachment A provides background on the SWGs.

## 1. Structure of the Guidance Groups

QUESTION: Given the scope and principles of the Guidance Groups outlined here, what are structural models that could best support the Guidance Groups, taking into account the technical, policy, legal, and operational aspects of forensic science?

ANSWER: The current Scientific Working Group model should be the framework for future guidance groups. SWGDOG's best practice recommendations follow a scientific model. SWGDOG has volunteer members in all of the suggested stakeholder areas (science, practitioners, levels of government, academia, non-profit, and industry) and maintains a public website ([www.swgdog.org](http://www.swgdog.org)) to solicit public comment and share all work products. Creating subcommittees within each Guidance Group would take into account the technical, policy, legal and operational aspects of forensic science. In SWGDOG we have addressed this by including subcommittees such as terminology, general guidelines, health and husbandry, discipline specific training and certification guidelines, presenting evidence in court, research and technology and outreach and education.

QUESTION: What elements or models would facilitate the sharing of best practices and uniform practices across the Guidance Groups?

ANSWER: The success and response SWGDOG has had through its public website leads this group to recommend public websites be required for each Guidance Group as well as a centralized website with information pertaining to all Guidance Groups.

QUESTION: Are there public policies or private sector initiatives in other countries that have successfully strengthened the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline? If so, what are they?

ANSWER: The recently concluded EU-US Explosives Experts Seminar outlined the efforts made by SWGDOG as a model used in the formation of the European Union (EU) Explosives Detection Dog Working Group. The EU Explosives Detection Dog Working Group has worked to identify research needs for canine olfaction and has promoted science-based best practices for the operation of explosives detection canines in the aviation sector in Europe, including certification and accreditation models. In support of the recently released White House Policy Statement on Countering Improvised Explosive Devices (IED) and its Implementation Plan the US and its allies will foster the creation of international regional working groups to facilitate a global understanding of canine capabilities in support of collaborative solutions to global IED threats.

QUESTION: What are the elements which make existing forensic Scientific Working Groups (SWGs) successful? Are there examples of best practices in specific SWGs that ought to be replicated in Guidance Groups? If so, what are they?

ANSWER: Elements which make existing forensic Scientific Working Groups (SWGs) successful include

sharing technical and operational experience with a goal to generate needed research. There are also examples of case law reviews leading to suggesting best practices based on repeatable efficiency testing. Best practices replicated from current SWGs should include the document approval process, a six month process which includes the subcommittee drafting a document, a full membership review, revisions by the subcommittee, a vote of the full membership (75% approval required) and the board (100% approval required), 60 days of public comment, subcommittee revisions based on public comment and then another vote of the full membership and board. Best practices and guidelines are then published to the website for public access and consideration for use. Attachment A provides additional details on the current operation of the SWGs.

QUESTION: Would partnership with a standards development organization (SDO) in which the standard is issued by the SDO present any obstacle for participation by a broad range of forensics science stakeholders in the development of a standard? If so, why?

ANSWER: Standards are not our preferred route because of the differences in agency operations and legal requirements. The costs associated with SDOs would be detrimental to SWGDOG and its community. Often times the best practices and guidelines developed by SWGDOG are utilized in the formation of specific canine discipline standards that meet the mission needs of the end user. In addition, one of the hallmarks of the forensic science SWGs, and SWGDOG in particular, is that its members come from many different fields of employment, which can be an impediment to achieving appropriate representation in an SDO.

QUESTION: Would partnership with an SDO in which the standard is issued by the SDO present any obstacle to broad adoption of a standard? If so, why?

ANSWER: Yes, it would be an obstacle because many agencies, law enforcement organizations, private sector stakeholders and individuals would be priced out of SDOs due to costs.

QUESTION: Would a fee-based membership model run through a not-for-profit organization (similar to the National Conference of Weights and Measures) present a significant obstacle for participation?

ANSWER: Yes, it would be an obstacle because many participant agencies and members would be unwilling and unable to pay dues or fees.

QUESTION: If the Guidance Groups followed a fee-based membership model, are there appropriately-tiered systems for fees that would prevent "pricing out" organizations, including individuals?

ANSWER: No, this is a poor idea; this would ensure that only those individuals and agencies with adequate funding levels would influence the setting of standards. This idea would be an impediment to the Guidance Groups mission of having representation and participation from all of its stakeholders.

QUESTION: Other than a privatized model, are there other means to maintain a governance or coordinating body in the long term? If possible, please give examples of existing structures and their positive and negative attributes.

ANSWER: In that the current SWGs model has worked for over 20 years, it doesn't seem that much needs to be changed. There may be room for small improvements, but a complete restructure seems unnecessary.

## **2. Impact of Guidance Groups**

QUESTION: Given that the Guidance Groups cannot mandate the adoption of standards, what can they do to best leverage their position and encourage adoption? To what extent does membership and transparency impact possible adoption of guidance at the state and local level?

ANSWER: The best way to leverage position and encourage adoption is by having participation of the membership and buy-in of the best practices and guideline development. An information sharing website adds to the transparency and solicits additional input and acceptance by those individuals not directly

participating in the process. Membership and transparency impact possible adoption of guidance at the state, local and private sector level by those members taking the information back to their local agencies and influencing policy decisions through implementation. The reference to SWGDOG best practices and guidelines in federal and state court cases and legal opinions has lead more people to our site and has caused an increase in the number of state and local agencies choosing to adopt SWGDOG best practices and guidelines.

QUESTION: Are there best practices or models to consider with regard to a structure that would encourage effective communication with the scientific community to explore research gaps and aid in recognizing research priorities?

ANSWER: Effective communication is encouraged by having regular meetings and sharing research initiatives during those meetings. Inviting stakeholder guests to those meetings allows for information sharing, knowledge of available resources and bringing more stakeholders into process. SWGDOG has on several occasions invited guests to previous SWGDOG meetings to learn about research gaps and new initiatives in order to educate the community on what the current needs are. One result of these activities was the formulation of a four point rating scale (CRITICAL; ESSENTIAL; ENHANCING; or DESIRABLE) for recommended research. This rating scale assists the scientific community in recognizing and prioritizing research, development test and evaluation (RDT&E) needs of scientists and practitioners within the canine community.

QUESTION: How should NIST researchers engage with the Guidance Groups in support of the goal to strengthen the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline?

ANSWER: NIST researchers should be a part of the Guidance Groups based on areas of expertise. SWGDOG has in the past had a representative from NIST on its membership. A model similar to that of current SWGs (i.e. representative FBI liaison) would be appropriate so long as the person has expertise in the subject area of the Guidance Group. NIST researchers assigned to a Guidance Group must be able to assist the groups in identifying relevant research projects underway, and be able to convey the group's preferences for projects needed to advance the scientific basis of the group's discipline.

### **3. Representation in the Guidance Groups**

QUESTION: Who are the stakeholders who should be represented on the Guidance Groups? What steps can NIST take to ensure appropriately broad representation within the Guidance Groups? What does balanced representation mean and how can it be achieved?

ANSWER: Stakeholders in all areas should be represented on Guidance Groups; this should include scientists, practitioners, Federal, state and, local government personnel, international, academia, non-profit, and industry. Balance is achieved through attrition, and gaps can be filled based on necessity and expertise. This process was very effective in SWGDOG. Areas of need were filled based on incoming applications and level of expertise.

QUESTION: What is the best way to engage organizations playing a role in forensic science, standards development and practice?

ANSWER: Including individuals from those organizations who are directly impacted by the process development would be the best way. SWGDOG has individuals from major professional police canine organizations, federal agencies, state and local law enforcement agencies, academia, and members of the judicial system represented on SWGDOG; this ensures others in their respective communities are aware of the work being done by the SWG.

QUESTION: How should interested parties who may not be direct participants in Guidance Groups, engage in a meaningful way to have an impact on issues in front of the Guidance Groups?

ANSWER: Interested parties could be extended guest invitations to a general meeting as well as solicitation outside of full group meetings for areas requiring additional subject matter expertise. Engagement is also meaningful through outreach with the respected canine disciplines through publications, conferences, meetings, public comment periods, and an active process to fielding and responding to questions via the Guidance Group public website.

QUESTION: To what extent and in what ways must the Federal government, as well as state, local, tribal and territorial governments be involved at the outset?

ANSWER: Government agencies involved at the outset should describe their individual needs to the Guidance Groups. Those needs should form the outline for goals, not dictate the path of the Guidance Groups. A fine balance of participation is needed – based on the discipline specific areas involved.

#### 4. Scope of the Guidance Groups

QUESTION: Should all of the current forensic Scientific Working Groups (SWGs) transition to Guidance Groups?

ANSWER: Yes, all of the current forensic Scientific Working Groups (SWGs) should transition to Guidance Groups. The extensive work product and impact in the communities is a vital carry over to Guidance Groups.

QUESTION: Are there broader groupings of forensic science disciplines that could form the basis of Guidance Groups than the current group of twenty-one SWGs? If so, what are those groupings?

ANSWER: No, broader groupings would cause a loss in scope and effectiveness. While it may be possible for some groups, this idea is not feasible for SWGDOG based on the unique composition of the current work being accomplished.

QUESTION: Is there a need for a cross- disciplinary functional approach (i.e. statistical analysis) and how could the Guidance Groups be structured to best address that need?

ANSWER: Guidance Groups could appoint a member with statistical expertise related to the discipline, however it could be useful to have consistency across SWGs related to statistics. A statistical consultant would be a good resource for all Guidance Groups.

QUESTION: To what extent do Guidance Groups need to support different forensic science disciplines differently from one another?

ANSWER: It is vital for the Guidance Groups to allow for differences across disciplines and keep channels open for communication. Attempts should be made to find common ground wherever possible. Terminology is a good example of an area with common ground that could be incorporated into all Guidance Groups.

SWGDOG is thankful for the opportunity to provide feedback and public comment to NIST. Should you have any questions regarding comment or would like SWGDOG to expand on any given topic area we would be glad to do so.

Best regards,



Kenneth G. Furton, PhD  
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*The need for global cooperation and understanding*



## History & Background

The Scientific Working Group on Dog and Orthogonal detector Guidelines (SWGDOG) are being developed by a membership of respected scientists, practitioners, and policy makers representing diverse backgrounds. SWGDOG was cooperatively funded by the NIH, FBI, DHS, and TWSG from 2005 through 2011. During this timeframe general meetings were held on a biannual basis. This project was undertaken as a response to concerns coming from a variety of sectors including law enforcement and homeland security regarding the need to improve the performance, reliability, and courtroom defensibility of detector dog teams and their optimized combination with electronic detection devices.

The approval of each subcommittee best practice document takes 6 months to complete including a 2 month period of public comments. The ten SWGDOG subcommittees are as follows:

1. Unification of terminology
2. General guidelines for training, certification, maintenance and documentation
3. Selection of serviceable dogs and replacement systems
4. Kenneling, keeping, and health care
5. Selection and training of handlers and instructors
6. Procedures on presenting evidence in court
7. Research and technology
8. Substance dogs: Agriculture; Arson; Drugs; Explosives; Human remains; Contraband; Pest; Currency; Firearms
9. Scent dogs: Non-specific Human Scent Wilderness Area Search; Location Checks; Article Search; Scent identification line-ups ; Live People in Disaster Environments; Track Trail people based on Last Known Position; Pre-scented Canines Aged Trail; Live People in Avalanche
10. Outreach & Education



## Positive Outcomes

The success of SWGDOG is dependent on 2 groups of people: (1) the 55 SWGDOG members who actively and enthusiastically work during and between meetings on documents, and (2) the numerous external members within the working dog community who take the time to provide detailed commentary during the public comment stages. To date there are *thirty nine* approved guidelines within 436 pages of resources.

SWGDOG is a catalyst in prioritizing research and development in both canine and orthogonal detector areas, in direct support of local law enforcement activities. Most recently SWGDOG was cited in the Supreme Court ruling of Florida v. Harris. In addition, best practices established through SWGDOG for explosives detection canine teams are being utilized to inform the National Guidelines for Explosives Detection Canine Teams, currently under development.

*Response from R.E. Gaensslen of University of Illinois, Chicago*

I never reply to these invitations for comment .. but I have a thought about this one. It looks like NIST is set to play a major coordinating role in the federal involvement with forensic sciences. One thing I have always thought would be useful is to have a sort of overall coordinating committee for all the SGWs, TWGs. This could insure that they all had similar objectives, and could get into questions of standardizing language, report writing, interpretation guidelines, .... things that generally are too big in scope for any given TWG, SWG. The profession is a little too balkanized. Everyone feels that his/her area of specialization is sacred and needs its own guidance. No doubt, there are discipline specific things, but there are also overarching concepts. One thing the profession needs is a consensus vocabulary.

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R.E. Gaensslen  
Professor Emeritus, Forensic Science  
University of Illinois, Chicago

*Response from Pete Gagliardi of Forensic Technology Inc.*

In response to NIST's press release dated September 27, 2013, entitled: ***NIST Invites Comments on Structure of Forensic Science Guidance Groups*** and the instructions provided, I am grateful for the opportunity to submit the following comments to some of the questions posed in the more specific ***Notice of Inquiry*** identified in the press release. Should you have any questions please feel free to contact me.

- *Who are the stakeholders who should be represented on the Guidance Groups?*

COMMENT: All of the right people who have a stake in the outcome must be thinking and acting together—not only at the outset, but throughout the entire process. When thinking of the “right” people one can look to the broad and general domains of Law Enforcement, Forensic Science, Prosecutors, Trial Courts, Related Industry, **and the Public that they all serve**. Many of the general domains have sub-domains (e.g. Law Enforcement has first responders, CSI's, & Investigators). There are also tiers within domains and sub-domains to be considered such as jurisdictional tiers (e.g. federal, state and local) which have different capabilities and needs and face different constraints; and organizational tiers (e.g. Senior Management, mid-level management, and First line supervision and operators).

- *What steps can NIST take to ensure appropriately broad representation within the Guidance Groups?*

COMMENT: Identify the stakeholder domains, sub-domains and tiers and ensure representation in a collaborative process. Plain old cooperation will not be enough to drive stakeholder management—a stronger action is required. The level of action needed is best described by the word **collaboration** in which participants **think and act together**.

- *What does balanced representation mean and how can it be achieved?*

COMMENT: Representation from all stakeholder domains, sub-domains and tiers in a collaborative manner seeking sustainable solutions. Sustainable can be achieved through a balance of people, processes and technology. *Technology* can help *people* be more efficient and effective in the execution of their *processes*.

- *What is the best way to engage organizations playing a role in forensic science, standards development and practice?*

COMMENT: 1) Information gathering (e.g. SWOT, trend analysis, process mapping, etc.) through surveys, webinars, meetings and 2) Facilitated stakeholder collaboration sessions on specific issues (e.g. face to face working groups)

- *How should interested parties who may not be direct participants in Guidance Groups, engage in a meaningful way to have an impact on issues in front of the Guidance Groups?*

COMMENT: They should be given a chance at each stage of the process to review drafts and updates and provide comments electronically (e.g. email, website, etc).



*Response from Pete Gagliardi of Forensic Technology Inc.*

- *To what extent and in what ways must the Federal government, as well as state, local, tribal and territorial governments be involved at the outset?*

COMMENT: As they all are affected co-stakeholders they should be involved to the full extent. As previously stated they have different capabilities and needs and face different constraints. For example, consider a gun taken into custody from a convicted felon. The state prosecutor, concerned with crimes like murder, may ask for a ballistics check to be done immediately to determine if the gun was used to kill someone. On the other hand, the federal prosecutor who is concerned with unlawful possession matters may ask for a DNA or fingerprint exam.

**PETE GAGLIARDI**

Senior Vice President  
FORENSIC TECHNOLOGY INC.

[www.forensictechnology.com](http://www.forensictechnology.com)

NIST GUIDANCE GROUP RESPONSE:

1. Structure: Forensic Science's true purpose is the administration of justice not the generation of profit or market share. It does not function well in a model designed for business or industry.
2. Successful elements: self-selection.
3. Is an SDO an obstacle: yes, reference SWGDOC and ASTM.
4. Model: The current skeleton of the SWG's works well with the appropriate funding.
5. Leverage: Work with users and make the best standards possible with no compromise on quality or accuracy.
6. Representation: biased toward experts working in the field.
7. Broader groupings: each discipline has its subtle differences and concerns that are best addressed by the individual groups.

Mark Gardner

# SWGFAST

Scientific Working Group on Friction Ridge  
Analysis, Study and Technology

November 12, 2013

Susan Ballou  
National Institute of Standards and Technology  
100 Bureau Drive  
Gaithersburg, MD 20899

Dear Ms. Ballou,

The Scientific Working Group on Friction Ridge Analysis, Study and Technology (SWGFAST) provides the following response to the Notice of Inquiry published by the National Institute of Standards and Technology (NIST) in The Federal Register on September 27, 2013, regarding Possible Models for the Administration and Support of Discipline-Specific Guidance Groups for Forensic Science.

SWGFAST has been establishing guidelines and standards for the development and enhancement of friction ridge examiners' knowledge, skills, and abilities since 1995. With over twenty published guidelines and standards, SWGFAST has provided guidance for topics such as training programs, examiner qualifications, examination procedures and documentation, and quality assurance. SWGFAST members have included international, federal, state, and local forensic laboratory practitioners and managers, as well as attorneys, academics, and researchers. Given the diverse knowledge base and vast experience of the group, SWGFAST believes it can provide valuable input in the development of the new Guidance Groups (GGs). As such, SWGFAST provides the following recommendations and responses for your consideration:

## **Overall Recommendations:**

### Structure

Critical to the success of the GGs, NIST must create a stable infrastructure capable of supporting a broad range of forensic disciplines. Having a program office to provide oversight offers the potential for more uniform bylaws, membership, and standards development process;

however, consistent funding for meetings and administrative support must be made available. The composition of the GG program office should include a dedicated full-time staff to ensure continuity, prioritize tasks, reduce duplication of effort, and coordinate outreach. Staff should include technical writers, conference planners, and a website administrator.

### Membership

The majority of the GG membership should be comprised of a balanced group of discipline specific practitioners from local, state, tribal, federal and private sectors on both national and international levels. The remaining positions should be allocated to other interested stakeholders from the academic, research, and legal communities. Ex-officio members from some of the larger forensic organizations, such as the International Association for Identification and the American Academy of Forensic Sciences, have proven to be extremely beneficial to the SWG groups in the past. However, the group should be authorized to regulate its membership in an effort to maintain balance while being able to select members (or invite guest speakers) with a certain expertise to address specific needs that may arise. This capability can also facilitate a cross-disciplinary approach.

### Standards Development Process

Existing SWG guidelines and standards have been implemented in many agencies and accepted by the courts as best practices. Therefore, it is imperative that existing documents be incorporated into the new GGs. For new standards, NIST should implement an SDO-type process to ensure openness, consensus decision-making with multi-stakeholder input, and a standardized work product. However, given the limitations associated with producing documents through an existing Standards Development Organization (SDO), the guidelines and standards generated by the GGs should not be published using a current SDO. Standards generated by an SDO are not readily available to the general public, can be very expensive, are typically not created in a timely fashion nor are they necessarily peer reviewed by individuals with credible experience in a given discipline. As such, the GGs should be issued the authority and provided the ability to generate standards organically within a particular discipline without having to consult an SDO. Additionally, to facilitate and encourage broad adoption of these standards, NIST should make them available open source.



## **Responses to specific questions:**

### 1. Structure of the Guidance Groups

Question: Given the scope and principles of the Guidance Groups outlined here, what are structural models that could best support the Guidance Groups, taking into account the technical, policy, legal, and operational aspects of forensic science?

Answer: As presented at the June 18, 2013, SWG Chairs meeting hosted at NIST, both Forensic Science Assembly (FSA) #1 and #2 would be appropriate models to support the GGs. Both models provide for leadership from within the forensic science community with administrative support from the GG program office.

Question: What elements or models would facilitate the sharing of best practices and uniform practices across the Guidance Groups?

Answer: FSA #2 would facilitate the sharing of practices across multiple disciplines. FSA #2 is more of a long-term project as there would be an initial adjustment period; however, grouping forensic disciplines that face similar issues may prove to be quite beneficial. With the GG program office providing oversight, multi-discipline committees could be formed to address specific needs. This approach would help to standardize practices across disciplines while reducing duplication of effort.

Question: Are there public policies or private sector initiatives in other countries that have successfully strengthened the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline? If so, what are they?

Answer:

- Europe – European Network of Forensic Science Institutes (ENFSI)  
(<http://www.enfsi.eu/about-enfsi>)

- Australia and New Zealand – Australia New Zealand Policing Advisory Agency (ANZPAA) (<http://www.anzpaa.org.au>) via the National Institute of Forensic Science (NIFS) (<http://www.nifs.com.au>)
- England and Wales – The Forensic Science Regulator (<https://www.gov.uk/government/organisations/forensic-science-regulator/about>)
- Canada - Centre for Forensic Science & Medicine of the University of Toronto has brought together Canadian forensic scientists to produce a report titled "Forensic Science in Canada: A Report of Multidisciplinary Discussion (download the report from <http://www.forensics.utoronto.ca/Assets/LMPF+Digital+Assets/Forensic+Science+in+Canada.pdf>)

Question: What are the elements which make existing forensic Scientific Working Groups (SWGs) successful? Are there examples of best practices in specific SWGs that ought to be replicated in Guidance Groups? If so, what are they?

Answer: Consistent funding and diverse membership have been critical to the success of existing SWGs. Until 2013, SWGFAST received funding to hold two week-long meetings per year resulting in the production of over twenty guidelines and standards. Membership consisting of federal, state, local, and private practitioners, as well as scientists from the academic, research, and legal communities has also proven invaluable to the success of SWGFAST.

Question: Would partnership with a standards development organization (SDO) in which the standard is issued by the SDO present any obstacle for participation by a broad range of forensic science stakeholders in the development of a standard? If so, why?

Answer: Yes, lack of funding to support membership fees would make it very difficult for a broad range of forensic science stakeholders to participate in the development of a standard by an SDO. In many SDOs, only members are permitted to comment on draft documents. In many forensic organizations, the administrators are not forensic scientists; funding for anything other than law enforcement operations is secondary and usually the first thing cut when budgets are restricted.

Question: Would partnership with an SDO in which the standard is issued by the SDO present any obstacle to broad adoption of a standard? If so, why?

Answer: Yes, standards generated by an SDO are not readily available to the general public, can be very expensive, are typically not created in a timely fashion nor are they necessarily peer reviewed by individuals with credible experience in a given discipline. For many stakeholders, the financial burden would prevent them or their agency from accepting or adopting any issued standards.

Question: Would a fee-based membership model run through a not-for-profit organization (similar to the National Conference of Weights and Measures) present a significant obstacle for participation?

Answer: Yes, lack of funding is a consistent problem across most forensic disciplines. Any fee-based membership model would significantly limit the number of individuals available to participate, which would subsequently inhibit the broad adoption of developed standards.

Question: If the Guidance Groups followed a fee-based membership model, are there appropriately-tiered systems for fees that would prevent “pricing out” organizations, including individuals?

Answer: Because a lack of funding is a consistent problem across most forensic disciplines, any fee-based membership model would significantly limit the number of individuals available to participate, which would subsequently inhibit the broad adoption of developed standards. In many forensic organizations, the administrators are not forensic scientists; funding for anything other than casework is secondary and usually the first thing cut when budgets are restricted.

Question: Other than a privatized model, are there other means to maintain a governance or coordinating body in the long term? If possible, please give examples of existing structures and their positive and negative attributes.

Answer: See previous response regarding initiatives in other countries.



## 2. Impact of Guidance Groups

Question: Given that the Guidance Groups cannot mandate the adoption of standards, what can they do to best leverage their position and encourage adoption? To what extent does membership and transparency impact possible adoption of guidance at the state and local level?

Answer: There needs to be some coordination/liaison between the GGs and the judicial community. Interaction and training of judges and other legal professionals on a continual basis (conferences, meetings and other continuing education venues) would lend more credence to, and adoption of, the standards set forth by the GGs. This could be accomplished through the funding of an overall NIST representative, or a representative from each specific GG, to travel to these judicial meetings and conferences promoting the standards and guidelines generated by the GGs.

Question: Are there best practices or models to consider with regard to a structure that would encourage effective communication with the scientific community to explore research gaps and aid in recognizing research priorities?

Answer: It is well established that research regarding certain aspects of forensic science is a must; however, the requirement to regulate and oversee large scale research projects funded by federal government entities should not be a function of the GG designed to set standards to guide scientific forensic operations. The creation of a subset within the GG solely dedicated to research would be more beneficial than taking the existing GG in two separate directions (research oversight vs. standards development).

Question: How should NIST researchers engage with the Guidance Groups in support of the goal to strengthen the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline?

Answer: Propagating standards, identifying research needs and establishing a scientific basis are three very diverse functions which should not be placed on any one group. The traditional SWGs were focused on creating standards and attempting to propagate them through website production



and conference presentations. SWGFAST has traditionally provided a list of research ideas generated as a result of needs identified during standards development. Even though this list was extensive, it was not exhaustive with regards to discipline needs. NIST researchers can request support and ideas for future discipline specific research endeavors; however, it should not be a top priority for the GGs.

### 3. Representation in the Guidance Groups

Question: Who are the stakeholders who should be represented on the Guidance Groups? What steps can NIST take to ensure appropriately broad representation within the Guidance Groups? What does balanced representation mean and how can it be achieved?

Answer: The majority of the GG membership should be comprised of a balanced group of discipline specific practitioners from local, state, tribal, federal and private sectors on both national and international levels. The remaining positions should be allocated to other interested stakeholders from the academic, research, and legal communities. Ex-officio members from some of the larger forensic organizations, such as the International Association for Identification and the American Academy of Forensic Sciences, have proven to be extremely beneficial to the SWG groups in the past. However, the group should be authorized to regulate its membership in an effort to maintain balance while being able to select members (or invite guest speakers) with a certain expertise to address specific needs that may arise. This capability can also facilitate a cross-disciplinary approach.

Question: What is the best way to engage organizations playing a role in forensic science, standards development and practice?

Answer: Ex-officio members from some of the larger forensic organizations, such as the International Association for Identification and the American Academy of Forensic Sciences, have proven to be extremely beneficial to the SWG groups in the past. Additionally, funding an overall NIST representative or a representative from each specific GG, to travel to meetings and conferences of these organizations to promote the guidelines and standards generated by the GGs would keep other stakeholders engaged.

Question: How should interested parties who may not be direct participants in Guidance Groups, engage in a meaningful way to have an impact on issues in front of the Guidance Groups?

Answer: NIST should implement an SDO-type process to ensure openness, consensus decision-making with multi-stakeholder input, and a standardized work product. With this type of process, interested parties would have the opportunity to submit comments and influence the production of standards. NIST should also implement a mechanism in which interested parties may request an audience with the GGs to present information or raise concerns.

Question: To what extent and in what ways must the Federal government, as well as state, local, tribal and territorial governments be involved at the outset?

Answer: Consistent funding and support must be made available at all levels of government. Additionally, the majority of the GG membership should be comprised of a balanced group of discipline specific practitioners from local, state, tribal, federal and private sectors on both national and international levels.

#### 4. Scope of the Guidance Groups

Question: Should all of the current forensic Scientific Working Groups (SWGs) transition to Guidance Groups?

Answer: All SWGs that have been effective at creating standards and guidelines for their respective disciplines should be transitioned into the new GGs.

Question: Are there broader groupings of forensic science disciplines that could form the basis of Guidance Groups than the current group of twenty-one SWGs? If so, what are those groupings?

Answer: With the GG program office providing oversight, multi-discipline committees could be formed to address specific needs; however, the core membership for each GG would still need to be comprised of discipline-specific subject matter experts. This approach would help to standardize practices across disciplines while reducing duplication of effort. Many of the

pattern comparison disciplines, such as fingerprints, shoe tread, and firearms, face similar issues and could benefit from a multi-discipline committee approach.

Question: Is there a need for a cross-disciplinary functional approach (i.e. statistical analysis) and how could the Guidance Groups be structured to best address that need?

Answer: With the GG program office providing oversight, multi-discipline committees could be formed to address specific needs; however, the core membership for each GG would still need to be comprised of discipline-specific subject matter experts. The multi-discipline committee would consist of several members representing each of the GGs to address cross-discipline issues.

Question: To what extent do Guidance Groups need to support different forensic science disciplines differently from one another?

Answer: Given the broad range of forensic sciences practiced in the United States, the GGs must be flexible in that a “one size fits all” approach simply will not work. Various forensic science disciplines are based on different scientific premises. As such, an appropriate practice for one discipline may not be appropriate for another.

Sincerely,



Melissa R. Gische, Chair  
Scientific Working Group on Friction Ridge  
Analysis, Study and Technology

*Response from Garth Glassburg of Northeast Illinois Regional Crime Lab*

Dear Susan,

I read the letter Scott prepared on the concerns of potential changes for SWGS. At our lab we use the suggestions that SWGS provide in all of our sections. Within the Accreditation, court or Forensic communities there have been few substantial complaints. What I find interesting is the lack of data that critics of SWGS present. I find their comments in the press to be general and without specifics. Members of SWGS have provided invaluable information to the forensic community. This includes technical standards, instrumental data and personal contacts that are invaluable.

Progress with the SWGS have taken years to develop. On the big picture, what will change and why are these changes needed? Who will decide what changes will be made to SWGS? The concern I have is there will be much disruption in the forensic community, with little to show for it. I really do not see the need for massive changes for SWGs. Organizations can always improve. I am not against change, but a revolution for a community that has limited resources should be challenged.

Scotts letter is much more detailed. I just feel that SWGs are not broke, so why fix them? Specific policy problems should be fixed. However, these need to be identified so they can be addressed.

Thank you for your time.

**Garth Glassburg, M.S.**

Executive Director

Northeastern Illinois Regional Crime Lab

*An Internationally Accredited Laboratory (ISO:17025) FQS*

## *Response from Helen Griffin of Ventura County Sheriff's Forensic Sciences Lab*

Hi Susan,

I have attached some comments I hope will be helpful in structuring the Guidance Groups.

I have used the work products of SWGTREAD, SWGMAT, and SWGIT. The working group that I have found most helpful has been SWGTREAD. They always make their documents open for comment prior to acceptance. Also, they have a website that provides a practitioner's forum where questions can be asked of fellow practitioners and an area (Treadtyper) where scene impressions can be posted for assistance from fellow practitioners in identifying brand and model. The website has been used to post up-to-the-minute information in the field regarding new research and papers. Videos from plant tours are available for viewing on the website. All of this is in addition to the best practices and bibliographies that have been developed.

I would find resources such as training videos and atlases especially valuable if they were developed by the Guidance Groups.

Please let me know if you need practitioner input on any areas I haven't covered in the attached document.

Thank you for the opportunity to provide suggestions. Helen

FS Helen Griffin  
Ventura County Sheriff's Forensic Sciences Lab

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### Possible Models for the Administration and Support of Discipline-Specific Guidance Groups for Forensic Science

- 1) Video conferencing centers should be established in either major forensic labs or in Universities such that these centers are accessible to the maximum number of stakeholders. Meetings of the Guidance Groups should be dominantly through video conferencing with select individuals from each regional area meeting in person only when necessary.
- 2) Participation in Guidance Groups should be expansive. All stakeholders who are certified should be able to participate in the Guidance Group relevant to their certification.
- 3) Certification should be available for all specialty areas for which there are Guidance Groups. Certification should be available to all practitioners whether working in a lab setting, in the field, or in an academic setting. Certification should require both written and practical examinations.
- 4) The Guidance Groups should participate in the structuring of proficiency testing. Current proficiency tests cannot be used to establish consensus regarding methodology or to measure error rate because they are worked by a variety of people, some who are not qualified in the specialty areas. If proficiency testing was controlled so that the results from certified examiners could be separated from other results then the results could be used to provide meaningful data.

*Response from Helen Griffin of Ventura County Sheriff's Forensic Sciences Lab*

- 5) Common requirements among Guidance Groups such as report writing and conclusion scales should be unified between the groups.
- 6) Crime scene processing and reconstruction should be placed on an equal footing with the other forensic sciences as needing oversight and guidance.
- 7) There are SWG groups that might benefit by being subgroups of one main group. Suggestions for grouping are:
  - a. Combine SWGFAST and SWGTREAD under impression evidence.
  - b. Combine FISWG, SWGANTH, SWGDMI, and SWGDVI under human identification.
  - c. Combine SWGDOG, SWGIT, and SWGSTAIN under crime scene.
  - d. Combine SWGCBRN, SWGDRUG, and SWGTOX under chemical.
  - e. Combine SWGFEX and SWGGSR with SWGMAT.



TO: Susan Ballou

**RE: Possible Models for the Administration and Support of Discipline-Specific Guidance Groups for Forensic Science**

**1. Structure**

I think SWGSTAIN offers a good model for future Guidance Groups. Its membership is both diverse and representative. It has members who are from government (U.S. state and local practitioners), members who still work for government agencies; members who, after having worked for government agencies, are now working privately; members who have only worked in the private sector; a sitting judge; academic-based researchers; and a large international contingent, many of whom work for their respective country's federal government. In addition, SWGSTAIN also has invited guests at each meeting who come from any or all of the aforementioned groups so as to provide fresh perspective and balance. It has not "maxed out" its membership so as to allow for the presence of invited guests. Guests from one or more professional organizations have been, and continue to be, invited.

Any fee-based membership model for the Guidance Groups, regardless of how it operates, will present a huge obstacle for multiple reasons. It would only reflect the views of those who could afford to participate. Many private practitioners and budget-strapped agencies would be unable to participate. It could also weigh the membership in such a manner as not to reflect those working in the discipline. (For example, what if the group were primarily populated by those purely academic researchers who have access to grant funds but severely limited those who are actively engaged in case work?) One can only guess the impact this approach might have on international participation. Some individuals, both in the discipline and in the general public, could view any work product as being sold to the highest bidder and not a consensus-based approach.

**2. Impact of Guidance Groups**

Guidance Groups can leverage their position and encourage adoption of their proposed standards by involving professional associations devoted to the various disciplines; by posting their guidance documents on a website available to the group which would put the documents in a public arena; by including those in the legal profession in the Guidance Groups; and by holding open forums or panel discussions at various professional meetings.

The best way for NIST researchers to engage with the Guidance Groups would be to attend, perhaps regularly, meetings of the various Guidance Groups to see how they function, learn about the disciplines, and meet the members.

### 3. Representation in the Guidance Groups

To some degree, perhaps only slightly, the stakeholders for any given SWG may be discipline-specific. Other than that, a general representation should include active practitioners from both government and private practice, international composition, judicial members, and academic-based researchers. Coming from an academic background myself before getting into local and then state agencies at which I did forensic analysis/examination, coupled with working on a SWG, I have seen where some academic researchers are wasting time and money on misdirected research or already established aspects. With respect to judicial representatives, I think it is imperative that such (potential) members to a Guidance Group are open-minded about a specific discipline versus having already gone on record as saying that discipline is “garbage.” Similarly, practitioners need to be open-minded about where their discipline needs research efforts and not just say “because we say.” NIST could define some general representation guidelines (such as percentage or minimum number of research, judicial, active practitioners, etc.) and rely on the individual Guidance Groups to select the best potential member.

Organizations or professional associations devoted to a specific discipline should be represented on a Guidance Group. In one respect, this would already be accomplished by GG-members who also are members of a discipline-specific group (such as AFTE, IAI, and IABPA). In addition, such organizations could be assigned a maximum number of official representatives (the composition to be determined by each organization) to the Guidance Group. The next consideration would be if these positions were actually given a vote or just a voice.

For at least some of the SWGs, interested parties who are not direct participants (such as on site or present at meetings) are afforded the opportunity to provide feedback to the SWGs when a draft document is open for public comment. The responsibility then becomes the party’s to indirectly participate through the public comment offering.

Addressing the extent and ways governments (federal, state, etc.) should be involved at the outset is multi-level. If the federal government is mandating something of the work products of the Guidance Groups, the government has the duty to fund the groups. Asking Guidance Group participants to pay their own way is not going to provide any incentive to participate, much less follow issued guidelines or standards. The federal government can provide the structure and operation of the Guidance Groups. Any greater level of federal involvement should be considered with respect to membership on any given Guidance Group only if that federal lab is actively involved in casework and/or research in that discipline. I do not see how any open-ended involvement at any other government level (state, local, etc.) can be implemented, especially if that government entity was not actively involved in the Guidance Group discipline. This goal is best accomplished by each Guidance Group each seeking a representative membership that could include other levels of government based upon qualified (as determined by each Guidance Group) practitioners. The composition of a Guidance Group Trying to involve other non-federal government entities just because they exist would seem to hamper a Guidance Group’s function just by overpopulating a Guidance Group.



#### **4. Scope of the Guidance Groups**

Barring extenuating circumstances, the current SWGs should, at a minimum, provide the core or SWG personnel as long as the various stakeholders are currently represented on any given SWG.

I cannot foresee that any broader groupings of forensic science disciplines would be beneficial. The discipline-based Guidance Groups need to maintain a focused activity which I do not think would happen if some broader base was sought.

Guidance Groups that are similar in work or often have practitioners who work in more than one discipline (such as the current SWGTREAD and SWGFAST) might lend themselves to joint statistical analysis.

*Response from Erica A. Guice of Western Slope Laboratory, LLC*

Firstly, I would like to start my comments by stating that the SWG on Toxicology is quite well organized and has produced some good guidance documents that I would hate to see be for naught. I do not understand the desire to reinvent the wheel however, I understand the need to move governance from the Office of the President to the National Institute of Standards and Technology. I feel both can be accomplished by legislature that moves the already present SWGs under NIST and provide budget for its continual activity.

That being said, as we embark on the journey to reinvent the aforementioned wheel, I feel the best way to engage stakeholders would be through committee that would inform through professional organizations like the American Academy of Forensic Sciences and the Society of Forensic Toxicologists.

I also feel that all stakeholders should be represented including those from academia, the public and private sector, and government. Included in the public sector are local, state, and federal law enforcement agencies. Included in the private sector are non-for-profit and for-profit corporations of small and large sizes. Usually only large industry representatives make it on to committees. And finally, included in the government stakeholders are divisions of the NIH like the National Institute on Drug Abuse.

A great standard to mirror would be ISO. Most forensic laboratories in other countries meet the ISO 17025:2005 standard, while sadly only a small subset of laboratories in the US meet this standard. It might be a great starting point when guidance documents are being drafted.

Finally, in order to have any impact, since no mandate can come from the newly formed group, there needs to be incentives to adhere to the best practices outlined. Membership fees will be difficult for many laboratories especially in toxicology, as we have had our funding consistently cut over the last several years. And we cannot continue to be encouraged and expected to do more with less. I cannot envision a membership fee tier that would make my organization join since as an ISO-accredited forensic organization we get zero benefit from membership. In the same vein, I also doubt any suggestion would prove necessary to enact if so doing will cost without financial consideration from the guidance organization.

Thank you for taking time to read my comments.

Kindly,

eag

Erica A. Guice, M.S.  
Director of Research and Development  
Western Slope Laboratory, LLC



# California Association of Criminalists

Office of the President  
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## Position Statement on NIST Guidance Groups Structure, Composition, and Administration

November 12, 2013

National Institute of Standards and Technology  
c/o Susan Ballou  
100 Bureau Drive  
Mailstop 8102  
Gaithersburg, MD 20899

Dear Ms. Ballou:

Thank you for this opportunity to comment on, and answer the questions your agency posed about, the structure, impact, representation, and scope of the establishment of discipline-specific Guidance Groups.

The California Association of Criminalists (CAC), established in 1953, was the first regional Forensic Science Organization in the United States of America. The CAC was founded to foster an exchange of ideas and information, to establish friendship and cooperation, and to encourage a high level of competence and ethics. The CAC membership is composed of government and privately employed criminalists who are involved in the scientific analysis of physical evidence. The ideology expressed by the sixteen founding members continues today. The CAC, with over 800 members (in California and all over the country), has been continually looked-to for guidance at the national level in areas of certification, ethics, and development of standards.

Therefore, we appreciate that the opinions of the forensic science community are being solicited by your organization prior to any formal decisions being made about the structure, impact, representation, and scope of these Guidance Groups. In general, the members of the CAC support wholeheartedly the concept as stated in "Background" portion of the "Supplementary Information" section of the Federal Register Notice of Inquiry:

*"The proposed mission of the Guidance Groups to support the development and propagation of forensic science consensus documentary standards, monitor research and measurement standards gaps in each forensic discipline, and verify that a sufficient scientific basis exists for each discipline."*

The more specific opinions of the CAC and its answers to the questions posed in the Notice of Inquiry follow and are categorized according to the four areas listed under the "Supplementary Information" section.

### **Representation in the Guidance Groups**

*"What does balanced representation mean and how can it be achieved?"*

As was stated in the 2009 National Academy of Sciences report ("Strengthening Forensic Science in the United States: A Path Forward"), the vast majority of forensic science casework is performed by laboratories

at the State and local levels. Therefore, we feel strongly that the composition of the Guidance Groups should reflect that distribution and, therefore, be represented by a majority of practicing, casework-qualified forensic scientists working at the State and local levels. However, “balanced representation” would be more accurately achieved if two-thirds of the group members are employed by State and local laboratories.

*“How should interested parties who may not be direct participants in Guidance Groups, engage in a meaningful way to have an impact on issues in front of the Guidance Groups?”*

The non-casework members of each group should never constitute the majority of the group and, where involved, should have relevant expertise in that discipline. These non-casework members should serve in an advisory capacity, lacking the voting privileges afforded to the practicing forensic scientists.

*“What is the best way to engage organizations playing a role in forensic science, standards development and practice?”*

To fill vacancies in the Guidance Groups, we believe that duly recognized forensic science professional associations around the country (such as the CAC) be responsible for nominating individuals to serve as members of these groups. Group members should then be drawn from those nominees. In this way, the individuals chosen to serve have a responsibility and accountability to their member organizations.

Requiring professional forensic science organizations to identify group members cannot be overemphasized and is of absolute, paramount concern to the forensic scientists we represent. And indeed, that concern is appropriate because they are the ones actually performing the casework in the laboratory without which there would be no need for guidance from any group. Additionally, there is precedent for this form of representation. The DNA Advisory Board was originally formed using a nomination method similar to the one described above. This type of membership selection allows for accountability and a fair, balanced method for the appointment and replacement of Guidance Group members. Finally, this provides greater transparency and communication since nominated members can then be responsible for reporting to their regional organizations.

### **Structure of the Guidance Groups**

*“If the Guidance Groups followed a fee-based membership model, are there appropriately-tiered systems for fees that would prevent “pricing out” organizations, including individuals?”*

In our response immediately above, we suggest that vacancies in the Guidance Groups be filled by selecting individuals from a pool of nominees established by the recognized forensic science professional organizations. If this model were followed, the professional organizations could be the financial sponsor for its members. This model has the advantage of being less likely to “price out” its members. The CAC has a history of sponsoring member representation on various forensic organizations and advisory committees. Obviously, if there were any risk that proper representation would be sacrificed due to expense, the CAC would strongly oppose any fee-based structure. We do anticipate the financial support of representatives as an issue that would need to be addressed.

*“What are the elements which make existing forensic Scientific Working Groups (SWGs) successful?”*

The Scientific Working Group on DNA Analysis Methods (SWGDM) is one example of a successful and effective SWG. They meet regularly, they are represented by a good balance of the stakeholders, and they issue guidelines by which laboratories performing DNA analysis abide without significant controversy. More generally, the most successful SWGs have well-organized websites that serve a much needed information gathering, organizing, and distribution function. For example, SWGGUN has been instrumental in helping individual examiners prepare for Daubert and Kelly-Frye admissibility challenges (see the SWGGUN “ARK Resources”). Likewise, SWGDRUG has a world-class library of drug-monographs and mass-spec library.

## **Impact of the Guidance Groups**

*“To what extent does membership and transparency impact possible adoption of guidance at the state and local level?”*

The answer to this question is that the membership composition of these groups, and the transparency with which they operate, will have the utmost impact on the acceptance of guidance at all levels. Respect for an organization’s methods and purposes are effectively established when the people they serve are being accurately represented and when the organization’s dealings are open and accessible. This is true from student clubs, to professional organizations, and even to governments around the globe. If the Guidance Groups lack the respect of the scientists they are intended to guide, any guidance they suggest is unlikely to be adopted.

## **Scope of the Guidance Groups**

This area addresses questions that could be answered through discussion of these important topics. Undoubtedly, there would be many opinions offered in response to the posed questions. However, the CAC does not currently hold a strong position on any of them. To reiterate, the main concern expressed by our members is that their opinions on these issues be represented and considered in a meaningful way via representation in the Guidance Groups making the final decisions and/or recommendations.

## **Conclusion**

It is the opinion of the California Association of Criminalists that the formation of discipline-specific Guidance Groups could have a very positive impact on the practice of forensic science in the United States, provided the following:

1. The composition of each group reflect the fact that a vast majority of the casework-trained, practicing forensic scientists in each discipline are working at the State and local level.
2. Relevant professional organizations be involved in the creation, composition, and maintenance of these groups.
3. The groups conduct their business with transparency, considering the input of all appropriate stakeholders before making their recommendations.

Approved November 12, 2013 by the California Association of Criminalists Board of Directors.

November 18, 2013

## **IAI Response to the NIST Inquiry: Possible Models for the Administration and Support of Discipline-Specific Guidance Groups for Forensic Science**

The International Association for Identification (IAI) represents approximately 7000 forensic professionals from around the world. We are the largest organization of active forensic science practitioners, and as such have a vested interest in the presence and operation of standard setting groups in the United States.

The IAI supports the continuation of the Scientific Working Groups (SWG's) as they create standards and provide guidance for forensic practice. These functions are in direct support of the mission of the IAI.

The position statement of the IAI on the establishment of guidance groups:

***The IAI strongly believes that any group providing standard guidance in a forensic discipline should be primarily composed of active practitioners that are subject matter experts as voting members, as well as other relevant advisors (e.g., academic, judicial members). Further, to ensure representation of the community, guidance groups should include federal, state, local, government and private practice representation; and should incorporate members and products of the SWG's.***

The following are detailed comments that correspond to the topics outlined in the published inquiry request:

### 1. Structure of the Guidance Groups

The Scientific Working Groups (SWG's) have many elements that should be retained:

- Developed resources and products such as technical and educational standards, lists of identified research gaps, and admissibility resources.
- Embedded connections and communication links to the forensic community.
- Extensive expertise (practitioners and other stakeholders).
- Recognized national and international impact and credibility.

With additional governance and support, forensic guidance groups could have increased intra-discipline communication and standardization of discipline products and group operation. Through unified goals, discipline gaps and overlap could be identified, resulting in products that could be marketed as cohesive forensic resources to the relevant communities.

The use of a standard development organization (SDO) is supported in the context of a standard process for vetting and for the production of equivalent products; however,

LESLEY HAMMER, *President*



these should be available at no cost to the general public. If the use of an SDO requires a fee-based membership to obtain products or participate in the vetting process, the IAI recommends it not be used. Partnership with an SDO should occur at the overall governance level.

## 2. Impact of Guidance Groups

Without funding restrictions or legislative mandates, the impact and acceptance of the guidance group products may be limited. Organizations such as the IAI are in a position to distribute the products of guidance groups to members and certified practitioners and to encourage their use in practice as recognized standards. Additionally, professional organizations have the capability to raise awareness of the existence of the standards to end users (e.g. lab managers, law enforcement agencies, justice system).

Standards produced by current SWG's are known and referenced internationally. Any marketing of the products of guidance groups should outreach to relevant international entities (forensic professional bodies, working groups and regulators in countries outside the US).

## 3. Representation in the Guidance Groups

Representation within the guidance groups is of paramount importance to the IAI.

To ensure that the groups are both relevant and accepted as authorities, it is recommended that forensic scientists compose the majority presence. It is also recommended that the chair of each guidance group be a practicing forensic scientist. The forensic scientists included should be actively and currently involved in forensic work, recognized experts in their field and significantly experienced. The IAI encourages balanced representation through the identification of stakeholders, end users and customers. These include, in addition to the practicing forensic scientists, academics with scientific background and representatives from the legal community. Additional stakeholders should have the ability to participate in the process through a system of publication and comment on draft products.

Representation should include members from all levels of government (Federal, State, Local, Tribal), the private sector, and from the varied geographical areas of the US. Groups should retain the ability to invite guests from other countries and/or with specific areas of expertise to address topics on an as-needed basis. Groups should be kept at a manageable size to ensure efficiency, and membership should be systematically rotated to ensure balance from the relevant communities. Additionally, sub-disciplines within each discipline should be identified and represented.

The best way to engage forensic organizations is to recognize an organizations relevancy to each guidance group discipline and make an active effort to ensure there is an official connection established. For example, crime scene, bloodstain, latent prints, shoe/tire connect to the IAI, DNA and toxicology to the American Academy of Forensic Scientists

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LESLEY HAMMER, *President*

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(AAFS) and Firearms to the Association of Firearm and Tool Mark Examiners (AFTE). Each group should include representation from the appropriate forensic association(s). These organizations are excellent resources for recruiting group membership, disseminating products, acquiring feedback, and marketing implementation strategies. Care should be given to connect with these groups equally and respectfully; no one organization should become the sole connection or professional body representative for all forensic disciplines.

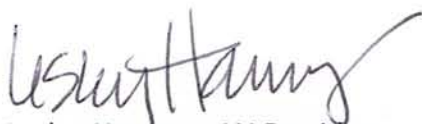
Lastly, representation on the guidance groups should be composed through a system that is open and transparent to all stakeholders. Open application processes and clearly defined selection criteria should be established and published.

#### 4. Scope of the Guidance Groups

It is important that all forensic science disciplines be represented in the guidance group structure. Each discipline utilized in a court of law should be given the opportunity to refine, further develop and ensure reliability. Two areas not currently represented by a SWG are crime scene examination and forensic art. It is recommended that these two disciplines be added to the overall structure. There are multiple grouping strategies that are potentially successful; the important aspects are to encourage intra-discipline communication between all guidance groups and to ensure that each is supported adequately. For example, a crime scene guidance group would need effective communication with all guidance groups to ensure recommended policies are in agreement with those of the other discipline guidance groups.

A possible role for NIST is to encourage and support the research outreach of the guidance groups, allowing groups remain focused primarily on standard production.

In summary, the IAI is comprised of thousands of dedicated members with a vast array of practical and scientific experience and includes many of the worlds leading forensic experts. The IAI is the leading accredited certification body in the areas of Latent Prints, Ten Prints, Crime Scene, Bloodstain Pattern, Footwear, Forensic Art, Photography, and Video Analysis, and has subject matter expert groups established in each of those afore listed forensic disciplines. As the largest representative forensic professional organization in the world, with a long history of dedication for forensic standardization, the IAI should be utilized as a primary resource to the creation and operation of forensic standard setting groups. We welcome all invitations to participate in discussions on this important topic.



Lesley Hammer, IAI President

LESLEY HAMMER, *President*

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## *Response from Erin N. Henry of Oklahoma State Bureau of Investigation*

Hi Ms. Ballou,

Here are some thoughts from our laboratory staff regarding the structure and organization of Forensic Science Guidance Groups. Thank you for the opportunity to provide feedback.

Thoughts on Representation:

1. The Guidance Groups should be comprised of a majority (at least 75%) of current, proficiency tested practitioners in the discipline represented by the working group. This helps ensure that any guidance is evaluated from the bench level perspective to ensure that it can be implemented feasibly and without unnecessary increases in overhead or decreases in efficiency.
2. The other 25% should provide balanced representation of other stakeholders – laboratory managers/directors, attorneys, researchers, etc.
3. The Guidance Groups membership should be evenly representative of federal, state, and local practitioners from each region of the country. Such representation promotes a thorough evaluation of guidance from all sizes and organizational structures of labs and lab systems. Even representation from all regions of the country helps ensure that guidance addresses all issues seen within a discipline and does not become overly focused on issues only seen in one region. For example, a guidance group on controlled substances without even distribution may focus on techniques used for particular drugs of abuse which are prevalent in one region of the country, but not another.
4. As necessary and appropriate, representatives from other countries should be considered.
5. Representatives (at least practitioner representatives) should be from accredited laboratories. It was felt that independent “experts” who may not be associated with any laboratory, much less an accredited lab would not be appropriate representatives in a Guidance Group.
6. Decision for selection of representatives should be given to an outside entity in order to provide a more effective selection process. One of the concerns noted with the current SWG’s was that membership was heavily based on “who you know.” While there are definitely well known, intelligent individuals serving on SWG’s this networking based selection process limits the candidate pool to individuals who are good at making a name for themselves. There are countless candidates with indispensable contributions which are overlooked by this system. There needs to be an open application process, with requirements to have a specific amount of casework experience and then an objective selection process to fill these positions.
7. All positions on the Guidance Groups should have term limits. Positions should also be staggered so that in combination with term limits, there is continuity and institutional memory while still ensuring new ideas and growth within the group. In addition, term limits increase the number of individuals who can serve over time. Individuals who serve with this type of group will bring back valuable information to their agency and co-workers.
8. Term limits should be applied to an extent to agencies and states, at least to avoid the same agency or state serving back to back and continual terms.
9. Practitioner positions should be forfeited upon completion for individuals who due to promotion, retirement, or other job changes no longer meet the requirements of the practitioner representative position. (This could be redundant depending on how term limits are defined.)
10. A portion of representatives should be qualified and active accreditation assessors. This will help provide input from assessors regarding issues that may need to be addressed.

## *Response from Erin N. Henry of Oklahoma State Bureau of Investigation*

11. Representation should not be based on any fee-based system. Implementing any fee-based structure (even a scaled structure) would only serve to limit the individuals who could serve on a Guidance Group.

### Thoughts on Impact:

1. The possibility to pair the Guidance Groups with a standards development organization (SDO) creates several challenges and would likely be detrimental. First, pairing with an SDO creates further separation between the policy makers and the practitioners. More concerning however would be the delays between implementing guidance or standards and the ability to revise the guidance given. Guidance documents produced by these Guidance Groups are much like laboratory policies and procedures. They need to be viewed as living documents which unequivocally will change over time. Using ISO as an example of an SDO, it is likely that issuing guidance in this manner would result in delays of several years between when changes may be needed and when they are actually communicated.
2. Determining the implementation of guidance documents should be handled through accrediting bodies. Implementing standards or requiring compliance in any other fashion increases the likelihood that there will be unintended and negative consequences. Accrediting bodies have the benefit of assessing a laboratory's practices on-site. This allows them to make a more informed determination about whether the lab's practices are appropriate based on guidance documents.
3. Oversight of the Guidance Groups in terms of how the groups operate and how money is distributed should be handled by NIST. This will help avoid a predominance of any one or more federal laboratories steering guidance in a particular direction. Decisions regarding guidance to be provided should remain with the balanced membership selected.

### Thoughts on Communication/Transparency:

1. Guidance Groups should be designed to ensure transparency in the membership selection and decision making process. By-laws and procedures for selecting membership should be published on a website for the Guidance Group.
2. Meetings of the Guidance Groups and any committees or sub-committees created should be broadcast in the same fashion as Senate hearings. Notice of meetings and agendas for the meetings should be published in advance in order to enable forensic scientists throughout the community to listen to the discussion. This will allow all forensic scientists to better understand the issue being discussed, implement improvements sooner if needed (without waiting for official guidance), and provide more applicable feedback during any public comment period.
3. Some type of list serve or voluntary meeting notification system must be implemented to insure that individuals are notified (based on their own request) of meeting times and publications. The system should allow individuals to select the particular Guidance Group or discipline which they wish to be notified about.
4. One comment was that SWGFAST has started responding to comments made during the public comment period. This provides valuable communication and should be required for the Guidance Groups.

### Scope of Guidance Groups:

*Response from Erin N. Henry of Oklahoma State Bureau of Investigation*

1. The current SWG's should be carried forward and transitioned to meet the membership and other criteria set forth above. This allows the current SWG's to continue providing guidance instead of creating a vacuum of guidance during transition.
2. With additional funding, the current SWG's would be better able to meet the goals of the Guidance Groups.
3. While there may be opportunities to develop collaborations between Guidance Groups (Chemistry based disciplines, Biology, Comparative Sciences, Digital Evidence, Terrorism, etc) there will still need to be individual guidance given to each forensic science discipline (and in some cases each category of testing).
4. Crime scene and evidence collection also need to be addressed by the Guidance Groups. Without adequate guidance in these areas, the results of any forensic analyses are suspect.
5. It may be beneficial to have a Guidance Group for courtroom issues. Evaluating rules of evidence in court, providing adequate training for attorneys and judges is also a critical part of making our criminal justice system work.

Thanks,

*Erin N. Henry*

*Oklahoma State Bureau of Investigation*

*Criminalistics Administrator*

*Quality Manager*



## The American Society of Crime Laboratory Directors

"Excellence Through Leadership in Forensic Science Management"

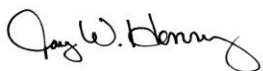
### ASCLD Comments Regarding NIST Guidance Groups

The American Society of Crime Laboratory Directors (ASCLD) applauds efforts to advance forensic science and provide "a framework for coordination across forensic science disciplines," however; we have concerns with the proposed model and the direction toward which the questions in the Federal Register appear to be leading the audience. Please find below our specific thoughts:

- 1) **Structure:** We strongly believe any new framework must build off of the existing model(s) of the current Scientific Working Groups (SWGs) and include a formal coordinating body. Scientific Working Groups have a very productive history of strong leadership. SWGs have researched and aided implementation of industry standards, provided technical guidance, recommended best practices, provided training and education, supported forensic meetings, and engaged their discipline practitioners on ALL levels of government and even internationally. SWG members are dedicated professionals who recognize the importance of their work. What they lack is a coordinating body and consistent support, including funding. We do not believe the proposed guidance groups will solve that problem as they appear to be based on foundational science, rather than applied, discipline-specific science and lack the single coordinating factor of an Office of Forensic Science. In fact, we believe the proposed solution will be costly, divisive, and disruptive to the forensic science community. We do believe a federal entity should play the role of coordinator and be supportive of the efforts and the model as proposed in Senator Leahy's July 2012 version of S132, the Criminal Justice and Forensic Science Reform Act of 2011, for an Office of Forensic Science in the Department of Justice with a Board of 11 scientists, 6 of whom are practitioners providing guidance to Committees. However, we believe those Committees should be the current SWGs. We are also concerned with the statement made in the Federal Register that the proposed Guidance Groups would not report to DOJ or NIST. If this is the case, how will coordination be achieved and where will the leadership come from? There are several international models from which to glean information toward advancement of the existing system in addition to the legislation currently being written by Senator Leahy and Senator Cornyn:
  - i) The Australian National Institute of Forensic Science (NIFS) is successful in supporting the development and propagation of forensic science that works on a daily basis with Specialist Advisory Groups (SAGs) (8 of them) covering a broad range of disciplines within the forensic sciences. It develops Annual Action Plans with the SAGs which identify and prioritize work plans to resolve pressing technical and scientific needs. This has assisted in reaching national agreement on issues such as standards, accreditation, certification, R&D and education and training. The core functions of NIFS are: 1) sponsor and support research in forensic science; 2) assistance with the development and co-ordination of forensic science services between jurisdictions; 3) facilitation and information exchange between relevant parties; 4) support, co-ordinate and conduct training programs in forensic science and 5) co-ordination of the delivery of relevant forensic science quality assurance programs.
  - ii) The European Network of Forensic Science Institutes (ENFSI) is an organization that implements mutual agreements to participate and cooperate but accomplishes this without a standards development organization (SDO). While standards development is important, ENFSI's level of cooperation, information exchange, consensus standards, proficiency testing sharing, etc. is a good model to emulate, especially when implementing forensic processes for such a huge, multi-jurisdictional, legal community as the United States, which bases its consensus on a voluntary system.

- 2) **Impact:** The question of impact and how to best address the matters relating to the operation of a crime laboratory is quite simple. For instance, in most states, to date, accreditation and certification have been voluntary. While ASCLD certainly supports the idea of accreditation for all crime laboratories, mandating this on the federal level without the proper organization and funding essentially creates an unfunded mandate that makes implementation impossible. Accreditation and certification is necessary and receipt of federal funds should be contingent on compliance or work towards compliance. A similar strategy could be used by the Office of Forensic Science to encourage laboratories to adopt the recommendations made by the SWGs. Research needs and priorities must be developed with a strong input from the practitioners who deal with the issues on a daily basis. Again, the model proposed by Senator Leahy is movement in the right direction.
- 3) **Representation:** The premise behind these questions is flawed. The SWGs should remain predominately represented by the practitioner community as they deal with matters which relate to and directly impact the operation of a crime laboratory. The best resource for suggesting best practices and developing research priorities are the scientists who actually do the work every day. SWGs are vital to crime laboratories as the published standards for each forensic discipline are used for the development of validation plans, training and research programs, and laboratory procedures. In order for the SWGs to be more effective and efficient, there must be coordination from an Office of Forensic Science devoted to ensuring the SWGs meet regularly, providing a budget foundation and disseminating forensic discipline documentation.
- 4) **Scope:** As we stated above, all Scientific Working Groups, including Digital Evidence, should be moved to become the basis for the Sub-committees. They should not be grouped into larger “related” Committees, however, as the discipline specific details and nuances will be diluted. While there may be similarities in equipment and analysis schemes such as in Drug Analysis and Toxicology, there are significant differences such as solid dosage forms as opposed to concentrations of drugs and metabolites extracted from various matrices. Similarly, while latent prints and firearms identification are both types of pattern evidence, there remain many differences in how the patterns are made or applied and issues of distortion or reproducibility, etc. The discipline specific committees must remain as the standard setting group, without having the work product filtered through a hierarchy of committees/boards.

ASCLD supports efforts to strengthen Forensic Science. Unfortunately, the Federal Register solicitation appears to present the foregone conclusion that SWGs will be dismantled and replaced with NIST Guidance Groups and, at the same time, asks for comments on positive aspects of the current SWGs to emulate. This feels like a “create something new just because” approach which has ASCLD questioning whether this is a wise or fiscally prudent way to strengthen Forensic Science.



Jay Henry  
ASCLD President  
November 7, 2013

*Response from Laura Hernandez of New Mexico Department of Public Safety Southern Forensic Laboratory*

I do have a few concerns about what was suggested in the Federal Register on September 27<sup>th</sup> regarding the creation of a guidance groups for forensic disciplines.

Scientists love acronyms. The acronym for the Commission can easily be confused with the acronym for the National Center for Forensic Sciences. This may cause some confusion.

I have strong concerns that NIST will be over shadowing the SWGs that have already been formed. These are groups composed of individuals who have donated a significant amount of time and resources to improve the quality of the disciplines they work in. They brought to the table the concerns of all levels of government/practitioners, listened to what was needed and what labs could feasibly do to improve. To have another organization come in and take over might be troubling for the people who took the initiative far before the publication of the NAS report.

- Standards exceeding what labs can reasonably obtain.

In a perfect world we would use the best trained individuals equipped with the latest and greatest equipment and compare their unknowns with the best quality standards money can buy. We don't live in that world. Many labs struggle with older equipment, have difficulties finding cost effective training to stay up with the changes and challenges they are faced with, and struggle with the fact that sometimes the standards aren't even available. While NIST is one of the best for quality testing and data, I am concerned with the level they will be asking labs to rise to, and if that level is fiscally reasonable without significant federal financial support.

- Stakeholders and Redundant interests

There was mention of stakeholders. Some of the SWGs are composed of members who do have redundant interests. There are disciplines that have too small a community to not allow this. Also, it doesn't make sense. Have you ever sat in a Unit and had all the scientists agree? It doesn't happen. If labs/universities/etc. were limited to one member per organization the groups could be missing a lot. Plus, it could be disappointing and counterproductive if current members were removed because of this. They have volunteered their time, effort and expertise to improving the quality of the analysis performed in their discipline. Does this mean these individuals no longer have value to the process? This sends the wrong message to the forensic community.

- Merging multiple SWGs

I'm not really seeing this one. For the established groups it doesn't make sense. If they felt that combining into a larger conglomerate would be beneficial they could have done so already. Some of the smaller ones are more specialized for a good reason. Trying to incorporate them into other groups could lead to someone trying to force standards that are unrealistic. Worse, we would be asking people who are not qualified in the discipline to help direct standards used in those fields. One of the quickest ways to defeat the process is to have people making decisions without fully understanding the underlying why's and how's.

My comments may not be noteworthy but as a bench analyst and an active member of the forensic community I am very mindful of the challenges facing laboratories. Like many out there, I'm biting on

*Response from Laura Hernandez of New Mexico Department of Public Safety Southern Forensic Laboratory*

my fingernails hoping that the smarter people who are making these decisions know what is in the best interest for all of us. It seems to me that the established and productive SWGs should be left to their own devices. A suggestion would be to maintain the current SWGS and have them report to the Commission instead of being dismantled or retooled. Perhaps it is the disciplines that are in need of guidance groups that should be affected the most. If there is some need for a cross-disciplinary group, the perhaps that is a separate group that can be established as well. In the end, I hope the established and productive groups are given all due respect and allowed to continue their important work.

**Disclaimer**

*This e-mail contains the thoughts and opinions of Laura Hernandez and does not represent official New Mexico Department of Public Safety's policy.*

Laura Hernandez  
DPS Southern Forensic Laboratory

*Response from Dwane S. Hilderbrand of Forensic ITC Services*



***Forensic ITC Services***

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National Institute of Standards and Technology (NIST)  
c/o Susan Ballou  
100 Bureau Drive  
Mailstop 8102  
Gaithersburg, MD 20899

Reference: Guidance Groups under SWG's.

Dear NIST,

First let me take a moment and introduce myself. I am a private trainer and consultant, and I own and manage Forensic ITC Services. I am a retired criminalist who has also served on the International Association for Identification's Footwear and Tire Track subcommittee and Board of Directors. I have been involved with footwear and tires for more than 32 years. I work footwear and tire track cases both for the defense and the prosecution, and I believe in our standards. All of my cases, privately, are technically reviewed and verified by a second qualified examiner, because I was "raised" under ASCLD-LAB's policy and procedures. I personally wrote the policies and procedures manual and the training manual for footwear and tire track casework and trainees for the Scottsdale Police Department, Scottsdale, Arizona.

I am writing to you with a sadden heart. There are many things starting to change within our sciences, SWG groups as we know them are now going away and becoming Guidance Groups. I hoping they become truly a guidance group.

I wanted to write and express my thoughts to you. First, let it be known I absolutely, without question, believe ACE-V is the only legitimate way to describe, and do, a comparative process. ACE-V is an acronym that stands for process, procedure and method that we use to compare and identify things; Analysis, Comparison, Evaluation and Verification (Peer Review).

ACE-V has a long history within forensic science starting sometime around 1959 where Huber first describes it as "ACE" and applied it to the comparative sciences. Huber describes the peer review but never called it Verification. In 1972-Harold Tuthill describes this methodology in his book entitled, Individualization: Principles and Procedures in Criminalistics and again in his second edition in 1994. Forensic Tire Impression Identification written by Lauren Nause states: "Four Basic Stages of the Identification Process" and goes on to list them as Analysis, Comparison, Evaluation and Verification of opinion (Chapter 13 page 224). In 1980-Footwear Identification written by Mike Cassidy states again the ACE methodology and it practical use in



*Response from Dwane S. Hilderbrand of Forensic ITC Services*

the comparative sciences (Chapter 5 page 91). In 1999-David Ashbaugh wrote, Quantitative-Qualitative Friction Ridge Analysis: An Introduction to Basic and Advanced Ridgeology where he goes into detail about the use of ACE-V. Stephen McKasson wrote Speaking as an Expert that looks at comparative sciences and how ACE-V applies to ALL of them.

Everyone on the present SWGTREAD is a practicing FW/TT examiner. Because FW/TT is a sub-discipline in all labs except the FBI, we all have secondary disciplines and therefore have different backgrounds. The people with Questioned Documents, Trace or Crime scene as their secondary disciplines weren't trained in ACE-V therefore they don't understand it. This could be because of the lack of training and or the misunderstanding of what it really is.

I have taught three different complete training programs in footwear and tire tracks sciences; two (2) for National Forensic Science Technology Center in Clearwater, Florida, and one (1) for the St Paul police department. Each program ran a total of nine (9) months. Within these programs I always taught and instructed the concepts of ACE-V and how it is applied. These programs had contained many of the other forensic disciplines.

SWGTREAD has had many of the same members for almost 10 years and I feel it is time for a change. New members create new thoughts and new ideas. There are even some of those members I feel that have a lack of a scientific attitude which is detrimental to this discipline. SWGTREAD needs fresh blood and people who truly represent the discipline as it is now, not ten years ago.

ACE-V was acknowledged in various forms during Mr. Bob Garrett's Presidency of the International Association for Identification, including the IAI's Standardization II Report. In the past year or so, I think, the IAI Board of Directors did pass a resolution requiring the Science and Practice Committees and Certification Boards to adopt the relevant SWG standards for their respective disciplines. Unfortunately SWGTREAD does not mention ACE-V or any form of Verification. ACE-V has been adopted by SWGFAST as the methodology to be used by examiners. It is also acknowledged in the NIJ Human Factors report on Latent Print Examination. The flow chart for the ACE-V process which was created by the Human Factors Expert Working Group was adopted by SWGFAST and included in their standard on ACE-V.

I cannot for the life of me understand why we; the Footwear and Tire Track Examiner's Community cannot seem to agree on this. I am only voicing my opinion. I absolutely, without question, believe ACE-V is the only legitimate way to describe, and do, a comparative process. I have taught it for years and yes I am well aware of some individuals on SWGTREAD that fight this, but I also believe that many of the present day examiners have their work verified, so what is the issue? I also understand that SWGTREAD can't compel practitioners (including private practitioners) to abide by their standards, but by having good standards in place and good instructors teaching them the idea becomes reality, plus having recognized professional organization supporting them. I run into many examiners both new and old that DO in fact refer to SWGTREAD standards. A standard in place that spells out "Verification" demonstrates a strong forensic group that is not afraid of peer review, plus the last time I looked "Peer Review" is also a part of Daubert. I have preached, taught and supported SWGTREAD Standards for

## *Response from Dwane S. Hilderbrand of Forensic ITC Services*

years. Only to find out they do not support our methodology of comparison or the verification of conclusions.

Verification is critical as a Standard. But even though it is critical I find many agencies that 1) do not require it, and 2) do not really care. I had one agency tell me ASCLD does not “require” verifications so we do not require our examiners to do it. Only to find out that ASCLD-LAB is adopting the ISO 17025 standards and anyone currently accredited under ASCLD-LAB will have to adopt those standards. Under ISO 5.9.1 it talks about reviews and controls. This document says “shall have.” Also, when the laboratory is being audited for reaccreditation the auditors are going to make sure that lab is doing what the rest of the discipline is doing whether or not it is in the standard, required by the standard or suggested by the standard. The auditors will hold that discipline accountable for not doing what the rest of the field is doing. That’s the problem with the SWGs. They are considered the standards for that discipline. So if you are testifying that you use the ACE-V methodology it will appear you are not following the standards set by the FW/TT field. This is one the main arguments. It has to be included in the standards if for only that reason.

Any endeavor of science relies on some type of peer review as a means to ensure that a sound process was followed and the result of the testing is reliable and repeatable. The reason the latent print field leans toward verification of only the positive associations is two-fold, in my opinion. First, it relies on the argument that anything other than a positive association is not likely to get an individual prosecuted and hence it's not considered a "critical" result. The second I think is just a combination of resource and time management (get the cases in and get them out) and some level of pure laziness. I feel that all identifications should be verified. However, we in the footwear and tire field have positive associations and positive eliminations which are likely to get an individual prosecuted and or released, and hence be considered a "critical" result and these also should be verified. By having good standards in place does not mean everyone will agree or follow them but it does tell the world we as a forensic science community are willing to set standards within our own practice that we strongly believe in and agree with. Here lies the BIGGEST issue in forensic science... We cannot agree and yet we wonder why defense attorney’s criticize us.

Now is the time to react. I am asking for your support. What we do today will benefit and define us tomorrow. Diane Grant once said, “It’s better to walk alone, than with a crowd going in the wrong direction”.

Respectfully,

*Dwane S. Hilderbrand, M. Ed*



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November 12, 2013

Ms. Susan Ballou, Program Manager for Forensic Science  
National Institute of Standards and Technology (NIST)  
100 Bureau Drive, Mailstop 8102  
Gaithersburg, MD 20899  
Email: susan.ballou@nist.gov

Ref: Possible Models for the Administration and Support of Discipline-Specific Guidance  
Groups for Forensic Science

Via: Email

Dear Ms. Ballou:

In the Notice of Inquiry published in the *Federal Register* on September 27, 2013, the National Institute of Standards and Technology (NIST) invited interested parties to provide their perspectives on the appropriate model for NIST administration and support of discipline-specific Guidance Groups to be established pursuant to the Memorandum of Understanding (MOU) between the Department of Justice (DOJ) and NIST.

As a biometric vendor, MorphoTrak has employees who have participated in working groups for the International Association for Identification (IAI), International Committee for Information Technology Standards (INCITS)/M1, NIST Information Technology Laboratory (ITL), and the Scientific Working Group on Friction Ridge Analysis, Study and Technology (SWGFAST). The success of NIST's Guidance Groups will be dictated by the degree of involvement of all the stakeholders, which should include forensic researchers, forensic practitioners, NIST, and forensic/biometric vendors. Working groups such as NIST ITL and INCITS/M1 have been successful in creating national and international standards because of their balanced and diverse voting body that takes into account current and emerging technologies.

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MorphoTrak makes the following recommendations to help create effective Guidance Groups:

### **Structure of the Guidance Groups**

*Given the scope and principles of the Guidance Groups outlined here, what are structural models that could best support the Guidance Groups, taking into account the technical, policy, legal, and operational aspects of forensic science?*

The NIST Guidance Groups should be structured to have a balanced and diverse voting body that includes at a minimum NIST, forensic researchers, forensic/biometric vendor technical experts, biometric RFP consultants, and biometric system users.

*What elements or models would facilitate the sharing of best practices and uniform practices across the Guidance Groups?*

In the briefing on Guidance Groups Ms. Ballou presented at the IAI, she indicated that the Guidance Groups would be dispersed to different divisions/disciplines within NIST, with some reporting into the **Physics** division and some reporting into the **Digital** division. We believe that dispersing the Guidance Groups could hinder uniform practices across the groups.

*Are there public policies or private sector initiatives in other countries that have successfully strengthened the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline? If so, what are they?*

We refer you to the European Network of Forensic Science Institutes (ENFSI). The purpose of ENFSI is to share knowledge, exchange experiences, and come to mutual agreements in the field of forensic science. ENFSI is recognized as an expert group in the field of forensic sciences. ENFSI is recognized as a pre-eminent voice in forensic science worldwide by ensuring the quality of development and delivery of forensic science throughout Europe. ENFSI activities include: organizing meetings and scientific seminars, sponsoring collaborative studies and proficiency tests, advising relevant partners on forensic issues, and publishing best practice manuals of forensic terms.

*What are the elements which make existing forensic Scientific Working Groups (SWGs) successful? Are there examples of best practices in specific SWGs that ought to be replicated in Guidance Groups? If so, what are they?*

MorphoTrak declines to provide a response.

*Would partnership with a standards development organization (SDO) in which the standard is issued by the SDO present any obstacle for participation by a broad range of forensics science stakeholders in the development of a standard? If so, why?*

*Would partnership with an SDO in which the standard is issued by the SDO present any obstacle to broad adoption of a standard? If so, why?*

In regard to a possible partnership with a standards development organization (SDO), we believe the model that NIST used in the past with the INCITS/M1 committee would not present any obstacle for participation by a broad range of forensics science stakeholders in the development of a standard.

*Would a fee-based membership model run through a not-for-profit organization (similar to the National Conference of Weights and Measures) present a significant obstacle for participation?*

In order to encourage the broadest participation, NIST should not require a fee for membership in Guidance Groups. Vendor members provide time and travel for their employees; this should be viewed as a funding contribution.

*If the Guidance Groups followed a fee-based membership model, are there appropriately-tiered systems for fees that would prevent “pricing out” organizations, including individuals?*

MorphoTrak declines to provide a response.

*Other than a privatized model, are there other means to maintain a governance or coordinating body in the long term? If possible, please give examples of existing structures and their positive and negative attributes.*

MorphoTrak declines to provide a response.

### **Impact of Guidance Groups**

*Given that the Guidance Groups cannot mandate the adoption of standards, what can they do to best leverage their position and encourage adoption? To what extent does membership and transparency impact possible adoption of guidance at the state and local level?*

NIST should consider an international interchange of the guidelines that will be created by the Guidance Groups. The INCITS/M1 committee serves as the U.S. Technical Advisory Group for the international ISO SC37 and has been very successful in creating standards that have been adopted internationally.

The guidelines should be based on “real-world” use cases and testing that can demonstrate the need for the recommendations.

*Are there best practices or models to consider with regard to a structure that would encourage effective communication with the scientific community to explore research gaps and aid in recognizing research priorities?*

We believe comprehensive communication processes should be created to disperse meeting agendas, disseminate guidelines for review, and collect reviews. Communications can be enhanced through portal web sites, social media sites, and email. The Guidance Groups should be involved in conferences to communicate guidelines that are being considered, and to disseminate and receive feedback.

*How should NIST researchers engage with the Guidance Groups in support of the goal to strengthen the nation’s use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline?*

NIST would benefit from instituting an open review process that allows the forensic community to provide feedback and comments. It appears that the effectiveness of some of the SWG groups may have been adversely impacted by the lack of buy-in from the general forensic community, for example, the National Academy of Sciences.

## **Representation in the Guidance Groups**

*Who are the stakeholders who should be represented on the Guidance Groups? What steps can NIST take to ensure appropriately broad representation within the Guidance Groups? What does balanced representation mean and how can it be achieved?*

It is critical that researchers and forensic technologists from the vendor community be allowed to be members of the Guidance Groups. This will not only help keep the Guidance Groups attuned to the latest commercial breakthroughs in forensic technologies (which can often leap-frog academic breakthroughs), but could also help ensure that the applications and tools provided by vendors to forensic practitioners incorporate NIST guidance. Technology experts should be involved so that business process guidelines take into account current and emerging technologies that can help improve the business process.

In addition to technology experts, stakeholders should include users of biometric technology and those within the vendor community who interface with them. This group of individuals includes administrators, examiners, project managers and product managers who can provide input into the direction (roadmap) of biometrics.

*What is the best way to engage organizations playing a role in forensic science, standards development and practice?*

MorphoTrak declines to provide a response.

*How should interested parties who may not be direct participants in Guidance Groups, engage in a meaningful way to have an impact on issues in front of the Guidance Groups?*

The best way for interested parties who may not be direct participants in Guidance Groups to engage in Guidance Group issues would be for NIST to sponsor workshops that invite a wider audience to attend. Another mechanism would be to use a CANVASSEE process similar to the one NIST uses for the ANSI NIST ITL 2011 standards.

*To what extent and in what ways must the Federal government, as well as state, local, tribal and territorial governments be involved at the outset?*

We advise that the best method to ensure that the Federal government, as well as state, local, tribal and territorial governments are involved at the outset, is to invite Forensic Experts from both the FBI and the state, local, tribal and territorial governments to be members, and also invite them to the workshops mentioned above.

## **Scope of the Guidance Groups**

*Should all of the current forensic Scientific Working Groups (SWGs) transition to Guidance Groups?*

To alleviate confusion and to improve collaboration, we recommend that all of the current forensic SWGs should transition to Guidance Groups.

*Are there broader groupings of forensic science disciplines that could form the basis of Guidance Groups than the current group of twenty-one SWGs? If so, what are those groupings?*

MorphoTrak declines to provide a response.

*Is there a need for a cross-disciplinary functional approach (i.e. statistical analysis) and how could the Guidance Groups be structured to best address that need?*

MorphoTrak declines to provide a response.

*To what extent do Guidance Groups need to support different forensic science disciplines differently from one another?*

MorphoTrak declines to provide a response.

We appreciate this opportunity to provide our input into the administration of these Guidance Groups. If you wish to discuss these items in further detail, please feel free to contact us.

Sincerely,



Robert Horton  
Sr. Director of Marketing and Communications  
MorphoTrak

Good Morning, Sue-

I know you are going to be barraged by suggestions for models, etc. So, I will only suggest that to make things go smooth that the business documents be ready to be put in place at the first meeting (or you spend the next few meetings creating them) and for efficiency cap the number of people participating and/or voting members. Also, a time limit for serving is nice or you are stuck with the same people who are not active participants and can't get anything accomplished in a timely manner. Would NIST be able to re-place members as the group sees fit, or would it go to a vote of the group?

A debate by the egocentrics is fun to listen to, but doesn't accomplish much other than wasting production time.

From the onset let the participants know if the documents are to be guidance or proposed standards. As well as expected turnaround times for the documents.

Let me know if I can help in any way.

Regards,

Vici Inlow  
USSS  
Department of Homeland Security



*Response from Jeff Jacobs of the American Society for Clinical Pathology (ASCP)  
ASCP Institute for Science, Technology and Policy*

Dear Ms. Ballou,

The American Society for Clinical Pathology (ASCP) fully supports the position of the National Association of Medical Examiners (NAME) as outlined in the attached letter. In the NAME letter, they advocate the following position:

"If the current SWGMDI transitions to a Guidance Group, it should increase the medical representation by including representatives from the College of American Pathologists and the American Society for Clinical Pathology and medicolegal death investigators should not be over-represented." If tasked, ASCP would be more than willing to appoint a physician with the proper expertise to a Guidance Group.

The ASCP is a 501(c)(3) nonprofit medical specialty society representing more than 100,000 members. Our members are board certified pathologists, other physicians, clinical scientists, certified medical technologists and technicians, and educators. ASCP is one of our nation's largest medical specialty societies and is the world's largest organization representing the field of laboratory medicine and pathology. As the leading provider of continuing education for pathologists and medical laboratory personnel, ASCP enhances the quality of the profession through comprehensive educational programs, publications, and self-assessment materials.

Sincerely,

Jeff

Jeff Jacobs  
Senior Vice President  
American Society for Clinical Pathology (ASCP) ASCP Institute for Science, Technology and Policy

*Response from Malena B. Jimenez of Missouri State Highway Patrol*

One of the fundamental problems with the way leading bodies behave is the lack of representation of the heart of the organization. Orders are issued by those who have not been a part of the day to day activities for years. Some are not even competent or proficient in the technologies and procedures they are in charge of governing. Although theoretical knowledge is important, practical ability is far superior. If given the choice, would you choose a surgeon who has successfully performed the surgery hundreds of times, or one who has the knowledge, but has never performed? Ken Kesey best defined leadership when he said, "You don't lead by pointing and telling people some place to go. You lead by going to that place and making a case."

I am a young analyst and I have only ever been employed at one laboratory. I concede to my inexperience and closed view. However, the knowledge I gain every day as I validate instrumentation and procedures, examine evidence, interpret mixtures, and testify in court should not be negated because I am not a technical leader, have a master's degree, or administrate CODIS. Who else can tell you the troubles experienced when interpreting a mixture better than those who do it daily?

I hope that the National Institute of Standards and Technology will consider requiring a portion of each Guidance Group be case working analysts who dedicate the majority of their time to case work.

Thanks,  
Malena B. Jimenez  
DNA Casework, Criminalist III  
Missouri State Highway Patrol  
Crime Laboratory Division



The responses provided below were provided by several current members of SWGTREAD (The Scientific Working Group for Shoeprint and Tire Tread Evidence).

### **1. Structure of the Guidance Groups**

- ***Given the scope and principles of the guidance groups outlined here, what are structural models that could best support the Guidance Groups, taking into account the technical, policy, legal, and operational aspects of forensic science?***

Forensic science is a nebulous concept in regards to its operational aspect here in the United States, since there actually is no forensic science operation. Forensic science has functioned as a consensus-oriented entity that has been governed by the concept of standards being generally accepted by the relevant scientific community and those standards being acceptable to the courts. The Guidance Groups (GG), by necessity, must be primarily made up of practitioners, with practitioners having final approval for any standards being developed. This is necessary for any standard to be accurate, implementable, and representative of a consensus among analysts utilizing the standard.

The GGs frequently will need the resources of information pertaining to political, legal, and technical aspects of standard development. However, these resources should not be in decision-making rolls for the standards created.

The primary (board) members of the GG should be forensic practitioners from both the public and private sectors and represent local, state and Federal entities (as best as possible). These members should be responsible for the primary functions of standardizing the practices and directing research initiatives. These members should have a program management office with legal, research, technology and administrative support to remove this burden from GG members. There need not be regular membership of researchers or attorneys on each GG unless they have particular skill sets germane to the particular discipline, but rather there should be a central repository of support for legal and research matters.

- ***What elements or models would facilitate the sharing of best practices and uniform practices across the Guidance Groups?***

There needs to be a uniform standard operating procedure (SOP) for all of the GGs to operate under as well as provide a standard publishing format for the documents generated by the GGs. Up to this point, the creation and subsequent updating of an operational SOP for the SWGs has been a major distraction from the SWG's primary function – standards development.

The operational SOP should be developed from a representative group of each of the GGs. From there, NIST should publish the SOP online. This SOP should provide guidance on how the GGs should deal with unusual situations and identify the need to update the SOP as needed. The GGs need to have a uniform look and feel so as to provide an easy transition from one GGs documents to that of another GG. There should be a single terminology document that incorporates all GGs terms that would provide a central repository for terminology and also provide easy comparison of how the same term is defined differently by different disciplines.



- ***Are there public policies or private sector initiatives in other countries that have successfully strengthened the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, determining each forensic science discipline's research and measurement standards needs and ensuring that a sufficient scientific basis exists for each discipline? If so, what are they?***

The European Network of Forensic Science Institutes (ENFSI) implements mutual agreements to participate and cooperate. While the GGs should include standards production, ENFSI's level of cooperation, information exchange, consensus standards, proficiency test sharing, etc., is the only, implemented forensic oversight organization for such a large multi-jurisdictional/legal/community arena. ENFSI is operated on a voluntary, consensus-based system. Because of its success, many of the SWGs have worked closely with our international colleagues at ENSFI.

- ***What are the elements which make existing forensic science working groups (SWGs) successful? Are there examples of best practices in specific SWGs that ought to be replicated in Guidance Groups? If so, what are they?***

A multi-faceted approach to standard development with its membership has made the SWGs successful. SWGTREAD is made up of experienced examiners who are leaders in the forensic community. The members were purposely chosen for diversity of employment, geographic location representation and different background experiences in different forensic disciplines. This diversity has led to insights during the standard development process that would have been otherwise impossible.

SWGTREAD utilizes an online discussion forum to facilitate communication not only from SWGTREAD to examiners and examiners to SWGTREAD, but also between examiners worldwide. This avenue of communication is invaluable in both standard development and standard updating.

Some of the most valuable resources that have come out of the SWGs are standards (or best practices), examiner training manuals and court admissibility packages because they have practical application for examiners and other members of the forensic science community. The primary methods for disseminating these resources are the SWG's website and at professional meetings (through presentations or other information-sharing opportunities). An integral part of the standard development process for SWGs is the posting of draft documents online. This mechanism provides the opportunity for members of the forensic science community to weigh in during draft comment periods. This process promotes transparency and ensures consensus of a standard. SWGs respond (normally in writing) to those individuals who comment on the drafts, which provides a sense of ownership and encourages participation amongst examiners.

Careful consideration is needed if term limits are established for members of the GGs, including the offices they hold. It is imperative that the overall experience level of the group be maintained. If three years is the term limit established for membership, the footwear and tire track discipline would be void of experience within two to three cycles. The GGs need members with significant experience, including experience drafting standards. Examiners with this experience are not common so they need to be preserved within the groups. The term limit for the office of the Chair should be sufficient to enable the Chair to learn the responsibilities and ensure a period of continuity within the group, which normally takes several years. Natural attrition is important since it creates openings for new members to refresh the membership. It should be up to the discretion of the Chair of each group to identify and dismiss members who do not actively contribute to the productivity of the group.

Something to consider for membership in the groups might be to have a core group of legacy members (those with significant experience in the discipline and with standards development) and then a group of provisional members who can be rotated in and out (perhaps in a 3-year cycle) until a legacy position needs to be filled. This would preserve the level of experience and provide for new membership and a more inclusive perception.

- ***Would partnership with a standards development organization (SDO) in which the standard is issued by the SDO present any obstacle for participation by a broad range of forensic science stakeholders in the development of a standard? If so, why?***

Yes, it could be helpful if the practitioners don't get bypassed by the SDO in final adoption of the standard. Also, SDOs tend to be more overall concept-driven when specific forensic science disciplines need specific standards to address actual evidence interpretation and development. The fact that the standard is the product of practitioners is vital to the concept of acceptance within the forensic science community.

It might be useful, at some point, for the GGs to develop their own version of an SDO that can be tailored to the needs of forensic science rather than science and technology, in general. Forensic science is unique in that the science is dependent on the laws in which the science is being practiced. The standardization of published documents that an SDO provides is valuable in many ways, but current SDOs may not provide a good avenue for forensic science products. One primary impediment to broad adoption is that SDOs tend to be fee and membership-based. This can be limiting in ensuring all relevant parties are willing and able to participate.

- ***Would partnership with a standards development organization in which the standard is issued by the SDO present any obstacle to broad adoption of a standard? If so, why?***

It shouldn't as long as resources are available for various compliance and submission issues.



- ***Should there be a fee for representatives in the Guidance Groups? Are there appropriately-tiered systems for fees that would prevent “pricing out” organizations, including individuals?***

Any fee for participation would “price out” some organizations and individuals. If anything, NIST should consider paying a nominal fee to organizations for allowing their employees to participate (although many agencies may have difficulty accepting such fees). There are many analysts working for agencies who have prohibited their employees from participation with the SWGs due to budgetary and staffing concerns, even when travel expenses are provided by the SWG’s funding source. Organizations allowing their staff to participate are often giving up that person’s salary and/or paying someone else to staff their position while they participate in the meetings.

From a financial standpoint, it’s going to be important for the function and effectiveness of the groups to have a consistent source of funding for meetings. In the past several years, the lengthy approval process for meetings has resulted in last-minute travel planning and uncertainty about whether or not meetings would even take place. These issues served as major impediments to the standard development process for the SWGs. Many of the members have significant workloads, court and personal commitments that require sufficient notice of meeting dates in order to facilitate attendance for meetings.

- ***Other than fees, are there other means to maintain governance or coordinating body in the long term? If possible, please give examples of existing structures and their positive and negative attributes.***

The GGs could work as groups of volunteers because it is prestige and reputation that motivate participation and compliance. Also, it is critical that the groups are comprised of the top people/examiners in the relative disciplines with representation across federal, state, municipal, and private examiners.

## ***2. Impact of Guidance Groups***

***In its role in administering and supporting the Guidance Groups, NIST’s aim is to improve discipline practices by advancing forensic science standards and techniques through a collaborative consensus building process with Federal, state and local community partners. NIST thus seeks comments about the ways in which the structure, function and operation would best support the Guidance Groups being a catalyst for such improvements.***

- ***Given that the Guidance Groups cannot mandate the adoption of standards, what can they do to best leverage their position and encourage adoption? To what extent does membership and transparency impact possible adoption of guidance at the state and local level?***

In all of forensic science, the need for consensus to show that a standard is accepted by the relevant scientific community is critical. Examiners and/or agencies that conduct examinations of evidence contrary to accepted/published standards leave them open to significant challenges in court. Examiners at every level want to follow quality standards that represent the best available way to conduct an examination.



The need for attracting and keeping the top people/examiners on the boards is the most important aspect of adoption of the standards produced at every level. If the boards get too heavy with inexperienced examiners, the reputation will suffer along with the quality of the standards production.

There needs to be marketing of the GGs in order to establish them as the premier repository of forensic science expertise and standardization in the US. It should be clearly communicated via as many avenues as possible that the GGs are respected by their peers and have been recognized. In some respects, the GGs should be like the American Bar Association for forensic science; they establish standards and increase awareness of specific issues relevant to their community. There should be strong collaboration between all of the GGs, including occasional meetings between all members of the GGs via symposiums or conferences.

- ***Are there best practices or models to consider with regard to a structure that would encourage effective communication with the scientific community so that research is appropriately prioritized and conducted?***

The members of SWGTREAD have seen first-hand the disconnect between university research and practical application for examiners in footwear and tire track evidence for many years now. We frequently see published research that has been grant funded with little or no casework application and we have identified changes in these studies which could have yielded significant results had they been implemented in the planning stages of the research. SWGTREAD has a standing Research and Science committee with the objective of identifying the research needs for the discipline and serves as the point of contact for prospective research, validation and scientific practices. SWGTREAD members have been very successful in assisting many university research projects to produce valuable information to forensic examiners.

There should be a nexus between NIJ (and any other research funding entities) and the GGs (through NIST). The GGs should serve as the primary filter for researchers seeking funding. There should be a mechanism for researchers to seek input from the GGs prior to submitting a grant application to increase the likelihood of their research being funded and/or to reduce time spent on planning their projects. We strongly believe this will result in the research needed to shore up the scientific basis for all the disciplines.

- ***How should NIST researchers engage with the Guidance Groups in support of the goal to strengthen the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, determining each forensic science discipline's research and measurement standards needs and ensuring that a sufficient scientific basis exists for each discipline?***

Having the researchers attend face-to-face meetings with the GG's is frequently more productive than written communication so they can have a more in-depth understanding of issues. The exchange encourages clear understanding from both sides. It's going to be important for the NIST researchers to fully understand the questions that need to be answered with the research. To answer the question of whether sufficient scientific basis exists for the footwear



and tire track discipline is a multi-level question with varying ways of asking the question. Other disciplines may have a narrower question in regards to scientific basis.

Most practitioners would agree that “sufficient scientific basis” has been established for the traditional (longstanding) forensic sciences, but it is the critics (attorneys, judges, and academia) who consider the current scientific basis insufficient. No one would argue that it is not good to continue to refine the science for all the forensic sciences and attempt to disprove the theories, but the problem at hand is that forensic science is a practical science based on experience and research. One of the primary issues is there is little to no repeatability in the comparative forensic sciences (footwear and tire, fingerprints, firearms, trace, etc.). This lack of repeatability prevents the application of statistics to the analysis and also prevents the ability of quantifying results and removing subjectivity.

Much of the research would be best directed in advancing the technology used in the analysis and collection of the evidence. Standards need to be developed for 3D scanning technology which may be utilized in many of the forensic science disciplines in the future.

**3. Representation in the Guidance Groups: Given the diverse, multi-sector set of stakeholders in forensic science, representation in Guidance Groups must be carefully balanced and inclusive.**

- ***Who are the stakeholders who should be represented on the guidance groups? What steps can NIST take to ensure appropriately broad representation within the Guidance Groups? What does balanced representation mean and how can it be achieved?***

In SWGTREAD, we’ve gone to great lengths to solicit board members for their geographic representation, cross discipline representation, researcher representation in addition to their training and experience in footwear and tire tread evidence. Members need to be chosen to participate, not simply be willing to volunteer. Top examiners need to be asked to participate and motivated to want to participate.

There also needs to be support from the participant’s agencies to participate. The GGs need to have active lines of communication between themselves and the major professional organizations (e.g., IAI, AAFS, etc.). There may not be a particular need to have representatives as sitting members on the GG since this could become an issue in reducing GG productivity.

There could perhaps be a “Stakeholder Guidance Group” made up of members of the various forensic associations, lawyers, judges, researchers, and statisticians that could be used as a resource for the GG’s and provide the GG’s with input on standards.

- ***What is the best way to engage organizations playing a role in forensic science, standards development and practice?***





Reputation. Many of the current SWGs enjoy a close working relationship with forensic organizations and large agency laboratories. Large agencies are acutely aware of the need for their procedures to be generally accepted by the relevant scientific communities and the SWG standards and guidelines have provided this service for many years now. It is the reputation of quality that fulfills the need and compels organizations to want to play a role and participate. It's also the reputation that compels smaller organizations and agencies to want to participate even when faced with standards that require more budgeted funds and staffing.

- ***How should interested parties who may not be direct participants in Guidance Groups, engage in a meaningful way to have an impact on issues in front of the guidance groups?***

Open comment periods for draft standards need to have widely-distributed notifications along with direct notifications to examiners working in the discipline. The SWGTREAD Forum, for example, makes announcements directly to footwear and tire track examiners and ask that they share the announcements with any other examiners they know who may not be participating in the forum. NIST should create a communication network with all forensic examiners to promote the GGs and to engage participation on a large scale.

- ***To what extent and in what ways must the Federal government, as well as state, local, tribal, and territorial, governments be involved at the outset?***

Advertise. Get the word out so they're advised of planning and goals during development so there's an air of anticipation about what's being created. Get them thinking they want to be involved and they want their examiners participating at all levels.

#### **4. Scope of the Guidance Groups**

- ***Should all the current forensic Scientific Working Groups (SWGs) transition to Guidance Groups?***

Yes, the best way for the Guidance Groups to get started is with an experienced group that has significant experience with standard development.

- ***Are there broader groupings of forensic science disciplines that could form the basis of Guidance Groups than the current group of twenty-one SWGs? If so, what are those groupings?***

A Crime Scene Investigation (CSI) group needs to be formed and added. The proper collection and documentation of evidence from crime scenes is vital to the examination of that evidence and the subsequent presentations in court. Having a CSI GG would facilitate overlapping discipline communication.

Some of the disciplines have very similar aspects to their respective functions as a discipline; however, standards for each specific discipline reflect the finer differences and need to be



written separately. Groupings of certain disciplines could have some mutual advantages where certain specific aspects overlap. Some meetings could be planned with “general” topics to be discussed and then have specific discipline breakout sessions. It is still going to be very important for the specific disciplines to create standards independently. The groupings might have some administrative advantages; however, the disciplines are different and have different problems to address.

- ***Is there a need for a cross-disciplinary functional approach (i.e. statistical analysis) and how could the Guidance Groups be structured to best address that need?***

There can and should be a cross-disciplinary functional approach in some carefully chosen aspects. However, the need for discipline-specific examiners is crucial to development of standards. For instance, there would be certain procedures in footwear/tire track, trace evidence, fingerprint comparisons, and firearms that would have aspects of the comparisons with similar procedural steps. However, specific details in the comparisons are significantly different and require specific verbiage in a written standard.

- ***To what extent do Guidance Groups need to support different forensic science disciplines differently from one another?***

The GGs will need the ability to draw upon the expertise of different disciplines for specific purposes in standard development. Having special guests invited to meetings to participate in discussions is vital to the standard development process. This tool has been very successful for SWGTREAD in the past. The ability for one GG to draw upon the expertise of another GG will be invaluable.

The GGs will need the assistance of NIST and other GGs to promote issues that affect each discipline. For instance, footwear and tire track evidence is greatly underutilized in this country. It's the third most common evidence found at crime scenes (behind fingerprints and DNA). The problem is partially due to a general lack of understanding of how valuable it can be in investigations and trials. It's also underutilized for administrative budget issues in many jurisdictions. An effort, on a national level, to raise awareness of this valuable resource would go a long way in solving this problem. Most of the other disciplines have issues that would benefit from a national awareness campaign.

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October 23, 2013

National Institute of Standards and Technology  
c/o Susan Ballou  
100 Bureau Drive  
Mailstop 8102  
Gaithersburg, MD 20899

Re: Discipline Specific Guidance Groups for Forensic Science

Dear Sirs/Madams:

Thank you for the opportunity to provide my perspective regarding the discipline specific guidance groups for forensic science.

Over the many years that I have been a part of the forensic science community, I have been impressed with the efforts taken by the scientific working groups (SWGS), and particularly with the recommended best practices for forensic testing which they have provided. The SWGS serve as a good model for the guidance groups that NIST proposes.

Primarily, I have one recommendation. My recommendation is that representation in these guidance groups be approximately equivalent to the proportion of forensic testing the particular stakeholder group provides to the criminal justice process in the United States.

I don't know if there are any one or few sources of data which would demonstrate the proportion of forensic testing in criminal cases that are provided annually by city crime labs, county crime labs, state crime labs, federal crime labs, and private crime labs. My guess is that local (city and county) and state crime laboratories combined perform 90% or more of this forensic testing. These laboratories and the personnel in them are those who will be most affected by these guidance groups. It is very important that they be sufficiently represented, and it will also help with the acceptance of the guidance groups and buy in of their recommendations by these laboratories.

It has been my experience both as a forensic scientist and a crime laboratory director that people in crime labs want to perform quality work that provides only meaningful information to the judicial system in assessing a defendant's guilt or innocence. Where resources tend to be more limited, at the local and state levels, practical solutions to providing meaningful information to the judiciary are required. So as fine as academic and federal solutions may appear to advancing forensic science, practicality must also be considered. NIST is advised to take a hard look at where the lion's share of

forensic testing is and will always be conducted, and provide the appropriate seats at the table for representatives from these entities.

While you have many questions to ask regarding the best way to structure and operate these guidance groups, I have only addressed one area. I'll leave it to others to fill in many gaps.

Thanks again for your invitation for comments and for your consideration of my recommendation.

Sincerely,

A handwritten signature in cursive script, appearing to read "D. Pat Johnson".

D. Pat Johnson  
Deputy Assistant Director  
Crime Laboratory Service

*Response from Doug Jones of Washington State Patrol*

Hello Susan,

I am a Breath Alcohol Computer (BAC) Technician Trooper from Washington State. I received notice about guidance groups being formed by NIST from the International Association of Chemical Testing. I hope they include Breath Test Programs around the country in their list of groups/disciplines. Breath Testing is the most widely used method in obtaining evidence of impaired drivers around the country. Washington State is one of the only states that I am aware of currently providing measurement uncertainty results in all breath test cases. The Impaired Driving Section of the Washington State Patrol falls under the Forensic Laboratory Services Bureau of the WSP.

I believe there exists a sufficient scientific basis for breath test programs around the country to be included in these forensic groups, through the means of chemical testing. Thank you for your consideration.

Regards

Trooper Doug Jones  
Impaired Driving Section, Seattle WA



## Noblis Response to the RFI re: Structure of the Guidance Groups

### Overview:

We believe that many of the current Scientific Working Groups (SWGs) perform excellent work and address the needs of their forensic disciplines. However, we believe that performance could be improved significantly for all of the SWGs. The Guidance Groups (GG) should not only reflect the needs of the practitioners, they must provide the means for improving the forensic discipline and address issues and critiques of the forensic science as exemplified by the National Academy of Sciences Report, *Strengthening Forensic Science in the United States: A Path Forward*. This can be done by providing the following capabilities within the overall GG framework:

- **Membership.** Ideally the GG should be composed of both practitioners and researchers to ensure that the practices are updated to reflect the underlying understanding of the discipline as well as changes in technology. Membership selection and renewal should be subject to approval of both the GG and a NIST Credentials Committee that would determine membership needs and qualifications. As a first step in organizing the GGs, the Credentials Committee will need to determine the GG membership qualifications and mix of skills.
- **Technical and legal guidance.** NIST should charter two new Guidance Groups to provide guidance relating to the legal underpinnings of forensic science and the scientific evaluation necessary to validate the disciplines. These groups, herein called the Legal Advisory Guidance Group (LAGG) and the Technical Advisory Guidance Group (TAGG) would address legal admissibility issues and other challenges to the disciplines, and provide guidance on statistical analysis, validation, and testing methodologies. The two groups would advise all other GGs, to provide greater rigor and uniformity and serve as a means of raising the overall level of performance and effectiveness of forensic sciences.
- **Standardization.** NIST should ensure that there are clearly defined goals for the GGs which should be developed in coordination with the NIST Executive Committee, the LAGG and TAGG support groups. The goals should be developed to address the specific needs of each forensic science. NIST must standardize and define deliverables for the GGs. This should be done as a joint effort between the forensic science GGs and the LAGG and TAGG. All forensic science GG reports should adhere to standard terminology and use uniform evaluation and validation processes. The development of these goals should be closely coordinated with members of all GGs.

### Questions (RFI text is in Italics):

- *Given the scope and principles of the Guidance Groups outlined here, what are structural models that could best support the Guidance Groups, taking into account the technical, policy, legal, and operational aspects of forensic science?  
NIST should develop a GG framework that would include the following elements:*

## Response from George Kiebusinski of Noblis

- The NIST Executive Committee should provide overall guidance and conduct periodic reviews of the GG organizations and their interactions.
- The LAGG and TAGG in cooperation with forensic science GGs will provide evaluation and validation of all proposed work and define standards, testing and validation methodologies, review processes, and approvals for all GG deliverables. GGs for each of the forensic sciences should be organized to roughly corresponding to current SWGs. However GG membership and mission statements and work plan review should be subject to approval by the NIST Executive Committee.
- *What elements or models would facilitate the sharing of best practices and uniform practices across the Guidance Groups?*
  - The proposed LAGG and TAGG would be key elements of the framework to ensure sharing and standardization of best practices.
- *Are there public policies or private sector initiatives in other countries that have successfully strengthened the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline? If so, what are they?*

We believe that the highly diverse organizations in the US will require the development of a unique solution. There are models such as European Network of Foreign Sciences Institutes which may be applicable in part to US needs.
- *What are the elements which make existing forensic Scientific Working Groups (SWGs) successful? Are there examples of best practices in specific SWGs that ought to be replicated in Guidance Groups? If so, what are they?*

Two of the most successful SWGs are FISWG and SWGFAST. We believe that they have the right mix of technical and practitioner staff. They have clearly defined objectives and have been successful in developing standards and guidelines that have been used effectively in their disciplines.
- *Would partnership with a standards development organization (SDO) in which the standard is issued by the SDO present any obstacle for participation by a broad range of forensics science stakeholders in the development of a standard? If so, why?*

We are not aware of any obstacles. A possible obstacle may be a requirement for paying fees to the SDO as precondition to participation.
- *Would partnership with an SDO in which the standard is issued by the SDO present any obstacle to broad adoption of a standard? If so, why?*

A potential issue is that of SDO fees. For instance, annual dues in OASIS are \$8,000. Some Federal Agencies, that have a vested interest in standards being developed by OASIS, have refrained from joining because of the high annual dues. We also do not believe that academia or individuals in the forensic community would be willing to spend the money to develop a standard, especially if multiple SDOs are required for specific projects.
- *Would a fee-based membership model run through a not-for-profit organization (similar to the National Conference of Weights and Measures) present a significant obstacle for participation?*

We do not recommend a fee-based membership model. From our experience with

INCITS, many organizations balk at the membership dues (~\$2,000). It should be pointed out that just “showing up” costs are an order of magnitude more. Active participation is yet another high cost factor. Additionally, privatized models tend to have different tiers of membership, e.g., Executive Board vs. Technical Committee, each with a different fee structure. Participation in the GGs should be as broad as practical and should be driven by the needs of the forensic community.

- *If the Guidance Groups followed a fee-based membership model, are there appropriately-tiered systems for fees that would prevent “pricing out” organizations, including individuals?*

While fees are an initial step at discouraging membership, attendance and active participation account for the lion’s share of the cost. Participation by practitioners will need to address these costs.

- *Other than a privatized model, are there other means to maintain a governance or coordinating body in the long term? If possible, please give examples of existing structures and their positive and negative attributes.*

Federal and State sponsorship will be required for active participation by both the practitioners and the analytic support personnel.

## **2. Impact of Guidance Groups (RFI text is in Italics):**

*In its role in administering and supporting the Guidance Groups, NIST's aim is to improve discipline practices by advancing forensic science standards and techniques through a collaborative consensus building process with Federal, state and local community partners. NIST thus seeks comments about the ways in which the structure, function and operation would best support the Guidance Groups by being a catalyst for such improvements.*

- *Given that the Guidance Groups cannot mandate the adoption of standards, what can they do to best leverage their position and encourage adoption? To what extent does membership and transparency impact possible adoption of guidance at the state and local level?*

We believe that GG products that are initiated in response to pressing national issues, with the active participation by the operations personnel, developed with the support of the recommended LAGG and TAGG will be more readily accepted by the forensic community. The standard methods of publicizing the developments such as well-designed and maintained web sites, presentations at appropriate conferences, and most importantly, reaching out to the community to help them include the product requirements in their solicitations are very likely to be successful. However, this does imply that an active outreach program is developed and practiced by the GGs.

- *Are there best practices or models to consider with regard to a structure that would encourage effective communication with the scientific community to explore research gaps and aid in recognizing research priorities?*

It is very important to include the right membership in all of the GGs. Membership will need to include leading practitioners, academic leaders, researchers, and legal staff. Its membership selection should be based on individual qualification.



- *What is the best way to engage organizations playing a role in forensic science, standards development and practice?*  
NIST should canvas representative organizations for lists of active and qualified practitioners who are interested in advancing the Forensic Sciences. These should include academia, researchers in private practice, Federal Agencies, as well as large State and local organizations. This list should be periodically updated by the GGs and shared across all GGs.
- *How should interested parties who may not be direct participants in Guidance Groups, engage in a meaningful way to have an impact on issues in front of the Guidance Groups?*  
It is envisioned that when the NIST GG Executive Committee defines new issues or requires updates to existing policies and procedures, methodologies, or other deliverables, they will be publicized via announcements sent to lists of qualified personnel (maintained by the NIST GG Executive Committee) requesting their participation. It is also proposed that the LAGG and TAGG provide a leadership role in defining issues and proposing courses of action across all of the forensic sciences represented by the GGs.
- *To what extent and in what ways must the Federal government, as well as state, local, tribal and territorial governments be involved at the outset?*  
Without adequate funding by the Federal Government, the success of the GGs will be highly limited.

#### **4. Scope of the Guidance Groups (RFI text is in Italics)**

- *Should all of the current forensic Scientific Working Groups (SWGs) transition to Guidance Groups?*  
Yes, subject to their membership being reviewed for proper balance between practitioners and researchers, and standardization of their organizational charters to conform to the NIST developed requirements.
- *Are there broader groupings of forensic science disciplines that could form the basis of Guidance Groups than the current group of twenty-one SWGs? If so, what are those groupings?*  
We are not familiar with all of the SWGs and cannot offer advice on this matter.
- *Is there a need for a cross-disciplinary functional approach (i.e. statistical analysis) and how could the Guidance Groups be structured to best address that need?*  
Absolutely. This is why we recommend the new LAGG and TAGG groups.
- *To what extent do Guidance Groups need to support different forensic science disciplines differently from one another?*  
While all forensic sciences are somewhat unique, we believe that there are common areas that should be addressed in a uniform manner. These include:
  - Terminology
  - Testing and analysis methodology
  - Reporting
  - Publishing requirements



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November 12, 2013

National Institute of Standards and Technology  
c/o Susan Ballou  
100 Bureau Drive  
Mailstop 8102  
Gaithersburg, MD 20899

RE: Notice of Inquiry on Possible models for the Administration and Support of Discipline-Specific Guidance Groups for Forensic Science

To Whom It May Concern,

The Association of Forensic Quality Assurance Managers (AFQAM) is a national organization that promotes standardized practices and professionalism in quality assurance management for the forensic science community. Our organization is composed of approximately 250 members from all levels of government (federal, state and local) as well as accrediting bodies and private laboratories who are actively involved in furthering forensic quality assurance in their organization.

On behalf of our membership, we submit the following response to the notice in the Federal Registry regarding the perspectives on the appropriate model for NIST administration and support of discipline-specific Guidance Groups.

## **1. Structure of the Guidance Groups:**

- The Guidance Groups should be comprised of a majority (at least 75%) of current, proficiency tested practitioners in the discipline represented by the working group. This helps ensure that any guidance is evaluated from the bench level perspective to ensure that it can be implemented feasibly.
- The remaining representation should come from other forensic science stakeholders - Laboratory Directors, Quality Assurance Managers, Attorneys, Researchers, etc.
- The Guidance Groups membership should be representatives from federal, state, and local practitioners from all parts of the country. Such representation promotes a thorough evaluation of guidance from all sizes and organizational structures of labs and lab systems. Representation from the different levels should be commensurate with the actual quantity of evidence analyzed at each of those levels. State and local laboratories work the vast majority of all evidence analyzed in the U.S. and consequently have the vast majority of the backlog. Even representation from all regions of the country also helps ensure that guidance addresses all issues seen within a discipline and does not become overly focused on issues only seen in one region.
- Practitioner representatives should be from accredited laboratories.

- Historically, SWGs have operated without much cooperation or coordination. A centralized governance that offers a coordinated and cohesive structure and organization for the many guidance groups has the potential to offer huge benefits.

## **2. Impact of Guidance Groups:**

- Guidance Groups should develop a close relationship with the accrediting bodies such as ASCLD-LAB, FQS and A2LA. Accrediting bodies have the benefit of assessing a laboratory's practices on-site. A relationship between the two will allow them to make a more informed determination about whether the laboratory's practices are appropriate based on any accepted or recognized guidance documents.

## **3. Representation in the Guidance Groups:**

- At least one representative of each Guidance Group should be an individual who spends at minimum 50% of their time performing QA related tasks. The QA Manager can provide accreditation support for the disciplines including compliance with international standards and supplemental accrediting body requirements.
- The vast majority of members on any given group should be actively involved in a forensic science laboratory. Members from academia, non-profit, and industry may have unique and useful perspectives, but their basic motivations and organizational goals can be very different from that of a forensic science laboratory.
- Guidance groups should engage existing national and international forensic science organizations, such as AFQAM, IAI, AFTE, AAFS, etc. relevant to the particular discipline to play a role in standards development and practice.

## **4. Scope of the Guidance Groups:**

- There should be a cross-disciplinary approach for the Guidance Groups to issue one guidance document of common interest (i.e. quality assurance, measurement certainty, etc). For instance, SWGs such as SWGGUN, SWGFAST & SWGDRUG have published Quality Assurance guidance documents in the past. Multiple guidance documents on the same subject could result in conflicting requirements between the different documents.
- A Quality Assurance Guidance Group should be established. Quality Assurance is the one "discipline" of a laboratory that can greatly impact all other disciplines through the policies and procedures which apply to an entire laboratory. This QA group would publish consensus guidance documents for Quality Assurance topics that affect the whole laboratory, such as proficiency testing, courtroom testimony monitoring, administrative and technical reviews, corrective and preventative actions, audits, method validation and document control. The other Guidance Groups would produce documents specific to that discipline/area of forensic, such as technical procedures, report writing, training requirements, and terminology.

Sincerely,



Christopher Krug, President  
Association of Forensic Quality Assurance Managers

## *Response from Mike Kusluski of Wayne State University*

### Representation

There are technical issues which need to be addressed in the forensic science disciplines. However, in recent years, the din raised by the innocence movement has eclipsed the scope of the problems. Even though forensic science is practiced by a wide variety of experts in the private and public sectors, (working for both prosecution and defense), the criticism has been almost exclusively directed toward public laboratories. This is despite the number of cases in which prosecutors ignored the opinions of their local public expert and hired a private expert more willing to slant the evidence. In my opinion, the intention of exaggerating the number and frequency of errors is simply to neutralize forensic testimony altogether.

It makes sense that a variety of stakeholders should be included in the process. However, the role of nonscientists should be extremely limited. As with other fields, the administering bodies of forensic science disciplines should be comprised primarily of forensic scientists. Attorneys and legal scholars are generally not shy, and have other avenues to address their grievances. Consultants-for-hire also have little difficulty making themselves heard either. But forensic scientists in public laboratories are generally prevented from discussing the details of their cases with the media. Since the policies generated by these guidance groups will apply only to laboratories accepting federal support (read "public crime labs"), it is not unreasonable that they should be strongly represented.

I was pleased to find out that NIST would be overseeing the National Commission on Forensic Science. My concern is that the new guidance groups will end up being controlled by individuals who are interested in self-promotion, undermining the forensic disciplines and/or would not know which end of a screwdriver to pick up.

### Enforcement

If the guidance groups are actually comprised of forensic scientists, then I believe that they should also take a very active role in the review and investigation of laboratory errors/potential errors (similar to a medical review board). To date, the response by local laboratories/authorities has been inconsistent, sensationalized and driven by local politics - resulting in a loss of public trust.

### Accreditation

Over the last three decades, ASCLD/LAB made great strides in convincing laboratories of the benefits of external accreditation. But overall, the quality of assessment by their auditors and the oversight provided by their board was poor. The board has outlived its usefulness. It is time for the parent organization (ASCLD) to hand off control to the ISO organization. This would address the need for an outside accrediting body to provide objective assessment of laboratories (i.e., the guidance groups (made up of forensic professionals) would provide detailed policies and practices, while ISO (representing outside stakeholders) would ensure that those policies are followed).

### Certification

If the guidance groups are actually comprised of forensic scientists, then I believe that they should expand their role to also define and promote requirements for the mandatory certification of all forensic scientists in their respective disciplines.

*Response from Mike Kusluski of Wayne State University*

Terminology

Overall, I think the SWGs have advanced the quality of work in their disciplines. One area that seems to be lacking however is terminology. The standardized terminology in the individual SWGs is acceptable, but still needs more work. The guidance groups need to take this to the next level, and promote consistency across all disciplines. This is not a trivial issue. Forensic scientists make their living by describing scientific analysis in layman's terms.

Respectfully,

Mike Kusluski

## *Response from Marc LeBeau*

Susan Ballou  
National Institute of Standards and Technology  
100 Bureau Drive – Mailstop 8102  
Gaithersburg, MD 20899

Ms. Ballou:

Thank you for the opportunity to comment on the model for National Institute of Standards and Technology (NIST) administration and support of discipline-specific “Guidance Groups” for the forensic sciences. Having served on four Scientific Working Groups (SWGs) over the past 15 years – three in leadership roles – I hope my comments are useful.

I will begin by discussing the choice of the name – “Guidance Groups”. A lot of thought has gone into rebranding SWGs, but I am concerned with the new label. Over my 25 years of working in the field of forensic science – primarily in drug chemistry and forensic toxicology – I have come to realize that “guidance” within the forensic sciences has a meaning analogous to “good ideas”. But that is not necessarily synonymous with “standards of practice”. In fact, the most productive SWG that I have personally been involved with has been SWGTOX whose Executive Committee recognized that the SWG must write documents as minimum expectations as opposed to recommendations. Setting this as the mission of the group changed the mindset of the process where great thought has been put into whether something “must” be done as opposed to “should” be done. Our clinical laboratory colleagues have recognized this as well. So there may be a need to reconsider the use of the term “Guidance Groups”; particularly if the intent is for the groups to develop specific requirements that must be met. If the use of the term “Scientific Working Group” is no longer desired, perhaps they could be branded as “Standards Groups” or “Expert Groups”.

And while it is recognized that these groups cannot mandate the adoption of their own documents, if their products are written as standards of practice (“must” or “shall” and not “should”), accrediting bodies can be encouraged to adopt these standards into their programs and accredit laboratories against them. This, coupled with what many hope and expect to be mandatory accreditation throughout the US, will help ensure that the standards developed by the groups become required practices. Of course, voluntary adoption by laboratories is also possible, but not as effective.

It is difficult to say if all of the current forensic SWGs should transition into these new groups. It seems that transitioning all may diminish the need to rebrand them with a different name.

Broader groupings of the disciplines may have merit, but it is more likely to cause failure. In 2007, the FBI recognized overlap in a number of documents being developed within three SWGs associated with forensic analysis of evidence related to terrorist events – SWG for the Forensic Analysis of Chemical Terrorism (SWGFACT), SWG on Microbial Genetics and Forensics (SWGGMGF), and SWG for the Forensic Analysis of Radiological Materials (SWGFRM). The decision was made to combine these into a single group – the Scientific Working Group for the Forensic Analysis of Chemical, Biological, Radiological, and Nuclear Evidence (SWGCBRN). Within just two meetings of SWGCBRN, the leadership realized that

members within their respective disciplines became disengaged when other disciplines were discussed or documents from other disciplines were under review. For example, the biologists from SWGMGF had no interest in the document being discussed about quality control produced by the SWGFARM group. Likewise, while SWGMAT encompasses numerous trace evidence disciplines, it is my understanding that it struggles with similar issues. So these experiences lead me to believe that broader groupings may not be successful.

In regard to partnering with a standards development organization (SDO), it may not be necessary. The experiences of some of the SWGs that have worked closely with an SDO suggest there are challenges that actually interfere with the process. One example is that the SDO may significantly change the standard put forth by the group. Another is that many require separate membership in the organization to vote on a document within the SDO. Instead, I believe it is better to require the groups to follow a SDO model without actually requiring that there be a partnership with a specific SDO.

I am not a member of the National Conference for Weights and Measures; however I question the value of using such an approach. On the one hand, if the fees are small, there would be the need to ensure that the cost of physically collecting and maintaining the fees are truly worth the effort. Conversely, if fees are high, you risk losing the participation of state and local partners in this process. So, without more information, I think this is not a good approach for the groups.

In my experience, membership selection is vital to success in these groups. Individuals selected to serve on each group must have the appropriate experience and attitude about the process. The membership must be heavily weighted towards experts in the given forensic disciplines being represented by a group. But the expertise of the groups must be supplemented by attorneys, academicians, and statisticians that can offer unique perspectives. But this must be done carefully. Overloading with additional experts can be disruptive to the cooperation and progress of the groups and cause contempt by the ultimate “users” of the groups’ products.

Even more important in gaining respect from the community is that all documents must be transparently developed with ample opportunity for public comment by those that are not members of the group. If the users of the standards are offered the opportunity to comment and those comments are truly reviewed and considered in the development of the documents, there is a better chance of acceptance of the final products.

To help facilitate sharing of best and uniform practices across the groups, it is vital that there be an office that oversees and manages all of the groups. This has been discussed and I understand is likely to occur, so I want to voice my support of the idea. But it is also important that such an office be appropriately funded to support the mission of the groups. One of the biggest challenges that we have faced with SWGs – particularly in the most recent years – has been the lack of support for meetings (online and offline), lack of administrative assistance, and failure to strategically plan for the future of these groups. Such an office should be tasked to oversee all of these functions for the groups.

As far as a need for cross-discipline functional approaches, it is definitely important for some subjects. The example of statistical analysis is on target, but the topic requires a thorough understanding of the

forensic analysis before the best statistical approach can truly be recommended. I have done a considerable amount of work with the American Statistical Association within the last year and my initial approach was to have their statisticians help us develop recommendations on how to better educate our scientists on statistics. Walking into the project, there were a lot of assumptions that were quickly revised after a couple meetings such that the first efforts of the partnership changed to educating the statisticians on forensic science so that they could make better recommendations concerning the examinations. To make this work for the groups, I can envision that once they are formed and working well, statisticians and select personnel from each guidance group could have separate meetings to address these cross-discipline needs.

In closing, thank you again for the opportunity to comment on these matters. Should you need clarification on any of my opinions and experiences with the SWGs, I am very happy to share those with you.

Sincerely,

A handwritten signature in black ink that reads "Marc A. LeBeau". The signature is written in a cursive, flowing style.

Marc A. LeBeau, PhD, D-ABFT  
Senior Forensic Scientist  
FBI Laboratory



I agree with Peter Tytell's comments.

John Lentini, CFI, D-ABC  
Scientific Fire Analysis, LLC



7881 114th Avenue North  
Largo, FL 33773  
(727) 549-6067  
www.nfstc.org

October 10, 2013

Susan Ballou, Program Manager  
Law Enforcement Standards Office (OLES)  
National Institute of Standards and Technology (NIST)  
Gaithersburg, MD 20899

Dear Ms. Ballou;

In response to the Notice of Inquiry published September 27, 2013 in the Federal Register regarding models for discipline-specific Guidance Groups for forensic science, we at the National Forensic Science Technology Center (NFSTC) submit input for your consideration.

NFSTC may operate outside the laboratory environment, but with 18 years of forensic industry experience with laboratories around the country and internationally, it is NFSTC's view that forensic science is a business, just like any other. We have experience in almost all forensic disciplines and they are more alike than they are different from an industry perspective, and that is where effort should be focused.

The idea of developing a new guidance structure is not necessarily the wrong approach, but it must be done with specific goals in mind. Also, it begs the question—why not build on the structures that currently exist? The current SWG groups may be the basis of the next generation of forensic science industry guidance. Regardless of the starting point, the approach will not be successful unless it takes into consideration the following:

- The overall mission: each group should have a clear requirement or goal – what problem is it trying to solve?
- Each discipline group should address industry needs consistently, including a focus on research, protocols for practice, minimum standards for the practitioner and quality assurance.
- Consideration should be given to adding groups specific to laboratory management and quality assurance, which are very different from discipline practice but affect all aspects of forensic science.
- The agency funding the groups should provide support that is consistent, including process guidelines, reporting requirements, branding and website support, membership vetting guidelines and opportunities to meet. Benchmarking from a system like the Food and Drug administration might be valuable.

Before any of this commences, it should be the goal of the new Forensic Commission to look at the current system, identify what is working and determine the mission and requirements for the groups. The Commission should focus on achievable goals and how to secure the best Return on Investment (ROI) for the government.

Forensic science is, or should be by now, a mature industry. To best support this industry, it is important that we commit, fund and move forward with a structure that is formalized and consistent for the benefit of our legal system and our communities.

Respectfully,

Kevin Lothridge  
Chief Executive Officer



*American Academy of Forensic Sciences  
American Society of Crime Laboratory Directors  
American Society of Crime Laboratory Directors,  
Laboratory Accreditation Board  
International Association for Identification Society of  
Forensic Toxicologists/  
American Board of Forensic Toxicology  
National Association of Medical Examiners  
International Association of Forensic Nurses*

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November 12, 2013

National Institute of Standards and Technology  
c/o Susan Ballou  
100 Bureau Drive  
Mailstop 8102  
Gaithersburg, MD 20899

We are writing to you regarding the Federal Register published on Friday September 26<sup>th</sup>, 2013 regarding possible Models for the Administration and Support of Discipline-Specific Guidance Groups for Forensic Science in order to provide the consensus position of our Membership. The Consortium of Forensic Science Organizations was founded in 2000 and represents over 12,000 forensic science practitioners. The membership of the CFSO includes the American Academy of Forensic Sciences, the American Society of Crime Laboratory Directors, the Society of Forensic Toxicologists, the National Association of Medical Examiners, and the International Association for Identification, the American Board of Forensic Toxicology and the American Society of Crime Laboratory Directors/Laboratory Accreditation Board. Many individuals of our organizations have submitted statements providing their specific comments in response to your request and some have included comments on the Powerpoint that has been presented by NIST at a variety of organization meetings. Some member organizations have chosen not to submit an individual document. As our bylaws represent, the CFSO represents the consensus positions of the organizations as a whole. Therefore, we have reviewed the submitted documents of our member organizations and the various comments that have been provided to us by individual members and are providing you a general position of the forensic science practitioner community at large. They are as follows:

1) Structure of Guidance Groups:

a. The CFSO organizations are supportive of the existing SWGs but have long called for a more structured approach to them to include consistent funding. The inequality of support and funding of the various SWGs has limited the effectiveness of some SWGs in comparison to other SWGs which have been fully organized and supported such as SWGDAM.

b. It is not clear how the Guidance Groups would report to the National Commission on Forensic Sciences or to the Department of Justice. We note that the previously proposed legislation proposed by Senator Leahy has the discipline specific committees reporting to the Deputy Attorney General through an Office of Forensic Sciences for review and implementation. It would be useful for the Guidance Groups to feed into a system that permits some level of enforcement. The Leahy proposal also provides for great deference be given to the committees, so that their recommendations are not modified by stakeholders or policymakers without strong justification.



*American Academy of Forensic Sciences  
American Society of Crime Laboratory Directors  
American Society of Crime Laboratory Directors,  
Laboratory Accreditation Board  
International Association for Identification Society of  
Forensic Toxicologists/  
American Board of Forensic Toxicology  
National Association of Medical Examiners  
International Association of Forensic Nurses*

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2) Impact of Guidance Groups:

- a. There is some concern that the Guidance Groups could put forward recommendations that would result in unfunded mandates. Having said that, the CFSO organizations are supportive of mandating accreditation and certification and believe that work with a legislative body could result in a positive outcome favorable to the forensic practitioner community.
- b. Regarding research agendas, the forensic community believes that research should not only stem from needs and requirements of the forensic practitioners but also allow for ingenuity and advancement in the science from the public and private sector to include universities. The Leahy proposal addresses this through a mandated needs assessment coordinated by an Office Forensic Sciences.

3) Representation in the Guidance Groups:

- a. All of the CFSO organizations have strong concerns about the definition of a “balanced and inclusive” representation. By definition, the SWGs’ or Guidance Groups’ mission to “support the development and propagation of forensic science consensus documentary standards, monitor research and measurement standards gaps in each forensic discipline and verify that a sufficient scientific basis exists for each discipline”, means that the membership must be predominated by “practitioners” and not by interested stakeholders. This position is supported by all the members of our organizations who believe that there could be non-voting participants or observers who participate in these groups, but voting members MUST have active, practitioner experience so as to ensure that decisions made are operationally sound and based in the application of the science.
- b. It would be useful to have formal representation from relevant professional forensic science organizations, where appropriate.

4) Scope of the Guidance Groups:

- a. The CFSO organizations generally believe that the current structure of the SWGs being based on individual disciplines is a necessary structure, although there should be room for cross disciplinary discussion.

Sincerely,

Peter Marone  
Chair,  
Consortium of Forensic Science Organizations

## *Response from Ken Marr of the Federal Bureau of Investigation*

Updated: October 31, 2013

Comments re: NIST request on Guidance Groups, due Nov 2013.

Request for Comment: This Notice of Inquiry seeks comment on the possible models for the administration, structure and support of the Guidance Groups. Responses can include information detailing the effective and ineffective aspects of prospective models, as well as the current forensic Scientific Working Groups (SWGs). The questions below are intended to assist in framing the issues and should not be construed as a limitation on comments that parties may submit. NIST invites comment on the full range of issues that may be raised by this Notice. Comments that contain references to studies, research and other empirical data that are not widely published should be accompanied by copies of the referenced materials with the submitted comments, keeping in mind that all submissions will be part of the public record.

### 1. Structure of the Guidance Groups

\*Given the scope and principles of the Guidance Groups outlined here, what are structural models that could best support the Guidance Groups, taking into account the technical, policy, legal, and operational aspects of forensic science?

Need to have at least the following specialties in each group:

- Research and Development
- Best Practices
- Legal aspects
- Community outreach

\*What elements or models would facilitate the sharing of best practices and uniform practices across the Guidance Groups?

\*Are there public policies or private sector initiatives in other countries that have successfully strengthened the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline? If so, what are they?

Yes, it occurs when the forensic scientist is an advocate for the court and not for the plaintiff or defendant.

\*What are the elements which make existing forensic Scientific Working Groups (SWGs) successful?

Wide membership from federal, state, local, academic and commercial activities.

Are there examples of best practices in specific SWGs that ought to be replicated in Guidance Groups? If so, what are they?

Yes, for example SWGDE and SWGIT share common training documents and glossary.

*Response from Ken Marr of the Federal Bureau of Investigation*

\*Would partnership with a standards development organization (SDO) in which the standard is issued by the SDO present any obstacle for participation by a broad range of forensics science stakeholders in the development of a standard? If so, why?

The word 'partnership' implies joint interests and common efforts. However, the strength of a 'standard' should include subjectivity and preferably full independence from any stakeholders, which you would not get with a "partnership." The goal of establishing standards must be part of improving forensic sciences and any appearances of conflict of interest should be reduced. This will not be easy but it is necessary.

\*Would partnership with an SDO in which the standard is issued by the SDO present any obstacle to broad adoption of a standard? If so, why?

Yes, there would appear to be a conflict of interest.

\*Would a fee-based membership model run through a not-for-profit organization (similar to the National Conference of Weights and Measures) present a significant obstacle for participation?

The issue of funding has not yet been addressed and is the major impediment to this entire effort. The idea of "Pay to Play" in this effort should be avoided.

\*If the Guidance Groups followed a fee-based membership model, are there appropriately-tiered systems for fees that would prevent "pricing out" organizations, including individuals?

This is a bad idea. Get Congress to fund this effort like it should.

\*Other than a privatized model, are there other means to maintain a governance or coordinating body in the long term? If possible, please give examples of existing structures and their positive and negative attributes.

The statement that the guidance groups will not report to DOJ or to NIST doesn't make sense unless you establish a separate coordinating body that has teeth and credibility and funding.

## 2. Impact of Guidance Groups

In its role in administering and supporting the Guidance Groups, NIST's aim is to improve discipline practices by advancing forensic science standards and techniques through a collaborative consensus building process with Federal, state and local community partners. NIST thus seeks comments about the ways in which the structure, function and operation would best support the Guidance Groups by being a catalyst for such improvements.

*Response from Ken Marr of the Federal Bureau of Investigation*

\*Given that the Guidance Groups cannot mandate the adoption of standards, what can they do to best leverage their position and encourage adoption?

A coordinating body has to take control, push standards through with consensual voting action, and doing that via funding is the best way to do it.

To what extent does membership and transparency impact possible adoption of guidance at the state and local level?

For forensic-related specialists who are already involved with active SWGs, the name 'Guidance Groups' is distracting at best. Why would you disband the SWGs?

It does not invoke the spirit of improving forensic sciences for SWG members to 're-invent' the wheel for the benefit of some new administrative bureaucracy. Who else is competent or even interested in doing this forensic research and best practices if they are not already involved?

\*Are there best practices or models to consider with regard to a structure that would encourage effective communication with the scientific community to explore research gaps and aid in recognizing research priorities?

Issues regarding Quality Assurance need to take a more prominent role. NOTE: SWGDE has already prepared a 'model' QA manual and DE Best Practices.

\*How should NIST researchers engage with the Guidance Groups in support of the goal to strengthen the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline?

3. Representation in the Guidance Groups Given the diverse, multi-sector set of stakeholders in forensic science, representation in Guidance Groups must be carefully balanced and inclusive.

\*Who are the stakeholders who should be represented on the Guidance Groups?

Need to have federal, state, local, academic and industry represented. Use SWG-Speaker as a good example of broad representation.

What steps can NIST take to ensure appropriately broad representation within the Guidance Groups? What does balanced representation mean and how can it be achieved? \*What is the best way to engage organizations playing a role in forensic science, standards development and practice?

Whether it is appropriate or not, a 'voting model' organization is the best way to establish buy-in from a disparate group of interests.

*Response from Ken Marr of the Federal Bureau of Investigation*

\*How should interested parties who may not be direct participants in Guidance Groups, engage in a meaningful way to have an impact on issues in front of the Guidance Groups?

\*To what extent and in what ways must the Federal government, as well as state, local, tribal and territorial governments be involved at the outset?

Use existing SWG's as models, in particular ones that produce products and have buy-in from their members, including SWGDE, SWGIT, FISWG and SWG-Speaker.

4. Scope of the Guidance Groups

\*Should all of the current forensic Scientific Working Groups (SWGs) transition to Guidance Groups?

\*Are there broader groupings of forensic science disciplines that could form the basis of Guidance Groups than the current group of twenty-one SWGs? If so, what are those groupings?

Need to have a 'Science and the Law' group that ensures Daubert and other legal criteria are applied in an equitable manner.

\*Is there a need for a cross- disciplinary functional approach (i.e. statistical analysis) and how could the Guidance Groups be structured to best address that need?

\*To what extent do Guidance Groups need to support different forensic science disciplines differently from one another?

Ken Marr

FBI



## *Response from Chuck McClelland of North Carolina State Crime Laboratory*

### 1. Structure of the guidance groups

- What are the elements which make existing forensic Scientific Working Groups (SWGs) successful? Are there examples of best practices in specific SWGs that ought to be replicated in Guidance Groups? If so, what are they?
  - They consist of a diverse group of actual practitioners with expertise in the SWG that they are working in. It is this fact that makes them relevant and the materials they produce useful to the actual practitioner.
- Would a fee-based membership model run through a not-for-profit organization (similar to the National Conference of Weights and Measures) present a significant obstacle for participation?
  - There should not be a membership fee required. The goal is to be evenly represented and with a fee-based model, there will always be some organizations and/or individuals that can be excluded. Also, with dwindling budgets, labs are looking to cut costs in any way possible. The quality of the groups shouldn't be subject to the whims of local/state/federal budgets.

### 3. Representation in the guidance groups

- The groups actually writing and producing the policies should be comprised mostly of actual forensic scientists with expertise in the area. This is not to say that there is not a place in the groups for individuals from academia, law enforcement or the criminal justice system. However, if the groups get overrun by individuals not actively involved in the analysis of evidence, the procedures that the groups produce have a high chance of being impractical and unusable to the everyday forensic scientist.
- It would be suggested that the groups be comprised of forensic scientists with an advisory group comprised of other stakeholders. The forensic scientists would be responsible for drafting the new procedures and then comments, etc. from the other stakeholders. These other stakeholders could bring issues to the group that they would like to see addressed, they could give their input, but then the final product needs to be something agreeable to the forensic scientists in the group. The final say needs to rest with the forensic scientists.

### 4. Scope of the guidance groups

- Should all of the current forensic Scientific Working Groups (SWGs) transition to Guidance Groups?
  - Yes, they should transition to guidance groups. Grouping some of the SWGs together into higher level groups that share expertise (such as SWGMAT currently does with hairs, fibers, paint, tape and glass) may also be a good idea. This would allow members from the higher level group who had additional areas of expertise to provide comments and support the individual SWGs.

Chuck McClelland  
North Carolina State Crime Laboratory

Ms. Ballou,

In response to the NIST inquiry the following comments are respectfully offered:

- **Monies will be necessary to ensure that costs for administering the Guidance program** from forensic laboratory practitioners in order to offset the time away from the bench from “real” casework to research, study and collaboration with other group members. Although important, most public forensic laboratories do not have the resources to provide for committing forensic scientist to Guidance Groups.
- Current and past SWG efforts should not be ignored and may be the starting benchmark for additional work or may stand on their own as a developed standard for immediate use. **In other words, let’s be careful “not to throw the baby out with the bathwater”.**
- The Mission of the Guidance group as listed in the Federal Registry is as follows:  
**The proposed mission of the Guidance Groups is to support the development and propagation of forensic science consensus documentary standards, monitor research and measurement standards gaps in each forensic discipline, and verify that a sufficient scientific basis exists for each discipline.**  
This mission statement seems to me to require that those involved in the Guidance Groups should come to the table **willing to agree to sign on with all bias “left at the door”.** Someone who does not have an open mind or who can only see it as “we have always done it this way” may not be the best scientist for the group(s).
- **The Guidance Groups should consider “Daubert Rulings” on past cases where forensic science was used in courts throughout the USA.** These rulings could be useful in outlining the scientific principles demanded of by the courts.

Sincerely,



Michael Medler, Director  
Indianapolis-Marion County Forensic Services Agency

## *Response from Terry Melton of Mitotyping Technologies*

**Sent:** Wednesday, October 23, 2013 4:53 PM

**To:** Ballou, Susan M

**Subject:** Comments on Guidance Groups

Hey, Sue. Here are a few short comments and rationales. I know you want to include industry members, but I've tried to flesh that out a bit from my perspective at least.

### Comments on Guidance Groups

Terry Melton, Mitotyping Technologies

My perspective as the director of a small private DNA laboratory may be somewhat unique, but these ideas came to mind in considering the potential directions that Guidance Groups may take:

1) Guidance Groups should include members from the corporate private sector, who are major stakeholders in the forensic practice arena and who are highly invested in and required to conform to promulgated standards often generated from only within the government community. To balance, keep in mind that a single corporate member is often overshadowed by a much larger contingent of government participants in most groups and committees formed in forensic science (this is typical at all regional forensic meetings, national conferences, and educational forums). Hence, corporate participation should involve multiple members from the private sector. In the past, SWGs have excluded corporate participation. An additional advantage of corporate participation is that cutting edge research often occurs there, not in cash-strapped government laboratories. The private sector is also very important in that it: 1) serves defense, 2) is a major reliever of backlogs, and 3) contains some very talented forensic scientists who have moved there from state and local public forensic agencies.

2) Standards Development Organizations often exclude members from the private sector as well. Therefore, if Guidance Groups include members from the private sector, partnerships with SDOs will by extension involve and be influenced by industry members. A good example of this is that CODIS allows participation by private DNA labs only through a system that requires annual site visits by an NDIS lab which must then accept and review DNA data/cases for these labs, although the private labs may be as qualified as those very state and local NDIS labs by virtue of FBI Annual QAS audits, ASCLD/LAB accreditation, etc. Although this access system is said to be available (by the FBI), the private lab is often refused when requesting a desired site visit from an NDIS lab (no money, no time, conflict of interest, are all reasons our lab has been given why we cannot get a site visit). If Guidance Groups for DNA include private labs, they will be able to impact SDOs in a more direct fashion. Qualified private labs should have access to CODIS training and be allowed full participation in the NDIS system. In addition, private DNA labs are the only labs that are required to participate in *multiple* state-level accreditation and certification programs in order to do their jobs throughout North America. This is very difficult, and not cost-effective. Involvement in Guidance Groups (that will have a national voice) can only help this problem.

3) Fee-based systems may result in members who are large contributors having more influence than smaller members whose organizations are comprised of a few persons or

*Response from Terry Melton of Mitotyping Technologies*

one person. A large and influential stakeholder such as the FBI could disproportionately influence the Guidance Group; the FBI already has disproportionate influence by virtue of its QAS standards and CODIS authority.

- 4) Current SWGs should all transition to Guidance Groups to create a uniform structure and single voice for forensic disciplines.
- 5) There should be a cross-disciplinary functional approach where appropriate. Guidance group leaders should determine by surveying their members about what collaborative opportunities are typical, such as the often fruitful intersection of hair examination and DNA analysis.

Best to you,

Terry

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November 12, 2013

Dear Ms. Ballou:

Thank you for the opportunity to provide comments and suggestions for the future of Guidance Groups for the forensic sciences. While the Scientific Working Group for Forensic Toxicology (SWGTOX) is a relatively young SWG, we feel we have made great strides in our short history. SWGTOX has very strong bylaws and a document approval system that is consistent with a Standards Development Organization (SDO). Members of SWGTOX's Executive Committee are appointed by the sponsoring organization and by SWGTOX members.

SWGTOX offers the following comments related to the Guidance Groups:

**Given the scope and principles of the Guidance Groups outlined here, what are structural models that could best support the Guidance Groups, taking into account the technical, policy, legal, and operational aspects of forensic science?**

SWGTOX has significant concern over the use of the term "Guidance Groups". The term does not suggest the breath, scope, and participants of SWGs. Further, the name suggests that the groups are offering "good ideas" and not "standards of practice." It is suggested that if the name must change, then titles such as "Standards Groups" or "Expert Groups" should be adopted.

In terms of structure, SWGTOX believes that its model is a workable model. However, in respect to supportive structure, the concept of a single governing body for all Guidance Groups comprised of perhaps two members from each current SWG, along with members-at-large (e.g., law enforcement, attorneys, etc.) may be feasible. This governing body should establish common standards among all the Guidance Groups. Each discipline would remain autonomous in respect to setting discipline-specific standards.

SWGTOX believes the subject-specific Guidance Groups should serve as independent operating bodies that use subject matter experts to promulgate standards of practice for a given forensic science discipline. Necessarily, the Guidance Groups would need support in order to function, including funding for meetings and other related ventures, administrative support and legal support. Structurally, the Guidance Groups would act independently and without influence when it comes to standards development. In other words, Guidance Groups should feel unencumbered by a sponsoring entity or governing body in respect to accomplishing their tasks. However, such independence must be justified and earned via a reporting mechanism to the sponsoring organization or governing body to describe actions and accomplishments. From a pure structural process, the sponsoring entity or governing body would have in place assistance for administrative needs, legal support, standards acceptance mechanism and dissemination, website and other IT support and marketing. The sponsoring entity should set firm expectations of

Guidance Groups and absolutely expect compliance with such and demonstration of progress toward goals.

**What elements or models would facilitate the sharing of best practices and uniform practices across the Guidance Groups?**

SWGTOX supports the concept of a single supporting entity for all Guidance Groups. This body should have representation from each Guidance Group, with perhaps other interested groups also represented. The supporting entity must have funding to support the mission of the Guidance Groups. This supporting entity must have at least one on-site meeting annually to allow sharing and dissemination of information.

SWGTOX also believes that it must be recognized that given the varied nature of the Guidance Groups that comprise forensic science, it is unreasonable to expect 100% uniformity in the sharing of best practices and uniform practices amongst the Guidance Groups. Thus, a model to accomplish such uniformity would have to vet areas where it is reasonable to expect that such could be accomplished. In this regard, it is reasonable to establish over-arching principles, such as Guidance Group mission, by-laws, document formatting, type-face, document voting practices, etc. When it comes to direct subject matter information, short of document formatting, it would be both unreasonable and disadvantageous to force uniform practices across the Guidance Groups. As long as each Guidance Group understands the basic frame work for how Guidance Groups should operate, that should suffice.

**What are the elements which make existing forensic Scientific Working Groups (SWGs) successful? Are there examples of best practices in specific SWGs that ought to be replicated in Guidance Groups? If so, what are they?**

The one thread that all current SWGs have in common is the desire to make their individual disciplines as good as they can be. Unfortunately, this seems to have worked better for some than others based on funding for meetings and organizational skills.

SWGTOX believes the successful SWGs are able to have frequent face-to-face meetings as well as telephonic/web-based meetings. These SWGs operate with clear agendas, expectations, goals and deadlines. Communication is at the heart of successful SWGs, not only to its membership, but to the affected community. The ability to compromise is tantamount to success. Substantial structure based on subcommittees is important, thus facilitating document generation followed by a voting and acceptance of standards process that affords all stakeholders an opportunity to be involved prior to the adoption of a standard. SWGTOX believes that successful SWGs generate standards of practice and use terms such as “must” and “shall” and NOT “should.” SWGTOX has implemented all of these best practices successfully, but continues to review its processes for efficiency and improvements.

**Would partnership with a standards development organization (SDO) in which the standard is issued by the SDO present any obstacle for participation by a broad range of forensic science stakeholders in the development of a standard? If so, why?**

SWGTOX does **not** support the use of an SDO in the generation of standards. The current use of an SDO for generation of some forensic-related standards (ASTM) has had numerous adverse outcomes and has not been endeared by the general forensic community across disciplines. First and foremost, the SWG loses control of the document. Additionally, by adding an additional layer of administration prior to acceptance, SDOs may not be agile or flexible enough to suit community needs in some fields and the time element can make a standard obsolete before it can even be implemented. SDOs are in the business of selling documents and, therefore, its interest, ultimately, would not be that of the Guidance Groups, but of the SDO. In a larger vein, SWGTOX believes that generated standards should be free to stakeholders. The use of SDOs may make standards unaffordable for many stakeholders. Moreover, some SDOs require stakeholders to pay to be able to vote or have a say in the production of a standard, which is both exclusionist and unfair. SWGTOX believes that elements of the SDO process should be followed, but independent of a specific SDO organization. SWGTOX has adopted a process that meets this need.

**Would partnership with an SDO in which the standard is issued by the SDO present any obstacle to broad adoption of a standard? If so, why?**

SWGTOX believes that if organizations were required to purchase the standards it would present a problem. It would be much better if all forensic science service providers had free access to the documents developed. SWGTOX also believes that a Guidance Group should be independent of government or SDO influence. The current practitioners in the field must be free to present ideas and policies without oversight by an agency with uncertain goals or self-interest.

**Would a fee-based membership model run through a not-for-profit organization (similar to the National Conference of Weights and Measures) present a significant obstacle for participation?**

SWGTOX believes that in these times of unbelievably tight budgets, any fee may be detrimental in attracting participation. Adding more fees for the laboratory will have consequences for the forensic laboratories. For example, many labs have lost training funds in exchange for accreditation. Additional fees for participation in a new model could end up cutting the operating and training budget of labs which would be counter-productive to the overall goal of improving quality within the field of forensic sciences. This process should not be at a cost to the stakeholders that are already giving their time, and energy, etc. Many stakeholders will not participate if you have to "buy your seat" on the Guidance Group. Funding and time will always be issues that stifle participation.

**If the Guidance Groups followed a fee-based membership model, are there appropriately-tiered systems for fees that would prevent “pricing out” organizations, including individuals?**

SWGTOX is concerned that state and local organizations will be negatively affected by a fee-based membership model, and that these entities are necessary for the development of and implementation of guidance documents. In today's tight fiscal situation, a fee-based system would price out many agencies or organizations. This would promote a hierarchy in respect to influence within a Guidance Group. This then becomes a pay-to-play type organization, just the opposite of what the forensic sciences need at this point. The Guidance Groups should consist of selected individuals who have subject matter expertise, not anyone who can afford to "join."

**Other than a privatized model, are there other means to maintain a governance or coordinating body in the long term? If possible, please give examples of existing structures and their positive and negative attributes.**

This question presupposes that no major governmental body will oversee the guidance groups. SWGTOX believes that Guidance Groups could govern themselves as a group, with financial support from a sponsoring body. If the goal is to have the Guidance Groups independent of government oversight, this should be explicitly stated. One model would be that of the American Academy of Forensic Sciences (AAFS) whereby there is a governance system for the Academy itself, which helps fund individual sections within the Academy but still gives autonomy to the individual sections. Guidance Groups could be run by chairs in coordination with elected members-at-large.

**In its role in administering and supporting the Guidance Groups, NIST's aim is to improve discipline practices by advancing forensic science standards and techniques through a collaborative consensus building process with Federal, state and local community partners. NIST thus seeks comments about the ways in which the structure, function and operation would best support the Guidance Groups by being a catalyst for such improvements.**

NIST should seek examples from some of the more active SWGs such as SWGDAM, SWGDRUG and SWGTOX. Ideally, the current SWG system would be funded as an independent, volunteer system of practitioners, and subject matter experts in their fields, as well as issue-specific experts.

NIST or another entity should act as a conduit for organizing meetings, communications through teleconferences and in-person meetings. They should provide financial support, technology support, and serve as a receptacle for gathering and disseminating documents. Although much work can be completed virtually, in-person meetings are crucial. This is the only way that busy professionals can dedicate their time and undivided attention to the important work of collaborating to write new standards.



NIST should also ensure that there is representation of private laboratories that provide forensic services.

If the Guidance Groups produce recommendations and standards of practice, and these standards are adopted by accrediting bodies that accredit forensic service providers, then those recommendations and standards would be integrated into the practice of all forensic service providers that are accredited.

**Given that the Guidance Groups cannot mandate the adoption of standards, what can they do to best leverage their position and encourage adoption?**

SWGTOX believes that Guidance Groups must create standards that establish the minimum standard of practice to ensure the quality of the test result, restricting practice when necessary to ensure quality and allowing flexibility of practice when possible. Use “shall”, “must” and not “should”.

Once the standard has been adopted, laboratories will be able to voluntarily adopt the standard(s). Widespread dissemination and partnering with organizations to offer training on technical standards will be necessary and will promote voluntary adoption. Training of technical staff both at professional meetings and via on-line courses will spread word of the existence of adopted standards as well as provide tools for implementation at the laboratory level. Educating those responsible for funding and administering forensic science at all levels of society on adopted standards will also be necessary.

Voluntary adoption by laboratories may not be effective but will follow a logical process whereby laboratories that do not accept the standards will find themselves having to explain in court why they have not embraced community accepted standards and practices.

More effective and efficient adoption of standards would be accomplished through involvement of the accrediting bodies. If the work products of these groups are written as standards and not guidance, accrediting bodies can be encouraged to adopt these standards into their programs and accredit laboratories against them. If mandatory accreditation becomes a reality, it will help ensure the standards developed by the groups become required practices.

**To what extent does membership and transparency impact possible adoption of guidance at the state and local level?**

SWGTOX believes that both membership and transparency, or lack thereof, will have a significant impact on adoption of any product of a Guidance Group.

**Membership:**

The most effective way to encourage adoption is to ensure participation in the groups by the laboratories and individuals that will be using them. If the standards are compiled by discipline

specific experts that are currently practicing, it will be more reflective of the direction and practice that will be accepted by the community. By starting with representation from a variety of forensic service providers (large, small, private, federal, state, county, local, etc.) as well as discipline professional organizations, the individual forensic scientist will feel that they have a voice in the process. For example, SWGTOX membership includes the individuals from the professional bodies of Society of Forensic Toxicologists (SOFT), American Board of Forensic Toxicology (ABFT), AAFS, and the California Association of Toxicologists (CAT) and promotes communication and adoption of prepared standards.

Transparency:

Having open bylaws and a means for frequent communication with its stakeholders and an opportunity for public input will allow those with a vested interest to participate. Draft documents must be put through a public comment process.

An active website and update presentations at forensic science professional meetings help keep stakeholders informed of the process, progress, and adoption of standards.

**Are there best practices or models to consider with regard to a structure that would encourage effective communication with the scientific community to explore research gaps and aid in recognizing research priorities?**

SWGTOX believes that stakeholders that represent research and academia along with practitioner input will increase the ability of a Guidance Group to identify research gaps and priorities. SWGTOX developed a subcommittee constructed in this manner to address the topic of research needs in forensic toxicology. Through the public comment process during the development of the recommendations, effective communication with the larger forensic toxicology community occurred on the topic of research. Presentations at scientific meetings are another mechanism to identify research needs. The meetings also offer an opportunity to have a conversation on the topic of research needs with practitioners.

By including representatives or input from organizations relevant to the discipline, in addition to the traditional practitioners, academics etc., this will ensure representation of a large group of practitioners. If formalized, liaisons on the Guidance Groups could be responsible for seeking input on research needs from the board of directors (and membership) of the organizations they represent (e.g. ABFT, SOFT, etc.).

Publication and dissemination of identified research needs to the community through professional organizations and professional journals must occur. A process for ongoing submission of ideas must be part of the process.

SWGTOX believes that periodic review (currently annual for SWGTOX) of identified research gaps/priorities will need to be built into whatever process is implemented to allow for the continuous update and prioritization of research needs.

**How should NIST researchers engage with the Guidance Groups in support of the goal to strengthen the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline?**

SWGTOX believes that first, it is important for the forensic science community to understand the full capability of NIST in these respects. Currently there is little understanding of what resources NIST brings to the table to aid in forensic science research, etc. NIST has experience with organizational structures associated with other groups, e.g., National Conference of Weights and Measures, and this experience should be brought to the table for consideration by the Guidance Groups. Guidance Groups will benefit from this experience and can consider lessons learned in this unique application of science and justice, government and private sectors.

A baseline of information will need to be established for each discipline. What tests are performed? What is the current technology? What are the current measurement standards used/available? What research has been done? What is the scientific basis that exists? All of this information should be put into a web-based, searchable Forensic Science Database/Repository for research, scientific publications, legal transcripts, technology/IP, government reports, etc. A gap analysis will need to be performed. Based on the results of this gap analysis, then a plan can be developed to move forward.

**Given the diverse, multi-sector set of stakeholders in forensic science, representation in Guidance Groups must be carefully balanced and inclusive.**

SWGTOX believes that while this diversity may be true, it shouldn't mean that all stakeholder groups must be represented within Guidance Groups. If all stakeholder groups were also represented, the Guidance Group would be too large to function effectively. If the standard being developed is purely scientific in nature, why would it be necessary to have law enforcement, an attorney or a judge involved in development? If a strong document approval process is in place, then all stakeholders will be able to comment on proposed standards. NIST needs to be careful to not err on the side of political correctness at the expense of a healthy functioning Guidance Group.

It should be incumbent upon the Guidance Group's governance mechanisms to determine who becomes a member. Practitioners and others with scientific expertise must make up the significant majority of any guidance group.

**Who are the stakeholders who should be represented on the Guidance Groups? What steps can NIST take to ensure appropriately broad representation within the Guidance Groups? What does balanced representation mean and how can it be achieved?**

SWGTOX believes that it is wise to limit members of a Guidance Group to those with relevant scientific knowledge or subject matter expertise. Stakeholders will, and representatives on a Guidance Group should, vary depending on the standard being developed. Forensic practitioners are key to the success of any Guidance Group. Ensure that the range of forensic service providers is represented in a Guidance Group by having practitioner representation from small to large providers, government (federal/state/county/local) and private sectors. Representatives from academia, accrediting bodies, industry, law enforcement, statistics, etc. should also be included when they have expertise in the topic for the standard under development. It would be unwise to set a requirement for Guidance Groups to include a set number of a certain type of representative (e.g., 15 scientists, 4 lawyers, a statistician, a biometrician, etc.) or to require representatives from certain organizations. If the Guidance Group is operating efficiently and effectively, members will rotate on and off once their subject matter expertise is no longer needed. Allow a Guidance Group to reach out to other consultants/advisors as needed. These consultants or advisors would not be voting members of the Guidance Group.

**What is the best way to engage organizations playing a role in forensic science, standards development and practice?**

SWGTOX believes that organizations playing a role in forensic science, standards development and practice should be able to participate in the Guidance Group standards development. They should be able to contribute by providing comments during the standards develop period. Public comment, with responses, should be mandatory prior to finalizing a document. Each and every organization may not be able to hold a seat on a Guidance Group, but they should be included via the standards review process.

SWGTOX believes that it is possible that a Guidance Group liaison for the relevant forensic organizations, accrediting bodies, and certification bodies could be created (public, at-large position with no voting privilege). Alternatively, direct/indirect communication to these organizations could solicit input. Communication and planning of standards development should occur early on in the process to allow organizations to contribute their ideas and needs. They must have confidence that there is a plan with a timeline, and funding that supports the generation and dissemination of standards.

Each Guidance Group should be given the latitude to proactively engage potential members and stakeholders (including these relevant organizations), but it should be an expectation monitored by the governing body of the Guidance Groups.

## **How should interested parties who may not be direct participants in Guidance Groups, engage in a meaningful way to have an impact on issues in front of the Guidance Groups?**

SWGTOX believes that there should exist the following:

Two Public Comment Periods for Standards - First, a public comment period prior to development of documents should be required. A public intent document for each standard could be disseminated to outline each standard and its intended scope. This could be an “Open Comment” period in which individuals and/or organizations could provide existing practices, ideas of content (scope), questions, concerns, gaps, etc. Secondly, a public comment period during the final development of the standard prior to a consensus acceptance vote by the Guidance Group. Both public comment periods on each document are helpful in ensuring the document gets the correct message across to the community and the best standard is developed. The mechanism to advertise the public comment periods needs to be simple and easy, especially in communicating when a new document is out for public comment and the deadline for submitting comments.

Continuous Ability to Receive Public Comments — All Guidance Groups should have a means for the public to communicate to it at any time (e.g., email, website survey, conference forums). Any individual or organization should have the option to send information and suggestions that might advance the discipline to a particular Guidance Group.

Comprehensive and Executive Summary documentation of the Guidance Groups activities — Guidance Groups should generate minutes of activities/meetings. This should include Action Items and Decisions. These could be provided upon request, but generally a more brief, Executive Summary of the minutes should be used to communicate on a regular basis. Document production must be transparent and provide ample opportunity for public comment by those that are not members of the group. This process allows for a better chance of acceptance of the final products by all stakeholders.

Regular Communication of Guidance Group Activities — All Guidance Groups should be required to provide routine and timely updates of their activities to the interested communities. This communication could occur through multiple media/technology including website, newsletters, list serves, and/or presentations at regional/national conferences.

## **Should all of the current forensic Scientific Working Groups (SWGs) transition to Guidance Groups?**

SWGTOX believes that support should continue for either SWGs or Guidance Groups; both should not continue to exist. If the scope of their work is similar, it will be problematic to have both. A vetting process by the sponsoring organization will help determine the scientific need and merit for a particular group. Each should be evaluated on its current status of activity, accomplishments, and other “success” measures. Some SWGs have been inactive for multiple

years and, if they are included, they should have to meet current expectations of activity and structure. Both consolidation and further culling should take place whereby disciplines that do not have strong scientific underpinnings should not be supported.

Upon completion of the vetting process, all Guidance Groups should adopt similar structural components as defined in earlier questions. Also, while all forensic disciplines should be represented, individual Guidance Groups may not be necessary. More broad scope Guidance Groups on a particular topic could be an alternative (e.g., forensic evidence collection).

**To what extent and in what ways must the Federal government, as well as state, local, tribal and territorial governments be involved at the outset?**

SWGTOX believes that the Guidance Groups need a single supporting body behind their efforts.

The Federal Government should be primarily involved in funding and where certain expertise exists, participate in the formation of the standards. State and local government as well as private interests should also be involved in the identification of needs, review of current standards, etc. as well as development of new standards. Principally, Guidance Groups should be able to function independent of governmental agencies. Government agencies should not be able to influence the outcome-or the ability for employees to participate. All government agencies should commit to allowing staff to participate if chosen--providing there is a finite commitment.

**Are there broader groupings of forensic science disciplines that could form the basis of Guidance Groups than the current group of twenty-one SWGs? If so, what are those groupings?**

There may be value in organizing some Guidance Groups by topic and not discipline. Examples: 1) Measurement Traceability and Measurement Uncertainty should have one document developed for all disciplines; 2) Method validation for a quantitative test method would bring together toxicology and drug chemistry – purity determination; Weighing – Drug Chemistry and potentially any other discipline that had a test method where a weight had a significant impact on the final reported test result; 3) forensic evidence collection (to include sexual assault forensic examiners, CSI, fire& arson, explosives) once the initial standards are in place. The Guidance Group would need to have Subcommittees made up of the focused topic (above examples).

However, until all groups are in a similar stage of development, this may not be useful except for specific tasks. Even with similar disciplines there are unique practices, matrices, items of evidence, and testing challenges. With a grouping approach, there would still need to be discipline-specific areas within that group which may defeat the purpose.

SWGTOX believes that there may be value in some of the 21 current SWGs combining into uniform Guidance Groups if deemed possible or advantageous, e.g., pattern matching disciplines. However, it must be stressed that each forensic discipline has unique properties that will make

such groupings difficult. SWGTOX does believe, however, that certain operational components could be uniform amongst all Guidance Groups, e.g. some components of by-laws, formatting documents, etc.

**Is there a need for a crossdisciplinary functional approach (i.e. statistical analysis) and how could the Guidance Groups be structured to best address that need?**

SWGTOX believes that for some subject areas this may be appropriate. Once the Guidance Groups have identified the standards that are required for that discipline, to include core standard topics required by all disciplines, common ground can be identified and multiple disciplines could work together on either a single standard on a topic for all disciplines or a standard for each discipline that have a common backbone of minimum standards of practice for that topic.

**To what extent do Guidance Groups need to support different forensic science disciplines differently from one another?**

SWGTOX embraces that each discipline has unique challenges. With participation of practicing professionals, these challenges can be addressed through the generation and adoption of standards. SWGTOX does not favor a one size fits all description for Guidance Groups. Certain areas could use communal support, e.g., availability of statisticians, but each Guidance Group should be left to decide when such use is necessary. As described above, such elements as uniform bylaws and accountability are a must, but centralized administrative oversight of the groups should allow for each group to fulfill its mission in a way that recognizes the diverse nature of the fields.

Sincerely,

SWGTOX Executive Committee





November 8, 2013

National Institutes of Standards and Technology  
c/o Susan Ballou  
100 Bureau Drive  
Mailstop 8102  
Gaithersburg, MD 20899

Dear Susan Ballou:

This letter is in response to the Federal Register solicitation from the National Institute of Standards and Technology (NIST) seeking input on the structure of guidance groups that would promote scientific validity and reliability in forensic science.

In reviewing the solicitation, the Las Vegas Metropolitan Police Department Forensic Laboratory has a number of suggestions that should be considered when designing the administrative model(s) for forensic science:

-The Scientific Working Groups (SWGs) of various disciplines have been effective in Forensic Science by recommending minimum standards and best practices for forensic examinations, recommending quality assurance and quality control standards for the various disciplines, monitoring and disseminating research to various disciplines, and developing ethical standards for practitioners. The Scientific Working Groups have proven to be an effective platform in providing guidance and oversight for Forensic Science, and as such, they should remain in existence as some form of Guidance Group(s). Examples of effective SWG groups already established include the Scientific Working Group for DNA Analysis Methods (SWGDM), the Scientific Working Group on Friction Ridge Analysis, Study and Technology (SWGFAST) and the Scientific Working Group for the Analysis of Seized Drugs (SWGDRUG). Each of these groups has established bylaws, publications, resources, and research which have proven vital to the success of each of these scientific disciplines. Through the existing SWG models, much of the critical foundation is already present and all of the hard work conducted to date by each collective group should not be discounted or discarded.

-To ensure appropriate oversight and to effectively consider the challenges of all areas of forensic science, all scientific disciplines should be represented in the Guidance Group(s). This includes scientific areas that are currently under media scrutiny to include latent print analysis and DNA, as well as scientific areas that provide high output critical analyses such as Toxicology and specialized analyses such as breath alcohol testing and document examination.

-In order to gain adoption, we recommend the incorporation of SWG/Guidance Group Standards be tied to accreditation, much like the field of DNA analysis. Labs that perform DNA analysis and participate in CODIS must abide by the FBI's Quality Assurance Standards issued by the FBI, and these labs are audited more frequently against these standards than accreditation standards. The Quality Assurance Standards are based on standards and guidelines promulgated by SWGDM. Furthermore, these standards are in addition to accreditation standards that apply to an entire forensic lab. Many of the SWGS have overlapping components that could be combined and managed by a single or primary Guidance Group. These components include many of the accreditation standards forensic labs are already in





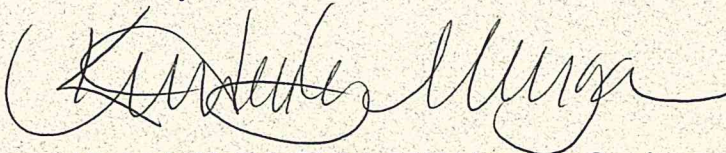
compliance with: quality assurance/quality control measures, training, basic reporting components, documentation maintenance, etc. Scientific Standards associated with each specific SWG/Guidance Group could be incorporated as "additional audit criteria" related to required validation studies, scientific analysis requirements, standardizing scientific language within a specialty group and reporting criteria for each discipline.

-Composition of the Guidance Groups should be a mix of forensic science practitioners from federal, state and local forensic laboratories. Forensic science practitioners of various disciplines can provide insight on the day to day challenges associated with the oversight of the field. In addition, individuals with professional research experience in the area of forensic science should also participate in the Guidance Group(s) because they serve as the bridge between the technology used today and technology of the future. Researchers would be able to explore research gaps and identify research priorities of the forensic community. The majority of the Guidance Group membership should consist of forensic scientist practitioners; however membership should also include lawyers, judges and representatives of other special interest groups who could provide valuable insight related to legal considerations and real-world applications that extend beyond the walls of the forensic lab.

While there are numerous mechanisms to establish Guidance Groups to oversee forensic science, the past few years have proven that designated funding is a critical component that is currently missing in many of the SWG groups. Without this funding, SWG groups have been unable to meet on a routine basis, hampering the exchange of critical information. A fee-based membership associated with tiers may produce sufficient revenue to sustain Guidance Groups. In this proposal, "dues" could be based on single membership for individuals who are not affiliated with an agency or institution, or institutions could pay on a sliding scale associated with the number of people in their organization (for example, agencies would pay a flat amount for 1-50 people, 50-100 people, 100-150 people, etc.). If Guidance Groups were tied to accreditation, the fees could be charged by the accrediting body and funneled to the Guidance Groups. Independent or institution members would be provided full access to materials and information. Guidance Group participants would be required to be members.

The Las Vegas Metropolitan Police Department Forensic Laboratory looks forward to playing an active role as the field of Forensic Science evolves under the National Commission on Forensic Science.

Sincerely,

A handwritten signature in black ink, appearing to read "Kimberly Murga", written in a cursive style.

Kimberly Murga, Director of Laboratory Services  
Forensic Laboratory  
Las Vegas Metropolitan Police Department  
5605 W. Badura Avenue, Suite 120B  
Las Vegas, NV 89118  
(702) 828-3932



## Response from Hirotaka Nakasone of SWG-Speaker

### 1. Structure of the Guidance Groups

- Given the scope and principles of the Guidance Groups outlined here, what are structural models that could best support the Guidance Groups, taking into account the technical, policy, legal, and operational aspects of forensic science?

Response: To best support the Guidance Groups (SWGs) the managing office at NIST will institute as much autonomy as possible for all GGs while providing an overarching global guidance, and support in:

- ✓ Funding for traveling cost for all members in each GG
- ✓ Funding for meeting facility and remote conference equipment for each GG
- ✓ Administrative assistance (coordinator, secretary for notes taking) in each Guidance Group meeting (in person or remote conferencing)

- What elements or models would facilitate the sharing of best practices and uniform practices across the Guidance Groups?

Response: One way to accomplish this goal is to hold an annual or a biannual ALL GG CHAIRS meetings. Or, another model is the one used previously by the Biometrics Consortium – a mailing list where members of Guidance Group could share ideas and make inquiries to other forensic Guidance Groups without having to know specific members of any group. Yet another model is the one used by SWGDE to collaborate via a website. We believe NIST can establish for all GGs a common infrastructure to create a unified process for public document review and publication.

- Are there public policies or private sector initiatives in other countries that have successfully strengthened the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline? If so, what are they?

Response: As of today none exists in the field of forensic and investigatory speaker recognition. Strengthening the scientific basis of the discipline was the primary reason that the concerned scientists and practitioners from the FBI, NIST, and other organizations established SWG-Speaker within the U.S. There are a couple of somewhat similar international groups such as the International Association for Phonetic Acoustics (IAFPA), and the European Network of Forensic Science Institutes (ENFSI). It would be beneficial if the NIST Office would facilitate and support the technical information exchange with such international forensic science groups.

- What are the elements which make existing forensic Scientific Working Groups (SWGs) successful? Are there examples of best practices in specific SWGs that ought to be replicated in Guidance Groups? If so, what are they?

Response: Successful SWGs/GGs should have:

- ✓ Members with leadership, dedication, motivation, advanced academic qualifications
- ✓ Efficient bylaws
- ✓ Sufficient funding to cover members travel and bi-annual meeting arrangements
- ✓ Each member being well supported by his/her organization
- ✓ GGs/SWGs that produce high quality documents
- ✓ Efficient website that allows intersession communications, and sharing of working documents, good liaison with other SWG members, international colleagues,
- ✓ Connection to the legal community
- ✓ The SWG which has well balanced memberships composed of senior practitioners, scientists/engineers from local/state/federal government agencies.

- Would partnership with a standards development organization (SDO) in which the standard is issued by the SDO present any obstacle for participation by a broad range of forensic science stakeholders in the development of a standard? If so, why?

Response: No, so long as a given GG/SWG is entitled to choose whether or not any document standard should go through the SDO (such as ANSI/NIST ITL) because not all intended standards should be subjected to a rigor of the SDO process. Other documents such as the National Standards for the biometric data transactions should go through the appropriate SDO. We think the SDO structure and other alternatives should also be available to support the public review process for other SWG products such as best practices, guidelines, or recommendations.

- Would partnership with an SDO in which the standard is issued by the SDO present any obstacle to broad adoption of a standard? If so, why?

- Would a fee-based membership model run through a not-for-profit organization (similar to the National Conference of Weights and Measures) present a significant obstacle for participation?

Response: The concept of membership fee should not be a part of this NIST model. It would be counterproductive. To strengthen the forensic science in the U.S., the given SWG/GG must create a collegial environment by selecting its own members based on qualifications and willingness to work together in a constructive atmosphere. On the other hand, participation must be open and transparent to all interested in the discipline. We would support a 2-tiered model perhaps labeled "members" and "advisors". "Advisors" could join on application without fee. "Members" would be elected by the GG.

- If the Guidance Groups followed a fee-based membership model, are there appropriately-tiered systems for fees that would prevent “pricing out” organizations, including individuals?

Response: There would need to be such a tiered pricing but we have no idea what it would be – beyond the example of the IAI where one has to pay annual dues and then elect to pay substantially more to participate in annual conferences as well as pay one’s own way for travel and accommodations, etc. As the government budgets shrink participation rates seem to go down.

- Other than a privatized model, are there other means to maintain a governance or coordinating body in the long term? If possible, please give examples of existing structures and their positive and negative attributes.

Response: The National Academies of Science maintains many standing committees that have existed in some cases for decades.

## 2. Impact of Guidance Groups

In its role in administering and supporting the Guidance Groups, NIST’s aim is to improve discipline practices by advancing forensic science standards and techniques through a collaborative consensus building process with Federal, state and local community partners. NIST thus seeks comments about the ways in which the structure, function and operation would best support the Guidance Groups by being a catalyst for such improvements.

- Given that the Guidance Groups cannot mandate the adoption of standards, what can they do to best leverage their position and encourage adoption? To what extent does membership and transparency impact possible adoption of guidance at the state and local level?

Response: The membership should not be the requirement for the state, local organization to adopt the GGs-promulgated best practices or standards. There should a formalized vehicle to enforce the healthy adoption of the GG’s standards and best practice. For example, one such formalized vehicle can be an accreditation process conducted by the American Society of Crime Laboratory Directors (ASCLD). Without this element of enforcing office, dissemination/promulgation of standards and best practices are destined to phase out, be misused, or abused of the good effort by Guidance Groups.

The ultimate test for any guidance given by a GG will be its acceptance by the courts in forensic proceedings. Acceptance by the courts will require acceptance by the relevant scientific community independent of any consideration of Daubert or Frye. Consequently, we need to ask, “Will the guidance be respected by the relevant scientific community and, thus, the courts?”. To this end, transparency and membership will be central.

- Are there best practices or models to consider with regard to a structure that would encourage effective communication with the scientific community to explore research gaps and aid in recognizing research priorities?

Response: Creating a structure to encourage scientific development is one of the primary functions of each GG. For example, the newest SWG, Scientific Working Group for Forensic and Investigative Speaker Recognition (SWG-Speaker), designated one of its five ad hoc committees, the Research, Development, Test and Validation (RDT&E), to focus on identifying research gaps and priorities. The RDT&E Ad hoc Committee is composed of members who are scientific/technical representatives from government, research organizations, universities and industry.

- How should NIST researchers engage with the Guidance Groups in support of the goal to strengthen the nation’s use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline?

Response: The best mode of engagement for NIST researchers is to join the discipline-specific GG as a regular (advisory or voting) member. Given that Standards are only a part of strengthening forensic science, NIST researchers should participate on appropriate Guidance Groups to learn firsthand of the needs and trends of the discipline underlying the Guidance Group.

### 3. Representation in the Guidance Groups

Given the diverse, multi-sector set of stakeholders in forensic science, representation in Guidance Groups must be carefully balanced and inclusive.

- Who are the stakeholders who should be represented on the Guidance Groups? What steps can NIST take to ensure appropriately broad representation within the Guidance Groups? What does balanced representation mean and how can it be achieved?

Response: Although stakeholders may vary depending on the specific GG, clearly all GGs must include judges, lawyers, legal organizations, academics, and scientists from the appropriate discipline and forensic practitioners. One of the best answers to this question can be found in the recently established 'Unified Bylaws for Forensic Scientific Working Group'. The founding members the SWG-Speaker adopted the recommendations given by the Unified Bylaws, and executed the selection process of balanced representation.

- What is the best way to engage organizations playing a role in forensic science, standards development and practice?

Response: If they can't participate in the Groups then there should be an annual Guidance Group Chairs meeting with leaders in various organizations to spend a few days presenting from and to the Chairs.

- How should interested parties who may not be direct participants in Guidance Groups, engage in a meaningful way to have an impact on issues in front of the Guidance Groups?

Response: A list serve or mailing list would provide a way for non-members to participate in the input of ideas into the Group processes and to receive feedback on issues and ideas.

- To what extent and in what ways must the Federal government, as well as state, local, tribal and territorial governments be involved at the outset?

Response: Membership from the dominant forensic laboratories is important to establishing a critical mass of pragmatic leadership. Membership from the Federal, state and tribal judicial communities is also important.

### 4. Scope of the Guidance Groups

- Should all of the current forensic Scientific Working Groups (SWGs) transition to Guidance Groups?

Response: Yes. No currently active SWGs should be left out. If NIST chooses not to include any particular SWG as part of GGs, a clear reason, justification and policy for the exclusion should be provided.

- Are there broader groupings of forensic science disciplines that could form the basis of Guidance Groups than the current group of twenty-one SWGs? If so, what are those groupings?

Responses: Possible groupings by:

- ✓ Groupings by Discipline (Physical science, Biological science, Behavioral science)
- ✓ Groupings by Function (Physical science, biological science, biometric science, digital multimedia science)

- Is there a need for a cross-disciplinary functional approach (i.e. statistical analysis) and how could the Guidance Groups be structured to best address that need?

Response: Yes, there are common elements (or should be) in the sub-areas of statistics and legal considerations as well as the cross disciplinary issues of common vocabulary, testing methodologies, etc. Types of statistical analysis, probability theories and mathematical models vary depending on specific forensic discipline. So this needs assessment - should be done by each GG.

- To what extent do Guidance Groups need to support different forensic science disciplines differently from one another?

Response: Each discipline has a different history, level of forensic maturity and legal standing. For example, the courts have long accepted fingerprinting as a valid forensic science, but have questioned face and voice recognition. For some disciplines, such as DNA, forensic acceptability is relatively new. Some disciplines for which forensic evidence was once widely accepted, such as bite mark and compositional analysis of bullet lead, have recently found their methods questioned. Consequently, each GG will have a different set of tasks in responding to challenges such as the National Research Council. Strengthening Forensic Science in the United States: A Path Forward. Washington, DC: The National Academies Press, 2009

Hirotaka Nakasone  
FBI, Chair of SWG-Speaker

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## **Preamble**

The Centre of Forensic Sciences is a Canadian provincial government laboratory that provides forensic science services for the province of Ontario, Canada. The Centre has two laboratories, a regional laboratory in Sault Ste. Marie and a new facility in Toronto that is one of the largest forensic science laboratories in the world. The Centre provides independent scientific laboratory services that support the administration of justice and public safety programs across the province. Law enforcement officers, crown attorneys, defence counsel, coroners, pathologists and other official investigative agencies make use of the Centre's services.

The Centre is pleased to provide the following in response to the request for comments on the structure, impact, representation and scope of the Guidance Groups:

### **1. Structure of the Guidance Groups**

Guidance Groups need to work within a policy framework that provides direction and monitors output and success.

Work should be focused with specific tasks being assigned to the groups through a steering framework i.e. by the National Commission on Forensic Science through NIST. The tasks should be assigned to ensure that the scientific elements of policy and legislation are given due consideration and that the output from the groups can interface with policy development, advance the science and support robust well informed legislation.

There must be a co-ordinated framework for the development of information, solicitation of input and feedback from the wider forensic community, and publication of the final products through a single journal or website.

The program must provide a unified model for the development, dissemination and publication of information. The current Scientific Working Group (SWG) model has worked in some respects but not in others. Some of the SWGs have worked well in generating good guidance documents and standards however tasks often take a long time to get completed. Some SWGs publish in discipline specific journals, some develop ASTM standards, some post to SWG websites, and some do not disseminate any information to the community. Clearly there is a need for the variety of practices to be made more uniform.

It would be advantageous to have forensic specific standards informed through the collective input of Guidance Groups. The development of forensic science specific quality standards is done by accrediting bodies, resulting in variations depending on the accrediting body engaged by a specific laboratory. To increase the uniformity of forensic science specific standards the development of a linkage with the ISO Forensic Science Technical committee or the American National Standards Institute (US ISO representative) should be explored.

### **2. Impact of Guidance Groups**

The impact for any work and output produced by the Guidance Groups should be aligned so as to address the forensic science industry / discipline specific issues that were identified in the NAS report.

The distinction between published best practices, guidelines and standards should be made clear. This can be achieved in part by any "standards" being produced and published by a standards development organization.

To ensure that published best practices and guidelines are a catalyst for improvement it is important that Guidance Groups have the appropriate membership and that the wider forensic science community is fully engaged in the development process.

Forensic science laboratories and practitioners already know many of the gaps in testing and research but do not have the opportunity or funding to perform the academic research needed to answer these often difficult questions. A system where agencies can identify such needs and be a part of the support system to academics or other researchers would be a significant benefit. The oversight infrastructure and the Guidance Groups can identify the gaps and the mechanisms to address through a focused program of research. The appropriate research entity can be identified e.g. academic, practitioner, NIST researcher etc and guidance provided that can be used for the evaluation of grant funding applications.

### **3. Representation in the Guidance Groups**

The development of forensic science in Canada closely parallels that which occurs south of the border. Canadian forensic scientists have been active participants in many of the US-SWG's for many years. Guidance Groups would benefit from the continued participation of scientists from government forensic science laboratories in Canada. This will ensure common forensic science technologies and standards being applied to the scientific investigation of cases that "cross borders".

Representatives should come from a cross-section of independent, academic and government scientists.

Consideration should be given to "parent" organizations such as American Society of Crime Laboratory Directors providing a mechanism for identifying, proposing and supporting Guidance group members.

The work and activities of the guidance group must include a high degree of transparency and outreach. This will facilitate the engagement of the wider forensic science community in the collective endeavour of improving forensic science. The potential for web-casts of any in person meetings of the Guidance Groups should be explored.

### **4. Scope of the Guidance Groups**

There is a current need to bring in uniformity to the way that the SWGs are structured, the way they work and disseminate information. Transitioning all SWGs to Guidance Groups is an opportunity to standardize and bring uniformity to them. All Guidance Groups should be structured in the same way through terms of reference.

There is a need to consolidate some of the SWGs and recognize the need for cross-disciplinary Guidance Groups. For example a pattern recognition group would cross over disciplines such as fingerprints, firearms, documents and physical matches.

*Response from Jonathan Newman of the Centre of Forensic Sciences, Forensic Services and  
Coroner's Complex*

A cross disciplinary group that is able to address the issue of report language uniformity, the statistical treatment of data and the statistical support for evidential weight will be essential if the objective is to verify that a sufficient scientific basis exists for all disciplines.

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John Nixon

12 November 2013

PDF Submission via Email

## **Formal Comment in Response to:**

Federal Register – NIST Notice of Enquiry, dated 24 September 2013 (published 27 September 2013): “Possible Models for the Administration and Support of Discipline-Specific Guidance Groups for Forensic Science.”

### **Preface**

The author understands that NIST expects comments to relate only to a model for the establishment and administration of guidance groups, and does not expect to receive comments on policies that should be addressed by those groups. However, in order to adequately explain and rationalize the proposed structure of governance contained herein, it was necessary to allude to the perceived problems within a specific discipline, and how the proposed structure and governance may overcome those current problems. The comments and suggestions in this document are focussed on the author’s specific discipline of firearms, ammunition, ballistics, tool marks, and related issues (currently SWGGUN) but with a little imagination the principles could be generally applied to a group for any technical or scientific discipline. This document contains statements that are opinions of the author, and these may not always be statements of fact; wherever possible supporting information is included in appendices. This document should be considered as a rough outline framework for NIST guidance groups.



## **Author Background**

I have worked as a government scientist and professional engineer conducting weapons systems research, design, development, performance testing, mid-life improvement, reverse engineering, and forensic examinations; including firearms. I am experienced in the management of laboratory and test range facilities. I am a Fellow of the Institution of Mechanical Engineers, a Fellow of the American Academy of Forensic Sciences, a Fellow of the Chartered Management Institute, and a member of several other technical/professional societies.

My experience includes extensive education and practical training in the manufacture of machined components from metals, and other materials. Additionally, I have extensive knowledge and/or experience in the design of components, and manufacturing techniques including precision investment casting, polymer injection molding, metal matrix composites, polymer/glass/carbon/Kevlar composites, forging, and metal injection molding (MIM) etc.-- the same processes and techniques used in the manufacture of firearms and ammunition.

I currently specialize in technical and forensic consulting in the areas of firearms, ballistics, munitions, and explosives. I have conducted extensive forensic engineering research and have been responsible for numerous innovations in guns and munitions design. I have published numerous research papers and technical articles, including items on firearm identification and toolmark analysis. I have presented training seminars to numerous groups of investigators, attorneys, engineers, law enforcement personnel, medical professionals, and students. Clients include insurance companies, attorneys, defense contractors, federal, state, and municipal governments. I have testified as an expert in numerous US Federal Courts, and many state courts. I have worked for both defense and plaintiff/prosecution.

## 1 2009 NAS Report

Quotes from the 2009 NAS Report are included at Appendix A, and have been categorized under the headings of administration, documentation, & reporting; forensic scientist education & training; and firearms & toolmarks.

The Report's most relevant conclusions could most succinctly be summarized as:

- A Public crime labs should be independent of government / law enforcement.
- B Forensic scientists should have formal bachelor's degree education in a pertinent discipline, and rely less on apprenticeship type training programs.
- C Forensic scientists should produce more comprehensive documentation & reports.
- D Forensic scientists will benefit from interaction with the general scientific and engineering communities.

With respect to firearms & toolmark analysis the 2009 NAS Report was critical that the discipline of toolmark analysis:

- E Has not been scientifically validated.
- F Depends upon the subjective decision of the practitioner.
- G Has no precisely defined process.
- H Has no statistical foundation for the estimation of error rates.

It is almost five years since the publication of the 2009 NAS Report. Since that time little, if anything, has changed; and in the firearms and toolmarks community it is 'business as usual'. Firearms and toolmarks practitioners, rather than embracing the NAS report findings and striving for improvement, have viewed it as a threat, and concentrated on having it ruled as 'inadmissible' in court proceedings. Those in the scientific community who support the 2009 NAS report findings suffer personal attacks.

If the general deficiencies identified in the 2009 NAS report are to have any chance of being rectified, then the structure & administration of any guidance groups will need to be conducive to that objective. This is not the case with the SWGs.

## 2 Perceived Deficiencies in the Structure & Governance of Current SWGs (SWGUN).

It seems logical that if the 2009 NAS report recommended that public crime labs should operate outside of any government / law enforcement influence, then so should any guidance groups that are expected to make public recommendations with respect to discipline specific forensic science policies and procedures. It could be argued that independent, impartial, and balanced guidance groups are even more important than independent crime labs.

SWGUN has twenty one members, and it has been the case that the membership is overwhelmingly law enforcement / crime lab based. At the time of writing, all twenty one members of SWGGUN are members of one trade association - the Association of Firearm & Tool Mark Examiners (AFTE)<sup>1</sup>. AFTE members are almost exclusively law enforcement, or retired law enforcement. Of the current twenty one SWGGUN members, nineteen are presently employed by law enforcement agency / government crime labs. The remaining two list themselves as 'independent examiners' but they are retired law enforcement crime lab employees. The current SWGGUN members are listed at Appendix B to this document. This situation essentially means that:

- A SWGGUN is a sub group of trade association AFTE (AFTE special interest group)
- B SWGGUN is 100% law enforcement derived.

Prosecution representatives have hijacked, either by design or by accident, what, ideally, should have been a balanced and impartial scientific working group. The SWGGUN bylaws are at Appendix C to this document. A review of SWGGUN activities compared to the requirements of the bylaws, Article 1, Section 3 – Objectives, reveals that SWGGUN has not met the requirements of its bylaws. SWGGUN serves the needs of law enforcement, AFTE, and, by implication, prosecutors. It does not necessarily serve the interests of the judicial system, nor society at large. SWGGUN should be dissolved and replaced by a guidance group, as outlined below.

### 3 Criteria for Guidance Group Success

Guidance groups should be structured and administered so that the interests of all stakeholders are represented and safeguarded. These stakeholders may be identified as:

Defendants

Detectives

Crime lab technicians tasked with performing analyses.

Prosecutors.

Defense attorneys.

Independent examiners / experts employed by defense attorneys.

Judges

Society at large

In order to be successful the guidance group must impartially represent the interests of all stakeholders. To avoid allegations of impartiality, the group will need to include a balance of those who could be viewed as favorable to the prosecution, and those who could be viewed as favorable to the defense, with neither party outnumbering the other.

If the recommendations of the 2009 NAS Report are to be implemented, and the objectives of the MOU between NIJ & NIST are to be met, the guidance group should be comprised of representatives from the relevant forensic practice group, a range of scientists & engineers from the broader scientific community, and legal professionals.

#### 4 Proposed Structure & Administration of Guidance Group

Proposed Membership Structure	
Number	Qualification (Perceived Bias)
2	Public crime lab practitioners (never been AFTE members) (P)
2	Public crime lab practitioners (AFTE members) (P)
4	Private practitioners (never worked for law enforcement / prosecution labs) (D)
2	Statisticians – from academia (N)
2	Metallurgists - ideally one from industry/ forensics, one from academia (N)
2	Engineers – ideally from the firearms or ammunition industry (N)
2	Defense attorneys – ideally one public defender, one private practice (D)
2	Prosecutors – ideally one federal, one state (P)
2	Law professors (N)
2	Judges – chair + co-chair (N)

Total membership = 22.

Prosecutorial bias (P) = 6

Defense bias (D) = 6

Neutral (N) = 10 (some may argue over neutrality of judges – typically former prosecutors)

Defendants & detectives, while stakeholders, have been excluded because their direct participation in guidance groups would be inconvenient and unproductive. Their interests are adequately represented by other stakeholders, and independent practitioners.

**Membership selection & tenure.** Initially by appointment of volunteers elected by a panel of ten NIJ representatives and ten representatives from defense attorney organisations. Subsequently by selection / election by the incumbent membership (2/3 majority vote). Tenure to be a minimum of two years and a maximum of five years. Resignations accepted. A member may be voted out by a 2/3 majority vote at any time between two and five years.

**Meetings where voting takes place.** An equal number of prosecutorial and defense bias participants must be present. 2/3 majority required to carry a motion. 16 members & balanced (P/D) attendance for a quorum. Meeting minutes to be issued.

**Meetings where no voting taking place.** Progress meetings only. No motions voted upon. Minutes to be issued to non-attendees.

First order of business for the new group would be to formulate constitution and bylaws.

The guidance group members should have the authority to establish scientific / technical working groups and legal working groups. Each member of such a group to be approved by a 2/3 majority at a voting meeting.

**Appeals procedure** – if a member feels that they were misled, or voted prior to reviewing available critical information, they should have the right to appeal and have their vote changed within 30 days of becoming aware of the situation. Decision to allow a change of vote to be made by agreement of chair + co-chair – put to a vote of the membership if they deem it to be appropriate.

The guidance group should have a website for rapid dissemination of material and ideas.

Meetings may be held via telephone conference, but at least one meeting annually must be in person.

**Membership Fees** = none (see also ‘remuneration’ below). Membership fees would discourage participation, especially by less financially able prospective members, who otherwise may be able to make a significant and valuable contribution to the operation of the group.

**Remuneration** – In order to limit financial incentives / disincentives arising from government employees & academics being paid (salaried) and non-government employees and private practitioners not being paid, it is suggested that attendees who are not being paid by an employer are reimbursed at a reasonable rate for their time & expenses. This will help negate non participation by qualified individuals who may be discouraged by financial loss.

*John Nixon*

John Nixon

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<sup>1</sup> AFTE refuse to divulge member academic qualifications, but AFTE member CVs obtained during routine casework indicate that even some recently admitted members have little or no post high school education, and many others have non-technical degrees, or degrees in technical areas unrelated to engineering or ‘hard’ sciences. A summary of entry dates and education of these members is provided at Appendix D to this document. Any individual who is entrusted to formulate, and offer advice regarding, policies and procedures in a specific technical area should have substantial relevant formal education.

**Appendix A**

**to Nixon NIST  
12 Nov 2013**

**Quotes from 2009 NAS Report  
on Strengthening Forensic Science in the US**

## **Quotes Relating to Administration, Documentation & Reporting**

“The majority of forensic science laboratories are administered by law enforcement agencies, such as police departments, where the laboratory administrator reports to the head of the agency. This system leads to significant concerns related to the independence of the laboratory and its budget. Ideally, public forensic science laboratories should be independent of or autonomous within law enforcement agencies.”

“Few forensic science methods have developed adequate measures of the accuracy of inferences made by forensic scientists.”

“The forensic science disciplines are just beginning to become aware of contextual bias and the dangers it poses.”

“There is a critical need in most fields of forensic science to raise the standards for reporting and testifying about the results of investigations. For example, many terms are used by forensic examiners in reports and in court testimony to describe findings, conclusions, and the degrees of association between evidentiary material (e.g., hairs, fingerprints, fibers) and particular people or objects. Such terms include but are not limited to “match,” “consistent with,” “identical,” “similar in all respects tested,” and “cannot be excluded as the source of.” The use of such terms can have a profound effect on how the trier of fact in a criminal or civil matter perceives and evaluates evidence. Yet the forensic science disciplines have not reached agreement or consensus on the precise meaning of any of these terms.”

“As a general matter, laboratory reports generated as the result of a scientific analysis should be complete and thorough. They should describe, at a minimum, methods and materials, procedures, results, and conclusions, and they should identify, as appropriate, the sources of uncertainty in the procedures and conclusions along with estimates of their scale (to indicate the level of confidence in the results).”

“sufficient content should be provided to allow the nonscientist reader to understand what has been done and permit informed, unbiased scrutiny of the conclusion.”

“Some reports contain only identifying and agency information, a brief description of the evidence being submitted, a brief description of the types of analysis requested, and a short statement of the results (e.g., “The green, brown plant material in item #1 was identified as marijuana”).”

“most reports do not discuss measurement uncertainties or confidence limits.”

““In many areas [of forensic science] little systematic research has been conducted to validate the field’s basic premises and techniques, and often there is no justification why such research would not be feasible.””



“forensic practitioners who work in public crime laboratories often are seen as part of the prosecution team, not as part of the scientific enterprise. Second, some of the forensic science disciplines rely on an apprenticeship model for training, rather than on codifying their methods in a scientific framework.”

“despite the lack of a statistical foundation, examiners make probabilistic claims based on their experience. A statistical framework that allows quantification of these claims is greatly needed.”

“The forensic science and medical examiner communities (see Chapter 9) will be improved by opportunities to collaborate with the broader science and engineering communities.”

## **Quotes Relating to Education & Training**

“Training should move away from reliance on the apprentice-like transmittal of practices to education at the college level and beyond that is based on scientifically valid principles,”

“established scientific knowledge, principles, and practices, which are best learned through formal education”

“As a starting point, one needs an appropriate degree.”

“To be in compliance with widely-accepted accreditation standards, scientists in each of the disciplines must have, at a minimum, a baccalaureate degree in a natural science, forensic science, or a closely-related field.”

“Training should move well beyond intern-like transmittal of practices to teaching that is based on scientifically valid principles.”

“a trainee should acquire rigorous interdisciplinary education and training in the scientific areas that constitute the basis for the particular forensic discipline”

“The legitimization of practices in the forensic science disciplines must be based on established scientific knowledge, principles, and practices, which are best learned through formal education. Apprenticeship has a secondary role; under no circumstances can it supplant the need for the scientific basis of education and of the practice of forensic science.”

### **Quotes Relating to Firearms / Toolmarks**

“the decision of the toolmark examiner remains a subjective decision based on unarticulated standards and no statistical foundation for estimation of error rates.”

“A fundamental problem with toolmark and firearms analysis is the lack of a precisely defined process.”

“The National Academies report, Ballistic Imaging, while not claiming to be a definitive study on firearms identification, observed that, “The validity of the fundamental assumptions of uniqueness and reproducibility of firearms-related toolmarks has not yet been fully demonstrated”.....“A significant amount of research would be needed to scientifically determine the degree to which firearms-related toolmarks are unique or even to quantitatively characterize the probability of uniqueness.””

“Because not enough is known about the variabilities among individual tools and guns, we are not able to specify how many points of similarity are necessary for a given level of confidence in the result.....but additional studies should be performed to make the process of individualization more precise and repeatable.”

“A fundamental problem with toolmark and firearms analysis is the lack of a precisely defined process. As noted above, AFTE has adopted a theory of identification, but it does not provide a specific protocol.”

**Appendix B**  
**to Nixon NIST**  
**12 Nov 2013**

**List of SWGGUN Members**  
(from SWGGUN website, Nov 2013)

21 Members

**All AFTE Members**

19 Current Law Enforcement / Government Crime Lab Employees

2 Retired Law Enforcement / Government Crime Lab Employees

SWGGUN Members shall be representative of the experience and knowledge in the discipline and shall consist of 21 regular Board members and will include the current year President of the Association of Firearm and Tool Mark Examiners (AFTE). If the AFTE president is not currently included on the Board he or she shall be invited to participate in all SWG activities as the 22nd member and have full voting privileges during his or her tenure.

Current members:

**G. ANDREW SMITH, Chair**

San Francisco Police Department  
Criminalistic Laboratory  
San Francisco, CA

**DEAN DAHLSTROM**

RCM Police  
Saskatchewan, Canada

**WILLIAM E. DEMUTH II**

Illinois State Police  
Chicago Forensic Science Center  
Chicago, IL

**JEFFREY SCOTT DOYLE**

Kentucky State Police  
Jefferson Regional Forensic Lab  
Louisville, KY

**JILL DUPRE**

Harris County Regional Firearms Lab  
Houston, TX

**LAURA A. FLEMING**

SW Institute of Forensic Sciences  
Dallas, TX

**BRANDON GIROUX**

Independent Examiner  
Northville, MI

**GREG S. KLEES**

ATF-WA Forensic Science Lab  
Beltsville, MD

**MARK A. KEISLER**

Indiana State Police  
Indianapolis, IN

**CHRIS M. MONTURO**

Miami Valley Regional Lab  
Dayton, OH

**DOUGLAS MURPHY**

FBI Laboratory  
Quantico, VA

**RONALD G. NICHOLS**

BATF Forensic Science Lab  
Walnut Creek, CA

**LISA M. PELOZA**

Arizona Department of Public Safety  
Phoenix, AZ

**THOMAS L. G. PRICE**

Kansas Bureau of Investigation  
Topeka, KS

**KATHERINE RICHERT**

Alabama Dept. of Forensic Sciences  
Montgomery, AL

**J. STEVEN SCOTT**

Tennessee Bureau of Investigation  
Nashville, TN

**ERICH SMITH**

FBI Laboratory  
Quantico, VA

**JAMES S. STEPHENSON**

Connecticut Dept. of Emergency Services  
and Public Protection Forensic Lab  
Meriden, CT

## SWGGUN Board Members

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PETER STRIUPAITIS  
Independent Examiner  
Palos Heights, IL

EDWARD I. C. WALLACE  
Bexar County Criminal Investigation Lab  
San Antonio, TX

RICK T. WYANT  
Washington State Patrol  
Seattle, WA

### ASCLD Representative to SWGGUN

KATHERINE RICHERT  
Alabama Dept. of Forensic Sciences  
Montgomery, AL

### Current AFTE President

RAY COOPER  
SW Institute of Forensic Sciences  
Dallas, TX



**Appendix C**

**to Nixon NIST  
12 Nov 2013**

**SWGgun Bylaws**  
**(from SWGGUN website, Nov 2013)**

Article I

Name and Objective

Section 1.

The name, of the organization shall be the Scientific Working Group for Firearms and Toolmarks, herein referred to as SWGGUN or the Board.

Section 2.

The purpose of the SWGGUN shall be:

1. To develop a series of consensus guidelines for the firearm and toolmark discipline.
2. To disseminate SWGGUN guidelines, studies, and other findings that may be of benefit to the forensic community.

Section 3.

The objectives of SWGGUN shall be:

1. To recommend and disseminate discipline guidelines for quality assurance and quality control,
2. to establish requirements for laboratory management to ensure qualifications of Firearm and Toolmark Examiners and the reliability of examination results.
3. To discuss, share and exchange ideas regarding forensic analysis methods, protocols and research.
4. to bring together organizations and/or individuals actively pursuing relevant analysis methods for the purpose of exchanging and disseminating information,
5. to cooperate with other national and international organizations in developing relevant standards.
6. To monitor and disseminate research and technology related to the discipline.

## Article II

### Membership

#### Section 1.

Members shall be representative of the experience and knowledge in the discipline.

1. The SWG shall consist of 21 regular Board members and will include the current year President of the Association of Firearms and Tool Mark Examiners (AFTE). If the AFTE president is not currently included on the Board he or she shall be invited to participate in all SWG activities as the 22nd member and have full voting privileges during his or her tenure.
2. New members may be nominated by any SWGGUN Board member and require a 2/3 majority vote for confirmation.
3. The Federal Bureau of Investigation is a member of SWGGUN and may appoint up to two (2) representatives, who will serve in their official capacities representing the interests of the Federal Bureau of Investigation.

Section 2.

Dissolution of Membership

1. Membership may be dissolved if such dissolution is initiated by a Board Member and must be confirmed by a minimum of 2/3 majority vote of the Board.
2. Membership may be dissolved when a Board Member is absent from two consecutive SWGGUN Board meetings. During the course of the second meeting missed, a vote must be conducted for the retention of this Member. The vote must be confirmed by a minimum of 2/3 majority vote of the Board.
3. Resignation: An individual Board Member may withdraw from SWG by giving written notice to the Chair of SWGGUN.

Article III

Officers and their Duties

Section 1.

The officers shall be the Chair of SWGGUN, the Secretary, and Chairs of any established Committees.

1. Terms of office. The Chair of SWGGUN shall be elected for a 2-year term, and a limit of two (2) two-year terms thereafter. The election requires a quorum of SWGGUN

representatives and the candidate with the largest number of votes will be elected. The incumbent Chair of SWGGUN is permitted to vote in the election of a successor.

2. Vacancies. If at any time during a Chair's tenure, that person is temporarily unable to serve, the Chair of SWGGUN shall, at his or her discretion, designate any other Board member to serve as Chair of SWG during the period of absence. In the event of the Chair's resignation or an inability to serve for a period in excess of six (6) months, a successor will be elected. If the incumbent is unavailable at the time of this election, the Secretary or the designated FBI member shall assume the duties of the Chair of SWGGUN for the limited purpose of calling a meeting to elect a new Chair.

3. The Secretary shall be elected by the SWG and serve a 2-year term and be subject to re-election. The election requires a quorum of SWGGUN representatives and the candidate with the largest number of votes will be elected. The incumbent Secretary of SWGGUN is permitted to vote in the election of a successor.

## Section 2.

The duties of the officers shall be as follows:

1. SWGGUN Chair. Shall preside over meetings and shall, to the extent consistent with his or her official duties, promote the objectives of SWGGUN and shall establish subcommittees as necessary.

2. SWGGUN Secretary. Shall record the minutes of all meetings and maintain written records and membership rolls. Shall provide official correspondence at the direction of the Chair and membership and shall communicate minutes to members.

## Article IV

### Meetings

#### Section 1.

SWGGUN shall have at least one (1) meeting per year.

Section 2.

The Chair may call for additional meetings at any time. Consideration will be given to the sponsor (FBI) for facilitation and funding approval.

Section 3.

To the extent possible, notice of the meetings will be communicated to each representative at least 60 days before the meeting date. Meeting dates should be posted on the SWG web site and, if possible, in Forensic Science Communications at least 30 days prior to a meeting date.

Section 4.

Meetings will consist of SWGGUN members. Invited visitors may attend meetings at the discretion of the Chair.

Article V

Committees

Section 1.

Committees shall be established on an ad hoc basis to address the business of the SWG and consist of at least two (2) Board members.

Section 2.

The Committee Chair shall be a Board member elected by the representatives appointed to the Committee; the candidate with the largest number of votes will be elected. The Committee Chair will be elected for the duration of the Committee business but not to exceed a two-year term and may be re-elected.

Section 3.

The Committee Chairs are encouraged to consult with representative(s) of other forensic laboratories and when necessary enlist the aid of members of the forensic community in the development of proposals to be brought before the Board.

1. Enlisted Committee members that are not members of the Board, but who are aiding in Committee business, shall be known as Advisory members.
2. Advisory members are encouraged to participate in drafting proposals for review by the Board, but do not have voting privileges during Board meetings.
3. Advisory members serve at the discretion of the Committee Chair.

Section 4.

Committees shall solicit input and receive commentary from non-members of the SWG:

1. When appropriate, draft documents shall be placed on the secure SWGGUN web site at least 60 days prior to the SWG meeting date where finalization of the document will occur,

and/or

2. when appropriate, draft documents shall be presented in an open forum such as the annual AFTE training seminar, and/or
3. mailings, either electronic or hard copy, can be sent to recognized government crime laboratories routinely carrying out the particular discipline at least 60 days prior to the SWG meeting date, where finalization of the document will occur.

Section 5.

The Chair of SWGGUN may establish other committees as he or she deems appropriate to aid in the business of the SWG.

Article VI

Decision Making

Section 1.

Decisions regarding the adoption of Guidelines and on the overall method of operation of SWGGUN shall be made by the Board members.

Article VII



Voting

Section 1.

Sixty percent (60%) of the SWG members are required to constitute a quorum. A quorum of the members (or, in the case of Committee or special meetings, of the assigned or designated representatives) shall be required in order to call a meeting to order and to conduct business.

1. Each voting member shall have one vote.
2. Except as otherwise specified, all motions require a 2/3 majority vote of attending members for passage.

Article VIII

Amendments to the Bylaws

Section 1.

To the extent possible, proposed amendments to the Bylaws shall be submitted to the Chair of SWGGUN 45 days prior to a scheduled vote and the membership will receive proposed amendments from the Secretary at least 30 days prior to a vote.

Section 2.

Amendments to Bylaws shall require a 2/3 majority vote of the entire Board.

Article IX

Changes to Existing Guidelines

Section 1.

Procedure.

1. Changes to existing guidelines must be submitted to any Board member in writing and contain the following information:
  1. Document title
  2. Requestor's name
  3. Laboratory
  4. Laboratory address
  5. Telephone number
  6. Change from (Note the document section number)
  7. Change to
  8. Reason for change
  
9. The contacted Board member shall forward a copy of the request to all other Board members within 15 days of receipt.
  
10. The proposal may be placed on the agenda of the next regularly scheduled SWGGUN meeting for consideration or scheduled for an electronic vote. If the request can not be immediately addressed, an ad hoc committee will be formed. The Board may provide recommendations for Committee Advisory members as needed.

11. Recommendations from the Committee will be provided to all SWG members at least 30 days before the date on which they will be voted on.

12. At those SWGGUN meetings where proposed changes have been received and await action, the Committee could meet on a day prior to the beginning of the general SWGGUN meeting to make final recommendations regarding the changes.

13. The recommendations of the Committee and the record of the request will be presented to the SWGGUN membership for final vote.

14. SWGGUN members will be provided an opportunity to discuss both the proposed changes and the Committee recommendations and to vote on the final acceptance of the proposed changes.

## Article X

### Communication

#### Section 1.

Official communications shall be conveyed only by the Chair or a designee.

#### Section 2.

SWGGUN shall have a method of communication by electronic means such as the Internet or email. Board members shall have a secure password protected site for private communications.

Section 3.

A link from the AFTE website to SWGGUN will be provided.

Section 4.

Guidelines and approved documents will be published in the Forensic Science Communications on-line journal and the public SWGGUN website.

Section 5.

Advisory members shall have access to draft guidelines and approved meeting minutes.

Article XI

Parliamentary Authority

Section 1.

The simplest mechanism governing meetings will be used.

Section 2.

Robert's Rules of Order Newly Revised shall be referred to where deemed necessary.

SWGGUN Bylaws Revised: 04/06/09

**Appendix D**

**to Nixon NIST  
12 Nov 2013**

**AFTE Member Education**  
(from available information)

<b>Educational Background of a Random Sample of AFTE Members</b>			
<b>Name &amp; AFTE Status</b>	<b>Year Joined</b>	<b>Education</b>	
		<b>Level</b>	<b>Discipline</b>
<b>Ms A</b>	Aug 08	BS 1993	Zoology
<b>Mr A</b>	?		No post high school education
<b>Ms B</b>	2003	BS 1991	Management
<b>Ms C</b>	?	BA	Anthropology
		BSN	Nursing
<b>Mr B</b>	?		No post high school education
<b>Ms D</b>	?	BA 1987	Chemistry
<b>Mr C</b>	2010		No post high school education
<b>Mr D</b>	?	BS 1995	Communications
<b>Mr E</b>	?	AA	Criminal Justice
<b>Mr F</b>	?	BA 1975	Chemistry
<b>Mr G</b>	?	BA	Biological Sciences
<b>Mr H</b>	2000	AA 1989	Applied Science in Law Enforcement
		BS 1991	Administration of Justice & Psychology
<b>Mr I</b>	? (pre 86)	BS 1984	Biology
<b>Mr J</b>	? (pre 91)	BS 1979	Zoology
<b>Mr K</b>	? (pre 04)	BA 1994	Biology

<b>Educational Background of a Random Sample of AFTE Members</b>			
<b>Name &amp; AFTE Status</b>	<b>Year Joined</b>	<b>Education</b>	
		<b>Level</b>	<b>Discipline</b>
<b>Ms E</b>	1996	BS 1994	Chemistry & Forensic Science
<b>Mr L</b>	?	BA 1983	Biology
		MS 1988	Biology
<b>Mr M</b>	1995	BS 1995	Forensic Chemistry
<b>Mr N</b>	?	?	Biology
<b>Mr O</b>	?	BS 1968	Photographic Science & Engineering (proven to be fictitious)
		BS 1972	Mechanical Engineering
<b>Mr P</b>	? (Pre 90)	BS	Biology
		MS	Organization & Administration of Higher Education
<b>Mr Q</b>	?	BS 1963	Chemistry
<b>Mr R</b>	?	BS	Chemistry
<b>Mr S</b>	? (pre 80)	AA 1975	Administration of Justice
		BS 1976	Liberal Studies
		BS 1976	Sociology
		MA 1978	Secondary Education



<b>Educational Background of a Random Sample of AFTE Members</b>			
<b>Name &amp; AFTE Status</b>	<b>Year Joined</b>	<b>Education</b>	
		<b>Level</b>	<b>Discipline</b>
<b>Mr T</b>	? (pre 98)	Diploma 1973	College Prep
		AA 1975	General Studies
		BA 1977	Government / Politics
		AA 1977	History
		Sept 79	Short course of one month or less in forensic science
<b>Mr U</b>	?		No degree
<b>Mr V</b>	?		No degree

## *Response from Ronald D. Oliver of the Texas Department of Public Safety*

### **Structure of Groups**

There are well recognized general concepts that all forensic scientists should follow, however a forensic scientist from one discipline may not be fully informed on the technical aspects of another discipline. Therefore care must be taken to see that Forensic Biologists are not creating standards for Firearms Examiners.

My personal vision is a type of filter down system where certain general principals that are applicable to all forensic scientists would be established at the highest level. For instance, accreditation by a recognized body in a particular field of forensic science. Regardless of the discipline or the type of analysis this is a goal all forensic laboratories should be striving for. Peer review of reports, analytical procedures and methods is another desirable safeguard that should be built into any forensic discipline.

So there would be the "big picture" folks who would propose these broad guidelines. Perhaps this is a rotating membership board with scientists from many disciplines.

However, when it comes to a specific discipline such as blood alcohol toxicology I would prefer to see practicing forensic scientists at the bench level have more input. Perhaps an ad hoc committee of selected delegates, chaired by one or more of the big picture folks. It will also be important to have a cross section of labs represented, from labs that do a 100 samples a day to those that only run a few dozen samples a month. Care must be taken to not exclude a valid scientific method, just because it is not a method used by the committee members. For instance, members might conclude that all standards should be prepared by weight (mass) using properly calibrated scales. This would exclude smaller labs that prepare their standards by volume using calibrated pipettes. An alternative method with a slightly higher degree of uncertainty, but a reliable method none the less.

There are many methods to properly analyze a blood sample for the presence and quantity of ethanol. Gas Chromatography, automated enzymatic analyzers or the Dubowski-Withrow method can all yield acceptable valid results, so it is not a question of which method was utilized, but was that method utilized in a manner that produced results that were accurate and reproducible.

Perhaps the hardest element to avoid is what I call the "King of the World" complex. This is the way WE DO IT IN OUR LAB therefore everyone else should do it exactly like us. The emphasis must be on the quality of the science, not individual perceptions or egos.

### **Impact of the Groups**

The impact will be nation wide and ripple through all courts in every State. Driving While Intoxicated (DWI) is the most contested forensic test in any court system in any State. This is due to the volume of cases presented to the courts which in turn provides a living for attorneys who specialize in this type of case, both defense and prosecution. Because the latest news or tactic spreads through this community very rapidly, any announcement or proclamation regarding what should or should not be done will be argued in many courts across the nation the very next day, if not the same day. So the impact will be immediate.

However, regardless of impact the goal is to provide guidance to insure good science. Tell the truth and damn the consequences.

### **Scope of Groups**

The emphasis should not be on the method of analysis but whether or not good scientific principles are being followed that insure accurate and reproducible results. This is hard to do for many people. They want to micromanage how a given procedure is performed instead of stepping back and asking the bigger questions. How were the standards used to calibrate the instrument verified? Were the

*Response from Ronald D. Oliver of the Texas Department of Public Safety*

control standards analyzed under the same conditions as the unknown standards? What procedures are in place to insure accurate results? What happens if a control standard is out of tolerance?

The goal should NOT be to define the single method that must be used by all forensic scientists to perform a certain analysis. The goal must be to determine if valid scientific principles and methods were applied to the analysis to ensure correct results.

**Representation of the Groups**

Wherever possible, practicing Forensic Scientists should be involved at all levels. Academic, legal, and laboratories supervisors should all have input, but the scientists should have the ultimate say as to the application of scientific principles.

Thank you for this opportunity,

Ron

***Ronald D. Oliver***

Technical Supervisor

Technical Supervisor Area 04

Breath Alcohol Laboratory

Texas Department of Public Safety



Scott R. Oulton  
SWGDRUG Chair  
Arlington, VA 22202

National Institute of Standards and Technology  
100 Bureau Drive, Mailstop 8102  
Gaithersburg, MD 20899

Dear Ms. Ballou:

Thank you for the opportunity to respond to the notice published in the Federal Register by the National Institute of Standards and Technology (NIST) regarding Possible Models for the Administration and Support of Discipline-Specific Guidance Groups for Forensic Science. The Scientific Working Group for the Analysis of Seized Drugs (SWGDRUG) offers the following perspective and opinions. Should you have any questions or require clarification for any response below, please just let me know.

First and foremost, the existing Scientific Working Group (SWG) model has a proven track record of being extremely valuable to the forensic science and legal communities. It is unclear why NIST is proposing to create a new model using Guidance Groups (GG) when a proven model for forensic science disciplines already exists. SWGs and their standards have been promulgated for nearly two decades. Courts rely on SWG minimum standards in forensic science evidence admissibility hearings (e.g., Daubert). SWG standards are not only published in academic forensic science textbooks as good laboratory practices, but are taught in forensic science degree programs. Lastly, the instrument manufacturers in private industry continue to cite SWGs touting that their products meet or exceed SWG standards. SWGs have a well-established name in forensic science, academic and legal arenas, so why start over?

It is fully recognized that the current SWG model is not perfect and does in fact require enhancements, so why not start there? The primary criticisms of SWGs identified in the NAS report "Strengthening Forensic Science in the United States: A Path Forward" were that SWGs: meet irregularly; have no clear funding; have no standardized membership standards; recommendations are not enforceable; and don't measure their impact by formal survey. Rather than create a new model using GGs, it is recommended that NIST consider strengthening the existing SWG model by addressing those identified criticisms. NIST could simply absorb the current SWGs (name included) under their umbrella and establish a governing body which provides: a clear source of annual Federal funding; shared resources; uniform membership standards; uniform bylaws; mandated use of Standard Developing Organizations (SDO); overall administration; etc.

## 1. Structure of the Guidance Groups

- QUESTION: Given the scope and principles of the Guidance Groups outlined here, what are structural models that could best support the Guidance Groups, taking into account the technical, policy, legal, and operational aspects of forensic science? What elements or models would facilitate the sharing of best practices and uniform practices across the Guidance Groups?

ANSWER: NIST should provide overall administration (funding, meeting venues, IT support, etc.) of the SWGs and create an executive board of SWG chairs/members that are responsible for harmonizing the SWGs (bylaws, standard setting practices, glossary of terms, membership standards, etc.). This executive board could then use a system similar to that of SDOs for the adoption of their governance documents. Once a governance document is established, the individual SWGs must comply.

- QUESTION: Are there public policies or private sector initiatives in other countries that have successfully strengthened the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline? If so, what are they?

ANSWER: There are many organizations in other countries that exist that have strengthened the nation's use of forensic science. Just to name a few: European Network for Forensic Science Institutes (ENFSI); International Forensic Strategic Alliance (IFSA); Senior Managers of Australian and New Zealand Forensic Laboratories (SMANSZFL); Iberoamerica Academy of Criminalistics and Forensic Studies (AICEF); Asian Forensic Science Network (AFSN); and United Nations Office on Drugs and Crime (UNODC). As an example, SWGDRUG has a strong collaboration with ENFSI's Drug Working Group. Each organization endorses the other's work products and close communication exists to pool resources such that the two organizations are not working on the same projects. This has led to even more standard/recommendation development over the past decade.

- QUESTION: What are the elements which make existing forensic Scientific Working Groups (SWGs) successful? Are there examples of best practices in specific SWGs that ought to be replicated in Guidance Groups? If so, what are they?

ANSWER: Primarily, strong leadership, consistent funding and actively engaged members. Membership established by representing larger forensic science institutions (e.g., UNODC, ENFSI, ASCLD, AAFS, NIST, SWAFS, etc.) proves to be more successful than individual organizations. By representing larger institutions, it requires information transfer to all levels for a much broader audience including local, state, federal and international entities. Forensic science is an international endeavor, as such; SWGs must have representation from international organizations to be effective and globally recognized. This concept is similar to laboratories being accredited to international standards; it carries much more weight to be internationally recognized. Smaller groups are in fact more productive, as such it is

recommended to maintain a group of less than 30 individuals. Other best practices include: Soliciting the public for comments; seeking international acceptance; and working with SDOs to promulgate standards.

- QUESTION: Would partnership with a standards development organization (SDO) in which the standard is issued by the SDO present any obstacle for participation by a broad range of forensics science stakeholders in the development of a standard? If so, why?

ANSWER: Partnership with an SDO or establishing standards following international standard setting protocols are absolutely essential. For broad range forensic science stakeholders there are only minimal obstacles (membership fees, standard costs, etc.), none of which are insurmountable.

- QUESTION: Would partnership with an SDO in which the standard is issued by the SDO present any obstacle to broad adoption of a standard? If so, why?

ANSWER: No, in fact it would actually help with the broad range adoption and enforcement of the standard. Once standards are generated, accrediting bodies can use them in assessing laboratories conformance with internationally recognized standards.

- QUESTION: Would a fee-based membership model run through a not-for-profit organization (similar to the National Conference of Weights and Measures) present a significant obstacle for participation?

ANSWER: Yes. The National Conference of Weights and Measures has an entire economy that is based on an extremely large consumer base which corresponds to minimal costs. Forensic Science organizations are primarily an inherent Governmental function and the consumer base is relatively small in comparison, which would result in prohibitive costs to participate. The fee based membership will automatically result in exclusion of lower funded organizations, which in turn will result in bias. A truly non-biased system must not be influenced by things such as available financial resources. As such, all efforts need to be focused on obtaining a steady reliable source of Federal funding.

- QUESTION: If the Guidance Groups followed a fee-based membership model, are there appropriately-tiered systems for fees that would prevent “pricing out” organizations, including individuals?

ANSWER: As indicated above, a fee based system is not recommended and would be expected to create a system of the “haves and have-nots” which will result in bias. However, should a fee-based membership model be adopted, consider a tiered system for laboratory organizations that is based upon the number of proficiency tested personnel. Generally, larger organizations have more available funding than smaller ones; this might help to provide smaller organizations the ability to participate. As for other members such as academia, consider establishing a flat minimal fee that would mimic that of a small laboratory. It is also not recommended to allow other entities such as instrument manufacturers be able to “buy a seat” on a SWG as it could lead to additional bias.

- QUESTION: Other than a privatized model, are there other means to maintain a governance or coordinating body in the long term? If possible, please give examples of existing structures and their positive and negative attributes.

ANSWER: As indicated in the introduction above, the best model is to restructure the current SWGs under NIST's umbrella rather than create a new model. It is recommended that NIST consider strengthening the existing SWG model by addressing the aforementioned criticisms. NIST could simply absorb the current SWGs (name included) and establish a governing body which provides: a clear source of annual Federal funding; shared resources; uniform membership standards; uniform bylaws; mandated use of Standard Developing Organizations (SDO); overall administration; etc.

## 2. Impact of Guidance Groups

- QUESTION: Given that the Guidance Groups cannot mandate the adoption of standards, what can they do to best leverage their position and encourage adoption? To what extent does membership and transparency impact possible adoption of guidance at the state and local level?

ANSWER: SWGs need to first seek out international acceptance in the form of converting their recommendations to a standard using either an SDO or an equivalent process. International accreditation would then play the next biggest role in enforcing the standards. There is a clause in ISO/IEC 17025 under section 5.4.2 Selections of methods that includes language that indicates that "Methods published in international, regional or national standards shall preferably be used and when the customer does not specify the method to be used, the laboratory shall select appropriate methods that have been published either in international, regional or national standards, or by reputable technical organization..." Accrediting bodies could then assess laboratories against this clause. In addition, adoption of SWG standards by the National Commission on Forensic Sciences (NCFS) would go a long way to promulgate forensic science best practices. The NCFS as chartered would carry a wide variety of stakeholders to include the legal community, forensic science practitioners, educators, etc. NIST should also consider a significant effort to establish an outreach committee tasked with regularly engaging forensic science organizational meetings, legal community, law enforcement community and discipline specific groups like IAI and AFTE.

- QUESTION: Are there best practices or models to consider with regard to a structure that would encourage effective communication with the scientific community to explore research gaps and aid in recognizing research priorities?

ANSWER: The best way to proceed is to continue to have an open dialogue with the forensic science community, academia, legal and law enforcement communities to continue to dream up basic research and further develop applied research. The open dialogue can be best achieved through the use of interactive websites, webinars, and participation in forensic science meetings. These venues provide the core structure to ask those questions on what would help the community move forward. The SWG groups are also an excellent source for research direction, especially for applied research. Under the structured bylaws overseen by

NIST, the mission of developing research objectives should be added to each group. In order to build on disciplines with related methodology or expertise, research objectives could then be brought to the executive board of SWG chairs/members for review.

- QUESTION: How should NIST researchers engage with the Guidance Groups in support of the goal to strengthen the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline?

ANSWER: NIST should primarily provide expertise in the field of statistical determinations and traceability of reference materials. NIST is the resident expert in these two scientific areas and their assistance would be critical to the success of the SWGs.

### 3. Representation in the Guidance Groups

- QUESTION: Given the diverse, multi-sector set of stakeholders in forensic science, representation in Guidance Groups must be carefully balanced and inclusive. Who are the stakeholders who should be represented on the Guidance Groups?

ANSWER: First and foremost, the forensic science practitioners need to have the largest voice. Forensic science practitioners have the necessary education, skills, training and experience to provide the most valuable contribution. Academia would have a secondary role; they provide valuable insight that is critical to the process. It is recommended that the selected individuals represent a larger, multi-agency forensic science organization to assist with cross communication. As stated before, international participation is highly recommended as it provides more weight when standards are being developed globally. It is not necessary to permanently staff each SWG with legal professionals, statisticians, etc., as they would only be required on an as needed or invited basis. Commercial entities should not be involved in the SWGs because of the potential for undue influence in favor of their commercial products. That said, this would not prevent commercial entities the ability to provide input during SWG public comments periods and to join a particular SDO so that they could be part of the process of developing standards.

- QUESTION: What steps can NIST take to ensure appropriately broad representation within the Guidance Groups?

ANSWER: The most effective step is to establish standardized bylaws which include the makeup of the membership and rules with how members are recommended and chosen.

- QUESTION: What does balanced representation mean and how can it be achieved?

ANSWER: To obtain balanced representation, stakeholders must first be sought out and identified. Then, members need to be sought that capture the majority of the stakeholders in the appropriate ratios, much like what is done with the formation of SDO committees. It is also



important to cap the group size to maximize productivity, which is recommended at less than 30 individuals.

- QUESTION: What is the best way to engage organizations playing a role in forensic science, standards development and practice?

ANSWER: Creating a transparent openly-publicized system that provides the ability for stakeholders to become active members of the organization and offers many opportunities for input into the process. Requests for community input should move past drafted standards and also include ideas for future standards, projects, research and measurement of how community needs are met.

- QUESTION: How should interested parties who may not be direct participants in Guidance Groups, engage in a meaningful way to have an impact on issues in front of the Guidance Groups?

ANSWER: At a minimum, SWGs must provide public comment opportunities to allow interested parties the ability to comment on proposed standards – much like the Federal Register process. Then, it is recommended that documents be presented to an SDO or other SDO compatible process. The reason the SDO process is being recommended as secondary is that SDOs are typically only open to members of that organization, thus limiting the standardization process to a smaller group of stakeholders. In summary, it is recommended that both processes be incorporated to allow the ability for all interested parties to have a voice.

- QUESTION: To what extent and in what ways must the Federal government, as well as state, local, tribal and territorial governments be involved at the outset?

ANSWER: Efforts should be made to ensure that entities from all levels are included. However, care must be taken as to not “stack the deck” by creating an inequity between larger and smaller organizational participation.

#### **4. Scope of the Guidance Groups**

- QUESTION: Should all of the current forensic Scientific Working Groups (SWGs) transition to Guidance Groups?

ANSWER: As indicated in the introduction, it is strongly recommended that the current SWGs “carry the torch” forward and be the building blocks that NIST further refines throughout this process. It is not understood why NIST proposes to establish Guidance Groups when such a viable and valuable option already exists in the SWGs. SWGs already have a well-established history and are highly recognized by academia, private industry, courts and the domestic and international forensic science community. The most productive SWGs already have nearly two decades of experience and standards that have been developed, why start over? Lastly, there is at least one SWG that will remain a SWG as a result of a Congressional mandate. It seems that it would cause unnecessary confusion to have any SWG continue to operate as a SWG while the other SWGs are dispersed into Guidance Groups. Why not simply transition all

existing SWGs under NIST's umbrella and allow them to keep their name while providing more oversight and administration?

- QUESTION: Are there broader groupings of forensic science disciplines that could form the basis of Guidance Groups than the current group of twenty-one SWGs? If so, what are those groupings?

ANSWER: Yes, several groups do share similar methodology and therefore could share resources. However, typically when groupings are established, discipline specific issues fall victim to competing priorities. Whereas if dedicated and focused forensic disciplines are kept separate, they have a much better chance of proactively reacting to the community needs. In SWGDRUG, we have found it beneficial to have a member with expertise in Toxicology, since the methodologies are related. This has allowed us to focus on seized drug issues but gain a different perspective.

- QUESTION: Is there a need for a cross disciplinary functional approach (i.e. statistical analysis) and how could the Guidance Groups be structured to best address that need?

ANSWER: Yes, the governance body must address the question of "statistics" across all forensic disciplines. NIST is the resident expert when it comes to statistics, maybe they could establish a working group that is assigned to support the work of all SWGs.

- QUESTION: To what extent do Guidance Groups need to support different forensic science disciplines differently from one another?

ANSWER: It is fundamental to the success of the SWGs that difference be allowed. However, it is incumbent upon NIST or the governance board to attempt to standardize the forensic science across disciplines to the extent possible. The governance board would do this by defining requirements as indicated above.

Sincerely,



Scott R. Oulton  
SWGDRUG Chair

*Response from Brian L Peterson of Milwaukee County Medical Examiner*

Sent: Monday, November 04, 2013 5:58 PM  
To: Ballou, Susan M  
Subject: Forensic Science Guidance Groups

Dear Ms. Ballou:

You have likely received plenty of comments already, so I will make mine very brief. In my opinion, the standards that I need and value as a forensic pathologist medical examiner are those set by the National Association of Medical Examiners (NAME). Any attempt to add extra or "outside" rules, standards, etc., would be of less than no value and would likely be ignored by my peers. We have our standards. I suspect the best move that could be made by the federal government with respect to forensic pathology standards would be to accept those of NAME as written. Our organization has worked and re-worked these standards over the years, and they do represent the best and most accepted that could be produced by a highly trained and professional organization.

Cordially,

Brian L Peterson, M.D.  
Medical Examiner  
Milwaukee County, WI

*Response from Mark Pollitt of the Advanced Cybersecurity Education (ACE)  
Consortium*

Dear Sue,

I am sending this in response to the NIST request for input concerning the proposed evolution of the SWGs to Advisory Groups. And while you personally know my background, for the record I have been actively involved in digital forensics since 1987. I am the former Chair of SWGDE, the International Organization on Computer Evidence (IOCE), as well as a leader or participant in number of INTERPOL and G8 groups and meetings. I served as both a Field and Laboratory Forensic Examiner in the FBI's Digital Evidence program and was a Supervisory Special Agent and Unit Chief for the FBI Laboratory (now OTD) Computer Analysis Response Team (CART). I was a strong advocate of standardization and, along with Carrie Whitcomb, led the drive to have digital evidence included in both the ASCLD-LAB accreditation process and as a section in the American Academy of Forensic Sciences (AAFS). I am a Fellow of the Digital and Multimedia Sciences Section of the AAFS.

I currently am an Associate Professor of Engineering Technology at Daytona State College and am the Principal Investigator for a large National Science Foundation grant focused on developing cybersecurity education programs, with emphasis on digital forensics, throughout the Southeast United States.

Let me begin my comments with the notion that a collaborative body of stakeholders, focused on a quality improvement process for forensic disciplines is not only a good idea, it may be the only way to improve the practice of forensic science at a national level. The question is not whether there should be such bodies, but rather the form that they take and the way in which the government interacts with them. I would like to address each of these in turn.

A key element of the value in such groups is their makeup. One analogy that I would use is that of the enterprise architecture notion of getting from the "as is" to the "to be." The only way to determine what is actually occurring in laboratories across the country is to have broad participation by practitioners. This includes: large and small organizations; state and federal; and private sector organizations. Limiting the body to only one group will not serve the strategic goal of improving forensic science as a "system." While I am on the topic of participation, one of the most productive things we did with SWGDE was to pay the way for organizations which did not have the resources to attend on their own. In some ways, these are the organizations that we really need to hear from and address their needs. So, I am opposed to a membership model focused primarily on large and/or federal labs, especially one that excludes those who most need help improving the quality of their work.

At the risk of appearing self-serving, I would suggest that academics, both researchers and teachers, need to participate in the process. One advantage of this is to have input on the longer-term view of the direction of the science and technologies. It will also provide people whose primary perspective is that of the science, not of practice. Further, it will ensure that people entering the forensic profession will be trained in the latest paradigms. Academics also tend to be pedagogically focused and sensitive to how outcomes are measured.

*Response from Mark Pollitt of the Advanced Cybersecurity Education (ACE)  
Consortium*

The issue of participation by industry is a thorny one. I would separate private sector entities providing forensic examination from those selling tools, instruments, reagents, and such. The former group clearly needs to participate and be heard. The second group is problematic. While they can provide input into where technologies are going, it is difficult for them to separate their economic interest with the interest of the profession. Consideration might be given to providing limited access, without voting rights to this group.

NIST has requested input concerning the consolidation of working groups. In my opinion, this is somewhat problematic, as there is a trade-off between detailed familiarity with the practice of a specific forensic discipline and the management of programs. I think that consolidation may work to dilute the technical focus of the groups and make obtaining consensus much more difficult.

Thomas Kuhn, in this seminal book, *The Structure of Scientific Revolutions*, tells us that one of the core elements defining a science is a consensus of the practitioners. The current SWG system, while far from perfect, in many ways fulfills this role. The notion of restricting membership or limiting the voice of the practitioners moves us away from legitimate science, not towards it.

The unilateral decision of the Department of Justice to specifically exclude digital evidence was highly inappropriate. Digital evidence has become one of the most prevalent and potent forms of evidence in the 21<sup>st</sup> Century. The collection, examination, analysis, and presentation of digital evidence as a forensic discipline have been well established. Digital evidence labs are accredited, educational programs in digital evidence are accredited and there are numerous professional certifications in the field. The Digital and Multimedia Sciences Section of the American Academy of Forensic Sciences is one of the fastest growing sections. The discipline has reached a remarkable level of maturity in a relatively short period of time. Trying to ignore the discipline's current maturity is bad enough. Suggesting that the improvement of this critical source of evidence should be deferred to the future ignores its very impact on the criminal justice system.

Science, like most academic pursuits, flourishes in an open environment, where the exchange of views and experiences improves and enriches the community. We all wish to see the science and practice of forensics improved. Let us commit to an open and collegial approach.

Respectfully submitted,

Mark M. Pollitt, Ph.D.

Mark Pollitt, Ph.D.  
Associate Professor, Engineering Technology  
Principal Investigator, Advanced Cybersecurity Education (ACE) Consortium  
NSF ATE Award 1204800

*Response from Eric Ray of Arizona Department of Public Safety Crime Lab*

To whom it may concern,

Re: Comments on Possible Models for the Administration and Support of Discipline-Specific Guidance Groups for Forensic Science

Please consider the following comments as you began to transition the Scientific Working Groups (SWG's) into discipline-specific Guidance Groups. My comments will mainly be focused on the latent fingerprint discipline, its associated Guidance Group, and the Scientific Working Group on Friction Ridge Analysis, Study and Technology (SWGFAST).

**1. Structure of the Guidance Groups**

The structure of the Guidance Groups should be mainly based on the most successful of the SWG's. These groups have evolved since their inception to provide valuable guidelines and standards for each forensic discipline. SWGFAST in particular has been a success in guiding the latent fingerprint discipline through tremendous change and serious challenges into a more robust and respected forensic science. Even earlier this year, there was much discussion of standardizing the structure of all SWG's to be more like SWGFAST in a hope to spread the successes that SWGFAST has achieved to the other groups.

I fear that a fee-based membership in the Guidance Groups would limit the possibility of successfully including all stakeholders and reduce participation from many local and state government agencies. The creation of meaningful standards in forensic disciplines will require a significant commitment from the federal government to bring together these interested parties. Fee-based membership will eliminate some members from participation and may discourage implementation of developed standards.

**2. Impact of Guidance Groups**

While the SWG's in general and SWGFAST in particular worked very hard to create the very best sets of guidelines and standards in forensics, there has only been limited success in seeing these standards implemented in forensic labs around the country. Part of the issue is that the published standards require some explanation beyond the technical text in the document. Some SWG members would speak at discipline-specific conferences to further explain the standard to the relevant community of practitioners. Still, implementation remains limited.

Guidance Group members should take up a greater role in disseminating the discipline standards to the community. Members of the Guidance Groups should be required to meet yearly with local practitioners to explain the standards of the Guidance Groups and the reasoning behind the decisions made. Suggestions made at these meetings could also lead to further improvements at subsequent Guidance Group meetings. Involving the practitioners that have to follow the standards and that actually do the work is key to getting these standards adopted at more agencies. Every accredited forensic lab in the country (and ideally, all forensic labs) should be assigned to a representative on the Guidance Groups. This representative would be the first contact point for nearby labs to get more information about each standard. Once labs have a better understanding of the how and why, they may be more likely to implement Guidance Group standards.

**3. Representation of the Guidance Groups**

The Guidance Groups must maintain a careful balance of interested stakeholders to remain effective, efficient, and relevant. The groups should be comprised mostly of experts from

*Response from Eric Ray of Arizona Department of Public Safety Crime Lab*

the relevant discipline, but must also include input from prosecutors, defense attorneys, judges, researchers, academics, and critics. Without these voices the standards published by the Guidance Groups may not be accepted in the courtroom or in the wider scientific community. However, filling the groups with too many non-practitioners may result in impractical standards that are ignored by practitioners. A carefully balanced middle ground must be maintained.

I would recommend that each Guidance Group be comprised of members representing all interested stakeholders. At least 50% of the members should be currently practicing the discipline on a daily basis. The remaining members should then be filled with forensic laboratory managers/administrators, scholars, lawyers, and researchers that are involved and well-informed on the respective discipline.

As stated, the base and majority of the group should be currently practicing. Most members of the Guidance Group should have to follow the developed standards when they return to their agencies. The SWG's were often made up of individuals who were experts in the field but who were not currently practicing the discipline daily. They would then sometimes write new guidelines and standards with unintended consequences. The exclusion decision was introduced into the latent print discipline in the early 2000's through SWGFAST. This change brought about two unintended consequences. First, practitioners would have to face a new type of error: the erroneous exclusion. Second, practitioners would have to learn to differentiate between the exclusion and inconclusive decisions. SWGFAST changed its guidelines without anticipating these challenges and without providing guidance on how to deal with them. I firmly believe that these types of issues can be avoided in the future if members of the Guidance Groups are mainly comprised of individuals that will have to follow the standards that are set forth.

NIST should also consider creating a Stakeholder Review Board to further include interested parties. While the Guidance Groups would include diverse stakeholders, the Review Board would consist of even more interested parties including governmental bodies, universities, professional organizations, accrediting bodies, law, research, and the judicial and legislative branches. This board would review documents from each of the Guidance Groups and offer suggestions to further improve the standards. The Guidance Groups would have the final decision as to how to implement suggestions from the Review Board. This Review Board would ensure that a wide variety of stakeholders are represented in the process without having to fill each Guidance Group with too many non-practitioners.

#### **4. Scope of the Guidance Groups**

Most of the SWG's should transition to Guidance Groups. Some groups may be able to combine in a natural way (e.g. Digital Evidence and Imaging Technologies), while other groups should not be joined together (e.g. Latent Fingerprints and Footwear). Also, NIST should consider eliminating any SWG's that have not had to significantly update their documents recently. Disciplines that have reached a stable state may not need a Guidance Group, while disciplines experiencing significant change will definitely need them.

Thank you for your time and consideration,

Eric Ray, CLPE  
Criminalist  
Arizona Department of Public Safety Crime Lab

**DEPARTMENT OF COMMERCE**

National Institute of Standards and Technology  
[Docket No. 130508459–3459–01]

Possible Models for the Administration and Support of Discipline-Specific Guidance Groups for Forensic Science

**AGENCY:** National Institute of Standards and Technology, Department of Commerce. **ACTION:** Notice of inquiry.

**SUMMARY:** The National Institute of Standards and Technology (NIST) invites interested parties to provide their perspectives on the appropriate model for NIST administration and support of discipline-specific Guidance Groups (“Guidance Groups”) to be established pursuant to the Memorandum of Understanding (MOU) between the Department of Justice (DOJ) and the National Institute of Standards and Technology. NIST seeks to identify and understand approaches for the structure of effective and sustainable Guidance Groups. This Notice does not solicit comments or advice on the policies that should be addressed by the Guidance Groups. Responses to this Notice will serve only as input for NIST’s consideration of a model to establish and administer the Guidance Groups.

**DATES:** Comments must be received by November 12, 2013, 11:59 p.m. Eastern Time.

**ADDRESSES:** Written comments may be submitted by mail to the National Institute of Standards and Technology, c/o Susan Ballou, 100 Bureau Drive, Mailstop 8102, Gaithersburg, MD 20899. Electronic comments may be sent to [susan.ballou@nist.gov](mailto:susan.ballou@nist.gov). Electronic submissions may be in any of the following formats: HTML, ASCII, Word, rtf, or PDF. All email messages and comments received are a part of the public record and will be made available to the public generally without change on the NIST Law Enforcement Standards Office Web site; [www.nist.gov/oles/forensics/](http://www.nist.gov/oles/forensics/). For this reason, comments should not be confidential, proprietary, or business sensitive information.

**FOR FURTHER INFORMATION CONTACT:** For questions about this Notice contact: Susan Ballou, Office of Special Programs, National Institute of Standards and Technology, 100 Bureau Drive, Mailstop 8102, Gaithersburg, MD 20899, telephone (301) 975–8750; email [susan.ballou@nist.gov](mailto:susan.ballou@nist.gov). Please direct media inquiries to the NIST’s Office of Public Affairs, Media Liaison, Ms. Jennifer Huergo, utilizing the email address: [Jennifer.huergo@nist.gov](mailto:Jennifer.huergo@nist.gov).

**SUPPLEMENTARY INFORMATION:**

*Background:* Forensic science, the application of science within a court of law, is an essential tool in investigations and the administration of justice. Techniques used by forensic scientists often serve as the keystone for investigations into criminal, atrocity, intelligence and homeland security matters, as well as in civil litigation and mass disaster victim identification. Forensic scientists use cutting edge scientific technology and expertise to discover, expose, and explain physical evidence.

NIST and DOJ recently signed a Memorandum of Understanding (MOU) with the intent of supporting the strengthening of forensic science in the United States. The activities undertaken pursuant to the MOU are intended to strengthen the validity and reliability of forensic science by improving coordination across a broad range of forensic science disciplines. The new initiative provides a framework for coordination across forensic science disciplines under Federal leadership, with state and local participation. The MOU provides for the establishment of NIST-administered Guidance Groups intended to develop and propose discipline-specific practice



guidance that will become publicly available and may be considered (along with other relevant and publicly-available materials) by Federal agencies and forensic science-related groups. This coordinated effort is designed to standardize national guidance for forensic science practitioners at all levels of government. Additionally, NIST will continue to develop methods for forensic science measurements and will validate select existing forensic science standards.

Pursuant to the MOU, NIST will administer and coordinate all necessary support for the established Guidance Groups. As with the forensic Scientific Working Groups, Guidance Groups will have no authority to make decisions on behalf of, or provide advice directly to, the Federal Government, any Federal agency or officer, or any other entity. Guidance Groups may collaborate with relevant voluntary standards development organizations or professional organizations for the development of consensus guidance before issuing their guidance to the public. Guidance Groups do not report to DOJ or NIST.

The goal of this Notice of Inquiry is to explore the establishment and structure of governance models for the Guidance Groups. It is expected that models of interest would include the following attributes: Transparency/openness, balance of interest of stakeholders, due process for stakeholder input, consensus process for decision making, and an appeals process. These fundamental principles are critical to developing a model that ensures that stakeholder input is actively solicited and valued. NIST may explore additional governance models in the future. Comments submitted in response to this Notice will serve as input for NIST's consideration in developing the processes and structure necessary for the establishment and maintenance of successful Guidance Groups.

The Guidance Groups will be voluntary collaborative organizations of forensic science practitioners and other stakeholders from a wide array of professional disciplines who represent all levels of the government, academia, non-profit sector and industry. The Guidance Groups are intended to provide structured forums for the exchange of ideas among operational, technical, research, and support organizations to improve the nation's use of forensic science and promote best practices and standards among local, state, Federal, and private forensic science service providers. The proposed mission of the Guidance Groups is to support the development and propagation of forensic science consensus documentary standards, monitor research and measurement standards gaps in each forensic discipline, and verify that a sufficient scientific basis exists for each discipline.

*Request for Comment:* This Notice of Inquiry seeks comment on the possible models for the administration, structure and support of the Guidance Groups. Responses can include information detailing the effective and ineffective aspects of prospective models, as well as the current forensic Scientific Working Groups (SWGs). The questions below are intended to assist in framing the issues and should not be construed as a limitation on comments that parties may submit. NIST invites comment on the full range of issues that may be raised by this Notice. Comments that contain references to studies, research and other empirical data that are not widely published should be accompanied by copies of the referenced materials with the submitted comments, keeping in mind that all submissions will be part of the public record.

## **1. Structure of the Guidance Groups**

- Given the scope and principles of the Guidance Groups outlined here, what are structural models that could best support the Guidance Groups, taking into account the technical, policy, legal, and operational aspects of forensic science?

Having a single agency (e.g. NIST) mandated to organize, promote, and fund all groups would provide the stability and consistency required to allow the group to concentrate on its work. Operational forensic scientists are often required to respond to incidents, or court appearances, on short notice and so may not be able to attend a scheduled group meeting. More frequent

and predictable group meetings will help alleviate this dilemma and foster greater participation from the operational forensic science community.

- What elements or models would facilitate the sharing of best practices and uniform practices across the Guidance Groups?

Timely access to the work produced by each group is one of the key elements that will facilitate the sharing of best practices. This is best accomplished by publicly posting finished documents on the internet, preferably within a single website (e.g. NIST), so that practices can be shared easily and quickly. The publication of consensus standards is a lengthy process which not only impedes the timely implementation of uniform practices across operational laboratories, but it also delays other groups from accessing documents that may be helpful in the development of their guides to best practices.

- Are there public policies or private sector initiatives in other countries that have successfully strengthened the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline? If so, what are they?

Yes, there are several initiatives in other countries that have led to some strengthening of forensic science, most of which are collaborative efforts between nations in a geographic area. For example, the European Network of Forensic Science Institutes (ENFSI) has not only strived to hold meetings for forensic practitioners across Europe to develop scientific guidelines and to share best practices, but they also have made an effort to network operational forensic laboratories around the world through the International Forensic Strategic Alliance. Interestingly, IFSA partnerships exist between Europe, Australasia, and South America, but not with North America. Other initiatives, such as the Senior Managers of Australian and New Zealand Forensic Laboratories (SMANZFL), National Institute for Forensic Science (NIFS – Australia), and the Asian Forensic Sciences Network (AFSN) appear to be plagued by lack of funding (as evidenced by the lack of up to date content on their web pages) and so their effectiveness at addressing the scientific needs of the forensic community appear to be limited. NIFS Australia and SMANZFL, for example, support a similar initiative known as Specialist Advisory Groups (SAGs) where discipline specific forensic science issues and needs would be discussed by forensic scientists, however, these types of groups have also suffered from a lack of funding in the past.

- What are the elements which make existing forensic Scientific Working Groups (SWGs) successful? Are there examples of best practices in specific SWGs that ought to be replicated in Guidance Groups? If so, what are they?

Placing related forensic disciplines together is a good model that allows networking between forensic scientists and the exchange of ideas and best practices. For example, physical trace evidence is comprised of "sub-groups" such as glass, paint, textile fibers, etc. which are all related to one another to some extent. While they each sub-group has separate needs and so require their own group, they logically belong under one organizing executive. This is currently being done with the SGWMAT group. In a similar fashion, SWGFEX logically places four groups (fire scene, explosion scene, fire laboratory, and explosion laboratory) under one executive because they share common investigations and, furthermore, adopting best practices at these scenes will have a direct impact on the quality of the results obtained by the laboratory. Again, other disciplines such as biometrics and DNA could be grouped under one organizing

executive that could be described as human identification. Furthermore, by placing related disciplines together, the development of a standard method by one group may have direct application to a related group, and so a savings in effort will be realized by different sub-groups working together on some projects, such as guidelines for proficiency testing. SWGs have also been open to, and have often encouraged, participation by forensic scientists from other countries, particularly Canada and Western Europe. This active promotion of international cooperation has been a significant benefit of the current SWG model. One glaring error of the current SWG funding model is that US federal employees are often prevented from accessing funds to attend SWG meetings which typically results in these well-trained, experienced forensic scientists not being able to contribute to the important work of these groups.

- Would partnership with a standards development organization (SDO) in which the standard is issued by the SDO present any obstacle for participation by a broad range of forensic science stakeholders in the development of a standard? If so, why?

I do not believe the involvement of an SDO would prevent or discourage the participation of stakeholders in the development of a standard. The involvement of an SDO can be a lengthy and time consuming process, which may delay the publication and, therefore, the adoption of a standard.

- Would partnership with an SDO in which the standard is issued by the SDO present any obstacle to broad adoption of a standard? If so, why?

From a world-wide perspective, if the SDO is perceived by forensic scientists from other countries as working primarily for the interests of the United States, then adoption of the standard outside of the USA may not occur.

- Would a fee-based membership model run through a not-for-profit organization (similar to the National Conference of Weights and Measures) present a significant obstacle for participation?

I believe that fee-based membership would be an obstacle. Input from smaller, local laboratories is unlikely if they are required to pay a membership fee to participate. Likewise, many agencies outside the US are also under severe budget restraints and so are unlikely to pay a membership fee to participate in a US-led initiative. A membership fee will limit the number of different scientific perspectives at the table, which may result in a perception that the guidelines and initiatives of the group do not represent those of the forensic science community at large.

- If the Guidance Groups followed a fee-based membership model, are there appropriately-tiered systems for fees that would prevent “pricing out” organizations, including individuals?

Organizations will always put their own day-to-day operational needs ahead of such initiatives as scientific meetings and conferences. In this world-wide climate of fiscal restraint, any membership fee may serve as a barrier to an organization participating.

- Other than a privatized model, are there other means to maintain a governance or coordinating body in the long term? If possible, please give examples of existing structures and their positive and negative attributes.

The need to “support the development and propagation of forensic science consensus documentary standards, monitor research and measurement standards gaps in each forensic discipline, and verify that a sufficient scientific basis exists for each discipline” exists around the world. Ideally, national governments would desire to participate in an organizational/funding model similar to that of Interpol, one that would strengthen forensic science across the globe by documenting best practices, developing databases, and fostering research.

## 2. Impact of Guidance Groups

In its role in administering and supporting the Guidance Groups, NIST’s aim is to improve discipline practices by advancing forensic science standards and techniques through a collaborative consensus building process with Federal, state and local community partners. NIST thus seeks comments about the ways in which the structure, function and operation would best support the Guidance Groups by being a catalyst for such improvements.

- Given that the Guidance Groups cannot mandate the adoption of standards, what can they do to best leverage their position and encourage adoption? To what extent does membership and transparency impact possible adoption of guidance at the state and local level?

Publication of guidelines and standards, whether as a NIST report in an agency journal, an ASTM guideline, or via another vehicle, is the best way to encourage adoption. It is very important that the published documents be the work of practicing forensic scientists who are recognized by their peers as having the knowledge, skills, and ability to conduct forensic examinations in a given field.

- Are there best practices or models to consider with regard to a structure that would encourage effective communication with the scientific community to explore research gaps and aid in recognizing research priorities?

The model that might work best is one where there is adequate consultation. For example, there could be a mechanism whereby an experienced forensic scientist is embedded in each research project as a consultant. I say this because it occasionally happens that an academic researcher does not fully appreciate the rigor that is required for acceptance of a result or method by the court. Alternatively, an academic researcher may develop a new method that may work well under controlled laboratory conditions, but it cannot work in the field because the researcher lacked the knowledge of how real world samples present themselves to the forensic practitioner. It is equally important that research projects requesting funding be reviewed by practicing forensic scientists who can provide advice on the viability and utility of the proposal. Failure to consult with forensic scientists may lead to the funding of research projects that will not be of any benefit to the forensic community.

- How should NIST researchers engage with the Guidance Groups in support of the goal to strengthen the nation’s use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline?

I am not familiar enough with the skill sets and knowledge base of NIST researchers to answer this question.

### 3. Representation in the Guidance Groups

Given the diverse, multi-sector set of stakeholders in forensic science, representation in Guidance Groups must be carefully balanced and inclusive.

- Who are the stakeholders who should be represented on the Guidance Groups? What steps can NIST take to ensure appropriately broad representation within the Guidance Groups? What does balanced representation mean and how can it be achieved?

Given that “the proposed mission of the Guidance Groups is to support the development and propagation of forensic science consensus documentary standards, monitor research and measurement standards gaps in each forensic discipline, and verify that a sufficient scientific basis exists for each discipline” the stakeholders are limited to forensic scientists, researchers, and the court. Forensic scientists would include those who work privately as well as those who work at publically funded laboratories, researchers would include scientists from both private and publicly funded forensic laboratories, university academics, and government research organizations, and the court representatives should target judges because they are the “trier of fact.” It must be acknowledged that not every group will have representation from all stakeholders listed above because there simply may not be a private laboratory with sufficient experience in gunshot residue analysis, or a representative from a government laboratory who can contribute to a technical discussion on fingerprints.

- What is the best way to engage organizations playing a role in forensic science, standards development and practice?

By promoting to their organization the benefits of having nationally and internationally accepted guidelines and standards for the forensic work they are engaged in.

- How should interested parties who may not be direct participants in Guidance Groups, engage in a meaningful way to have an impact on issues in front of the Guidance Groups?

Documents drafted by a group could be posted for a limited time (e.g. 30 days) for public comment, and the public should be able to sign up for an electronic notification of recently posted documents in any, or all, of the groups that interest them. Comments should be screened for appropriateness, and publically posted along with information identifying the individual who posted the comment. Comments that merely criticize the work of a group should be discouraged, or not accepted for posting at all. Constructive comments that offer alternative points of view, other possible solutions to a problem, or additional information on a topic should be encouraged and, where appropriate, responded to by the group in the same public forum.

- To what extent and in what ways must the Federal government, as well as state, local, tribal and territorial governments be involved at the outset?

In order for the work of the groups to be adopted across the country, it is very important that the federal government be involved at the outset. Many forensic scientists work in state and municipal forensic laboratories, and so it is important to keep all levels of government and law enforcement agencies apprised of the formation of these groups and how they will function.

### 4. Scope of the Guidance Groups

- Should all of the current forensic Scientific Working Groups (SWGs) transition to Guidance Groups?



To decrease administration costs and to improve the sharing of information, it would be best if all SWGs were brought under the administration of the same agency.

- Are there broader groupings of forensic science disciplines that could form the basis of Guidance Groups than the current group of twenty-one SWGs? If so, what are those groupings?

For the purposes of coordinating joint meetings and fostering networking amongst scientists, yes, broader groups could be formed along a similar model to SWGMAT or SWGFEX. However, these broader groupings would only be effective for the purpose of administrating and coordinating the work of the sub-groups. Broader groups would not have sufficient focus to be effective at writing best practices, guidelines, or monitoring research projects.

- Is there a need for a crossdisciplinary functional approach (i.e. statistical analysis) and how could the Guidance Groups be structured to best address that need?

While I agree that there is a need to have most, if not all, groups engaged in the topic of statistical analysis, it may be difficult for a single "Statistical Group" to have the breadth of knowledge to successfully assist such a diverse group of disciplines. For example, the statistics behind population genetics is very different from multivariate chemometrics used to assess the significance of a match for multi-element data from materials such as glass, which is different from drug seizure cases employing sampling statistics using the hypergeometric distribution, which is different again from the statistics required to pre-process (e.g. normalize) spectroscopic data for direct one-to-one comparisons or subsequent searching against a database of spectra. Access to statisticians, perhaps NIST researchers themselves, to provide guidance to each group on an as needed basis may be more workable.

- To what extent do Guidance Groups need to support different forensic science disciplines differently from one another?

It must be understood that each discipline is unique and so it has unique needs. For example, DNA is not transferred from individual to crime scene in the same way glass particles are transferred from crime scene to individual, nor are the instruments and methods used to identify and compare these two materials in any way similar to one another. For DNA analysis, there is medical and academic research conducted around the world on this molecule which can, hopefully, be adapted to the forensic community in the form of faster, more accurate, less expensive analyses. For glass analysis, the majority of the research aimed at differentiating one piece of glass from another has been driven almost exclusively by the forensic science community. So while DNA may need to focus more on transfer and persistence studies or the evaluation of new, automated analysis technology, glass analysis may need to focus on developing a database of elements in glass to better assess the significance of the evidence.

Comments submitted by:

Mark Sandercock, PhD  
Manager, Trace Evidence Program Support  
National Centre for Forensic Services - Alberta  
Royal Canadian Mounted Police  
15707 - 118th Avenue  
Edmonton, Alberta Canada T5V 1B7

Dear Ms. Ballou,

I am writing to you in response to the request for comments on the Federal Register Docket Number 130508459-3459-01 – “Possible Models for the Administration and Support of Discipline-Specific Guidance Groups for Forensic Science”.

Please allow me to introduce myself. My name is LeeAnn Singley and I am the owner of Grayson Singley Associates, LLC a forensic consulting firm in Duncannon, Pennsylvania. Previously, I spent 17 years working in the PA State Police Crime Laboratory in Harrisburg. I am currently a member of the Scientific Working Group on Bloodstain Pattern Analysis (SWGSTAIN) and have been since its inception in 2002. I chair the Quality Assurance Sub-Committee.

I would like to acknowledge the work that NIST and DOJ have put into the furtherance of the guidance groups for the betterment of forensic science here in the US. What I would like to do in this correspondence is speak a bit about how the SWG that I am involved in has been working as it seems to address many of the topics raised in the Federal Register.

### ***SWG Makeup***

SWGSTAIN is comprised of approximately 30 individuals representing the US and foreign entities (Canada, New Zealand, Australia, United Kingdom, the Netherlands and France). Although historically the SWG's, and even the proposed guidance groups, have been implemented primarily to develop best practice guidelines for forensic science in the US, the work products of SWG's have been “looked to” and embraced by the practice of forensic science worldwide. International forensic organizations also have sought out and are/were actively engaged in the review of our work product and therefore the balance of both US and international involvement as represented on SWGSTAIN is a valuable one.

SWGSTAIN is also comprised of a unique balance of members of law enforcement agencies (federal, state and local level), private companies/consultants (many of whom are retired from government agencies), academia, law, and research. This provides us a balanced perspective while moving forward in the generation of best practice guidelines.

### ***Membership***

Although our by-laws allow for more members than we currently have, SWGSTAIN has kept a careful watch on itself to have enough members to be productive while not having “too many” to be counter-productive. It also allows us the flexibility to invite guests to engage in one meeting or more and to provide input that may be unique to an issue at the time. From past invited guests and from those that have either expressed interest or were suggested by a current member, SWGSTAIN has sought out new members for the group upon attrition. Potential new members have been invited to a minimum of 2 meetings which allows SWGSTAIN as a whole to evaluate (so to speak) the potential member's interaction. The member is then considered on their group interaction, their background and where the need in SWGSTAIN exists. This has allowed SWGSTAIN to continue to remain productive in their work product. It also allows us to maintain continuity from meeting to meeting.

In direct response to one of the issues, I believe a “fee-based” model for a guidance group would be in many senses restrictive to the pool of membership and therefore affect its overall usefulness. I believe

it is important that the funding for the groups fall under government support rather than from the private sector and that the support carry with it a true commitment for the long term. The forensic community is hungry for and has come to rely upon, the SWG's work products. Our recent hiatus caused by disrupted funding has undermined the full effort of the SWG's and placed questions in the minds of the user as to what the future holds. It is my hope moving forward, there be full support from the government which would lessen or eliminate the potential vested interests surrounding private sector run guidance groups.

### **Research**

Having an accessible portal of identified needs in research is a must. SWGSTAIN has a link to identified research needs on its website. This research list was formulated by the Research Subcommittee and reviewed and commented on by the entire SWG membership. It has proven to be successful since results of academic research recently presented at the International Association of Bloodstain Pattern Analysts (IABPA) conference had its beginnings from this list of needs. Our current chair, Mr. Mike Illes, although retired from the Ontario Provincial Police, is employed in academia at Trent University in Ontario and has been quite accessible to requests for research guidance.

### **Adoption of Standards**

Recognizing that currently, the SWG's have no authority to require adoption of the guidance documents, (nor would the proposed guidance groups as the federal register states), the manner in which guidelines generated by SWGSTAIN are adopted appears to be in many cases driven by the courts. Public access to SWGSTAIN guidelines by both defense and prosecuting attorneys and judges has raised the awareness level of "what is expected" of a bloodstain pattern analyst with regard to training, quality assurance, etc. - and the witness is being so questioned.

Moving forward, acceptance and implementation of accrediting organizations into their standards will facilitate the adoption of guidance group work products. Endorsement by national and international forensic organizations will also provide some accountability with regard to adoption by individual agencies.

### **Scope of Guidance Groups/ Dissemination of Information**

While SWGSTAIN has an active website and an open and working communication with our stakeholders, I believe having a "one stop shop" for all guidance groups might be beneficial. Having one website where all stakeholders could gain information (regardless of forensic discipline) with regard to finalized work product, public comment documents, communication with members, etc., would make the exchange of information more effective – even between the SWG's themselves. Should all guidance groups fall under one **support** "umbrella", so to speak, this goal may be reached more successfully.

That being said, although I can't address each of the current SWG'S, my suggestion would be to keep them **separate** while underneath that "umbrella". While on the surface it might seem beneficial, for instance, that all "pattern identification" SWG's join together, my opinion is that would be rather counter-productive. Recognizing that although we may be addressing similar issues, the manner in which we address them may be quite different. My personal experience in SWGSTAIN has seen many a "lively" discussion driven by our different backgrounds while all being bloodstain pattern analysts. Add



*Response from LeeAnn Singley of Grayson Singley Associates, LLC*

in the vested interests of a completely different forensic discipline (e.g., latent prints, document examination, etc.) and the expediency and perhaps even the “bar” at which the standard is set might be lowered in order to meet the needs of all.

Finally, SWGSTAIN has reached out to and now enjoys a good working relationship with the professional organizations whose membership rosters represent our major stakeholders. In particular, each year the IABPA has allotted time for updates from SWGSTAIN at its annual conference and has formed a SWGSTAIN document review committee to review all documents generated and released for public comment. Recognizing the need for standards in the discipline, the IABPA has also endorsed the published SWGSTAIN terminology – further evidence the entities are working together for the betterment of the discipline.

In closing, I greatly appreciate your consideration of the comments put forth in the correspondence. Please feel free to contact me should you have any questions regarding my thoughts. My contact information is listed below.

Thank you for your time.

Respectfully submitted,

*LeeAnn Singley*  
Grayson Singley Associates, LLC

Hello Susan,

I first must apologize for responding to you so late. I had intended to send you a message much sooner than this.

In reference to the NIST call for information, SWGGUN has decided not to put together a full formal response. We felt that the time spent with John Paul Jones at our November 2011 meeting in Columbus as well as verbally discussing thoughts and ideas (representative of what SWGGUN would want) at the SWG Chair meeting in June as well as other various responses SWGGUN has provided for other requests for information that we have verbalized what we would like to see as to the new management. Further, I thought a group response from all the SWGs (given that we are now going to be managed by the same agency) would carry more weight than a multitude of individual responses. However, the other SWG chairs or a majority of them did not feel this was the appropriate route so they opted to provide individual responses.

I do not want you to think that SWGGUN is not interested or does not have any concern about the new management that will soon be transitioned into. Obviously we do. We fully understand that things are going to change and we are okay with that. We have already prepared a "ready to go" bylaws that is unified based on the IWG committees format for unified bylaws. We have also taken into account other considerations of these IWG group, which appear to be a most probable starting point for re-engineering the SWG office. So please understand that SWGGUN is very excited about the upcoming changes as well as very concerned about the direction that this management takes.

Our primary concerns are to reduce any overly tasking administrative duties from the SWGs. We feel that having a program office to handle dissemination of materials, note taking assistance, research and possibly legal insight would be most beneficial. I find that a lot of time SWGGUN spends is on these tasks that take away from the purpose of our meeting. We also need actual support to allow us to meet at least twice a year for having in person meetings. I know this is a concern of practically all the SWGs, but is obviously an important one. It cannot be understated how much work gets done with a group is able to sit face to face versus trying to accomplish the same tasks via email or video chat or conference call. They just cannot compare. I also think website management should be handled by a single entity that operates and functions for all the SWGs. This will not only provide for uniformity, but also will keep individual members from paying out of pocket to host the websites.

Of the responses that I have been made aware of and seen, I will say that SWGGUN would support (with very little exception) the response put forward by the SWG DE groups. I thought that although they were speaking on behalf of their own SWGs it was well written and would parlay well as a template for all SWGs and the management of said SWGs. Please accept this endorsement of the SWG DE response as SWGGUN is amenable to their outline.

To be perfectly honest, I am just ready for something to happen. It is now the end of November and we are still in a major black hole as to where we are going how we are going to be managed, when or how we will have meetings and the direction that we will be tasked with once

*Response from Andy Smith of SWGGUN*

everything has settled. I am excited for the future that lies ahead as I think it can provide much needed support for SWGGUN guideline development and implementation.

I thank you for your time and consideration and again, my apologies for being a little delayed in getting this information to you.

Thanks,

Andy Smith

Chair - SWGGUN

*Response from Paul F. Souza of Plymouth County Sheriff's Department*

Dear Susan Ballou:

I am the senior practitioner of the Plymouth County Sheriff's Department an agency that processes over 10,000 criminal and civil cases a year. My duties include overseeing forensic analysis of physical evidence, latent comparison, equipment calibration, AFIS administration, DNA laboratory submission, courtroom testimony, policy development, instruction, and training. We utilize ACE-V methodology and generally follow guidelines set forth by ASCLD, ISO and SWGFAST. In addition, I have served as President of the International Association for Identification – New England Division and Chairperson of the Law and Legislative Committee. I have participated in National and International surveys, and studies for the improvement of forensic science. I have reviewed the NAS report and have testified in court as an expert witness to Daubert and Frye standards.

In regards to the "notice of inquiry" group model proposal, first and foremost it must be of benefit to the practitioner's. That being said to be effective the groups composition must contain a majority of qualified practitioners. In my particular field of fingerprint identification it would be beneficial if a group could find out if two fingerprints from different fingers could ever be the same. I have researched thousands of fingerprints and have always discovered them to be unique.

My unique experiences, knowledge, and passion would hopefully be of value to the NIST. I do care about the future of our profession and look forward to serving as a part of the proposed new NIST guidance group(s). I would be able to attend meetings anywhere and at any time the proposed guidance groups so desired.

Should you require any additional information, please contact me anytime. Thank you for your consideration.

Respectfully submitted,  
Paul Souza

PAUL F. SOUZA, CLPE  
Senior Forensic Analyst  
Bureau of Criminal Investigation  
Deputy  
Plymouth County (MA) Sheriff's Department

**Perspective on NIST's Proposed Guidance Groups**

**Marianne Stam DOJ CA, criminalist supervisor**

**Comments:**

It appears that NIST is proposing to replace the Scientific Working Groups (SWGs) with 'Guidance Groups'; however, for the past two to three years, the Chairs of the various SWGs have been meeting to develop protocols that cover the procedures for membership, including what the membership make-up should be (e.g. % from the academic, legal, and practicing forensic scientist communities).

Why is NIST now asking for public input for 'Guidance Groups'? The model that the SWG Chairs have developed for membership is a good one. Why change the SWG name from Scientific Working Group to 'Guidance Groups'?

**Structure of the 'Guidance Groups':**

A. Structural Models:

The structural model developed at the SWG Chair meetings over the past two to three years should be adopted. It covers the membership content, how interested parties would apply for membership, and how members would be selected. The membership should be predominantly composed of practicing forensic scientists, followed by forensic scientists in academics with limited participation (on an as needed basis) of members of the legal community.

Re: Other country models: See ENSFI Website: The European Network of Forensic Science Institutes: <http://www.ensfi.eu/>

Partnership with SDOs: If it is a partnership such as exists with ASTM wherein the 'Guidance Group' develops the guidelines and then submits them to ASTM for publication – then this would be a good model. This is the method currently used by SWGMAT: The Scientific Working Group for Materials Analysis.

Fee Based Membership: This would not only present a significant obstacle for participation; but it would also appear elitist. Maintaining long term governance or a coordinating body can be accomplished much like AAFS or regional forensic science organizations – Have a Board with members elected from the forensic science community.

**Impact of 'Guidance Groups':**

If the Guidance Groups cannot mandate the adoption of 'standards', then it won't be any more effective than the SWG groups have been; which isn't to say that the current SWG groups have not been effective. It would be disastrous to the forensic science profession to have standards that are so restrictive that it removes the ability of the scientist to think outside the box – especially since the profession often deals with unpredictable evidence.

What is needed more than best practices is research that covers the needs identified in the NAS report. This should be one of the primary functions of the 'Guidance Groups'.

As with any profession, the membership content and transparency of the groups is vital to being respected enough by practicing forensic scientists to even be considered for adoption.

**Representation in the Guidance Groups:**

Limit the legal community participation- they should only be consulted on an as-needed basis, if at all. The legal community should *not be* allowed to dictate forensic science.

The profession is forensic science and the professionals are forensic scientists. Therefore, the members of those on the committees or the groups who are to decide the future of forensic science should be practicing forensic scientists.

Scope of the Guidance Groups:

The SWGs should be retained in light of the suggestion below:

- There could be two branches within a larger group (as yet un-named) as follows:
  - SWGs (the practitioners): To write consensus guideline documents
  - 'Guidance Groups' (the researchers): To explore and guide research needs, including identifying the best institutions/academic groups to carry out the research.

These groups could be composed of some of the same members; with the 'Guidance Groups' also including more academics who would work with the other members to help determine and guide the research that is needed.

The major need in forensic science today is research on areas that were highlighted in the NAS Report. Practicing forensic scientists do not have the time; nor do their agencies have the resources to do research in these areas. Therefore, the above model may be one way in which the research needs are identified and met while producing best practices at the same time.

There is definitely a need for cross-disciplinary approaches and one way to structure a group to meet such needs is suggested above (e.g. SWGs + Guidance Groups as defined above).

**Miami-Dade Police Department, Forensic Services Bureau, Guidance Group Comments**

**1. Structure of the Guidance Groups**

- Given the scope and principles of the Guidance Groups (GG) one of the structural models that could best support the GGs is as follows:
  - Each GG should have a core group of 15-25 participants, depending on the forensic discipline
    - The core group is responsible for reporting GG business to the NIST representative(s)
    - Core Group membership:
      - **Practitioner:** This position must be clearly defined as a current case working analyst/examiner (which excludes individuals retired from the laboratory who are no longer reporting casework results).
        - At least 50% of the Core Group should be practitioners from public crime laboratories
        - Federal/State/Local laboratories should be represented
        - Geographical representation
        - The practitioners should be representative of Federal, state and local labs and represent all sizes of jurisdictions.
      - **Statistician:** This individual must be knowledgeable and currently using the skill set associated with this role.
      - **Researcher:** This position must be clearly defined as an individual who is directly involved in the research pertinent to the GG's objectives (this would include NIST researchers). If there has been a grant awarded to a researcher to conduct research directly associated with a GG's goals and objectives, they should be considered as an Invited Guest for the specific Working Group.
      - **Academician:** This position is an individual who has a position at a college or university and has the essential skill sets necessary to contribute to a GG's goals and objectives. This individual may also be a researcher.
      - **Quality Assurance Manager:** An individual who spends at minimum 50% of their time performing QA related tasks. The QA Manager provides accreditation support for the disciplines including compliance with ISO and Supplemental standards.
      - The Core Group members have voting privileges
      - The Core Group should **NOT** allow membership from:
        - Private vendors, although there may be instances where an individual from a private vendor may be an Invited Guest
        - Retired practitioners such as Crime Laboratory Directors unless the individual is still maintaining proficiency in their discipline.
        - Center of Excellence staff who may have vendor relationships
  - Invited Guests
    - Should be considered for relevant agenda-specific presentations
    - Potential for membership in GG Working Groups and ad hoc groups

**Miami-Dade Police Department, Forensic Services Bureau, Guidance Group Comments**

- Anticipated GG agenda template:
  - Meeting
    - Day 1:
      - Travel, when necessary could also serve as additional meeting time for Working/Ad Hoc Groups
      - Not open to the public
    - Day 2:
      - Invited Guest presentations, “old business” as appropriate
      - Allow timed public comment with prior approval for speaker(s)
      - Open to the public (this might logistically be a problem for core meeting planners.) I would suggest that only the 4<sup>th</sup> day or the 2<sup>nd</sup> day be open to the public.
      - Submitted “written” public comments could be addressed when received – any day.
    - Day 3: Working Group/Ad Hoc Group Break-out
      - Conduct work-product business
      - Not open to the public
    - Day 4:
      - Working/Ad Hoc Groups present update reports to the Core Group
      - Open to the public (last day only or day 2 only)
      - Close-out before 1:00pm
- Options for the sharing of best practices and uniform practices across all of the Guidance Groups:
  - Mandates
    - Each GG should have a Charter with by-laws including but not limited to:
      - Term Limits for Chairs, Vice-Chairs, Secretary positions
        - Individuals in these positions are not disqualified from becoming a member of the general Core Group once term limit expires
      - Robert’s Rules of Order should be implemented for GG control
      - Core Membership policy
      - Invited Guest policy
      - Mandated regular meeting schedules to include a minimum of twice a year in-person meetings. GGs should also have the ability to telecommunicate (email, message boards, Skype, etc.) so that research/work (preparation/collaboration) can be accomplished outside of the in-person meetings.
      - Transparency policy
      - Location of meetings
      - Budget for meetings
      - Charter amendment policy
    - Agendas available prior to meetings
  - Site-specific website in which all GGs post information



**Miami-Dade Police Department, Forensic Services Bureau, Guidance Group Comments**

- GG Member information
  - GG Working Groups/Ad Hoc group member information
  - Items requesting public comment (not pre-work product)
  - GG specific public or laboratory-specific surveys
  - Agendas with pertinent date(s)
  - Application to give public comment at a meeting
  - FAQ site for each GG
- Successful forensic Scientific Working Groups (SWGs) have the following attributes which may be drawn upon for the formation of the GGs:
    - A Charter
    - Enforceable standards
    - Definitive timelines for Working Group/Ad Hoc Group tasks
    - Relationships with academicians, researchers, statisticians and forensic laboratories that are not represented on the SWGs.
  - Best practices may be found in several current SWGs that may be drawn upon for the GGs. Using DNA as an example, SWGDAM has
    - All of the attributes delineated above
    - A public website with all pertinent documents published
    - A website is updated and maintained
    - Agendas that are available to the public
    - A published mission statement

SWGDAM also encourages public comment for ensuing standards or recommendations and SWGDE has a section of their website requesting public comment on its new or revised documents.

- Regarding a potential partnership with a standards development organization (SDO) in which the standard is issued by the SDO, these standards are usually consensus standards and not necessarily forensic discipline-specific. In addition, the standard may be more practical than scientific. However, the SDO may offer expertise in the design and development of a standard which would benefit the GG.
- A GG fee-based membership model run through a not-for-profit organization may not present a significant obstacle for participation but there are concerns:
  - Laboratories who can afford the membership may not be the best practitioner representatives.
  - Non-forensic members may not be able to afford membership and it would be difficult to complete the membership composite requirements.
  - A tiered fee-based system does not seem feasible.
- Long term governance, defined as administration and coordination of the GGs by a privatized model, does not seem feasible and may have the same issues as a not-for-profit. This is not a trivial issue as the credibility or generation of the GG's work product could be affected by governance by a private entity, for example, if membership dues were increased or if there were connections to vendors by the private vendor.

**Miami-Dade Police Department, Forensic Services Bureau, Guidance Group Comments**

**2. Impact of Guidance Groups**

- The Guidance Groups cannot mandate the adoption of standards but they can request accreditation bodies such as ASCLD-LAB, FQS and A2LA to adopt the standards in a supplemental to the ISO standards.
  - NOTE: Without membership and transparency, it would be very difficult to adopt the standards at the state and local level. The following are considerations regarding the adoption of GG standards:
    - May withhold federal grant monies if the State and Local levels do not comply
    - Will not have access to federal databases
    - Courts may not accept testimony
    - Accreditation may be withheld
- The GGs should engage with professional organizations such as AAFS, IAI, AFTE, SOFT and NAME to coordinate and consolidate potential policies, standards and research opportunities.
- GGs may positively impact the certification process by forging a relationship with certification bodies to provide relevant questions.
- NIST researchers should engage with the GGs to support the goal to strengthen the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline. NIST researchers can interact as Core Group Members (see Structure of the Guidance Groups above) or Invited Guests.

**3. Representation in the Guidance Groups**

- The stakeholders are described above in Core Groups and Invited Guests.
  - NIST should be certain that the right practitioners are part of the GGs.
    - Longevity should not be a consideration
  - Balanced representation means that all of the criteria necessary to design and generate standards and policies are addressed by subject matter experts who are active members of the GGs.
- Engaging organizations to play a role in forensic science, standards development and practice will occur by allowing public comment, invited lectureships and GG Working Group/Ad Hoc Group participation.
- There should be an application and vetting process in place for individuals interested in invited lectureships or being an Invited Guest member in the Working Groups/Ad Hoc Groups.
- The Federal government must be able to appropriately fund all activities associated with the GGs.

**4. Scope of the Guidance Groups**

- All Scientific Working Groups (SWGs) should transition to Guidance Groups

**Miami-Dade Police Department, Forensic Services Bureau, Guidance Group Comments**

- It may be advantageous for several groups to be combined:
  - DNA, Wildlife Forensic Analysis
  - Medico-Legal Death Investigation, Disaster Victim Identification
  - Facial Recognition and Imaging Technology
  - Geological and Trace Evidence
- There should be a cross-disciplinary functional approach (i.e. statistical analysis) for the GGs in order to share common issues. For example, Guidance Groups should share methodologies for statistical analysis such as uncertainty of measurement and documenting regarding traceability compliance.

Stephanie Stoiloff

Senior Police Bureau Commander

Forensic Services Bureau

Miami-Dade Police Department

## *Response from Joel Sutton, USACIL*

Thank you for the opportunity to weigh in. We have been closely monitoring the developments of the National Commission on Forensic Science, both as a DOD federal crime laboratory and as an organization with current membership on the SWGs. We agree like most everyone that changes are needed and certainly the recommendations from the NAS report and others make a sound argument for improving current practices within the forensic community. Our comments based on the NIST provided questions/topics are found below.

- 1. Structure of the Guidance Groups-** in terms of a model, the vast majority of forensic laboratories already work under or are moving towards standard practices and procedures and these of course are the accreditation requirements based on ASCLD-LAB or FQS International ISO 17025 standards. We would first encourage that the first recommendation from these guidance groups would be to require that all laboratories (government and private) who conduct forensic testing be accredited and for consistency comply with the same standards (i.e. ISO 17025). If this were the case, then standardizing the suggested elements (i.e. technical, policy, legal, and operational aspects of forensic science) across laboratories would already be in place and the framework established. The next step would then be for these guidance groups to simply cross-reference these accreditation standards and supplement with discipline-specific guidance where needed or if not addressed by the accreditation standards. In other words, we do not see a need with instituting new best practices or policies (i.e. SDO or private sector initiatives) which may confuse, conflict, or be redundant with the current accreditation standards already in place. Instead, the focus of these guidance groups should be to standardize laboratory testing based on currently accepted forensic accreditation requirements.
- 2. Impact of the Guidance Groups –** this is the most critical part of making this a success in our view. The issue with the SWGs at the moment is that most feel they issue guidance more as recommendations and as such laboratories are not required to comply. This has caused many of the gaps we see today. The best approach in our view in enforcing the standards coming from these guidance groups is to somehow tie them back into the accreditation process. Perhaps an audit document could be created from each guidance group for their particular discipline that could then be used and applied by auditors as part of the accreditation process. This document could supplement the laboratory accreditation process in much the same way as the FBI QAS audit document does currently for DNA testing. In this way all forensic laboratories would be more compelled to comply.
- 3. Representation in the Guidance Groups –** these groups need to model the current SWG structure - representation from current local, state, and federal (DOD and DOJ) crime laboratory practitioners in addition to NIST. We appreciate and understand the current role of NIST and other researchers in the private sector in developing methods for standardization and validating new technology and methodology to advance forensic science here in the US, but they do not routinely perform analytical examinations in casework nor testify to those results in a court of law. That particular expertise is what crime lab practitioners bring to the table. As long as there is sufficient representation from current crime lab practitioners with these groups, we feel that

much can be accomplished and any recommendations from these groups well-received.

When necessary, representation from the legal community (i.e. prosecutors and defense attorneys) should be invited to weigh in or review certain guidance as it relates to their expertise (i.e. case law, legal precedence). The legal community is adversarial by nature, so their attendance should be somewhat limited with these groups, so more open and candid discussions can be held with the scientists on any underlying issues or concerns.

The NIST guidance groups should also be appointed from nominations submitted by the forensic community, and voluntarily be a member for a limited time, so that other individuals in the forensic community have opportunities to serve. Like the SWGs, there should also be invited guests to these meetings who could certainly weigh in and give input to any guidance as needed to ensure sufficient representation and perspective. We would also recommend that any adopted policies or practices issued from these guidance groups be available to all forensic laboratories (i.e. government or private) for public review and comment for a period of time prior to formally submitting to the Commission. This would alleviate any concerns of gaining sufficient peer review.

- 4. Scope of the Guidance Groups** – Disbanding the SWGs in our view should be in name only, since the role of the guidance groups should be synonymous with the SWGs. There may certainly be a need for guidance groups to support each other on occasion, and this could be accomplished by forming an ‘ad-hoc’ or special committee with members from the different groups discussing these issues as needed. This has certainly worked well with the SWGs and could be used on an as-needed basis.

Thank you again for your attention to this matter.

DNA Casework Branch  
United States Army Criminal Investigation Laboratory

Comments to Possible Models for the Administration and Support of Discipline-Specific Guidance Groups for Forensic Science

**1. Structure of Guidance Groups:**

- Given the scope and principles of the Guidance Groups outlined here, what are structural models that could best support the Guidance Groups, taking into account the technical, policy, legal, and operational aspects of forensic science?

A model based on the current practice of the SWG groups that support the collaboration of qualified forensic scientists that volunteer their time. The model would start at the top with a lead Guidance Group that oversees the individual forensic discipline Guidance Groups under it. The lead Guidance Group would provide a standardized guidance roadmap for the other groups in the development of professional forensic science standards.

- What elements or models would facilitate the sharing of best practices and uniform practices across the Guidance Groups?

The lead Guidance Group that oversees the other discipline groups should standardize/ model procedures for the individual standards developing groups to follow. The lead Guidance Group would provide guidance for the discipline specific groups to follow when developing their written standards. Regardless of discipline/ Guidance Group, forensic scientists are in this together, should follow and share the same standards development protocols and procedures under the lead Guidance Group umbrella.

- Are there public policies or private sector initiatives in other countries that have successfully strengthened the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline? If so, what are they?

Not able to comment. No knowledge of public policies from other countries.

- What are the elements which make existing forensic Scientific Working Groups (SWGs) successful? Are there examples of best practices in specific SWGs that ought to be replicated in Guidance Groups? If so, what are they?

Existing SWGs are successful because of the people who volunteer and have dedicated agency support to set the bar high in their respective forensic science disciplines. Funding is another element that supports the volunteering forensic scientists to meet with their SWG groups to develop standards. The elements of a successful SWG group are the in-person interaction of the dedicated forensic scientist SWG members who are brought together to see that standards are developed for the advancement of forensic science.

*Response from Andrew T. Szymanski of Washington State Patrol*

There are best practices that currently work in the SWG groups that can be replicated in Guidance Groups. The SWGDOC group, for example, would meet at a reasonable hotel for a week, two times a year. The chair of SWGDOC would break down the attending meeting members to workable sub-groups. Each sub-group would have a presiding officer. The sub-group would be assigned a specific task of writing and addressing comments regarding the specific standards in the development process. At the end of the week, there would be a meeting of SWGDOC members to review, comment, vote, etc. If a draft standard is deemed acceptable to the SWGDOC membership, then the draft standard would be made available for public comment via the SWGDOC website. The practice of working in smaller sub-groups has worked well for productive SWGDOC meetings.

- Would partnership with a standards development organization (SDO) in which the standard is issued by the SDO present any obstacle for participation by a broad range of forensics science stakeholders in the development of a standard? If so, why?

Yes.

To partner with a Standards Development Organization (SDO) usually will have an added cost. Forensic science standards must be transparent without having to pay for a standard. When it comes to membership, SDOs usually have open membership. SWGs have membership requirements and the ability to self-publish quality standards without a fee.

- Would partnership with an SDO in which the standard is issued by the SDO present any obstacle to broad adoption of a standard? If so, why?

As stated above, a SDO is usually a model with added development costs to develop standards. This would be an obstacle for the SWG groups. SWGs are made up of dedicated forensic Scientist volunteers to develop forensic science standards with transparency. Currently, there are SWG groups that self publish standards without the partnership of a SDO that are available to user agencies at no cost.

- Would a fee-based membership model run through a not-for-profit organization (similar to the National Conference of Weights and Measures) present a significant obstacle for participation?

Not sure. This could work if the fees are reasonable and have appropriate membership requirements.

- If the Guidance Groups followed a fee-based membership model, are there appropriately-tiered systems for fees that would prevent “pricing out” organizations, including individuals?

Not able to comment.

## *Response from Andrew T. Szymanski of Washington State Patrol*

- Other than a privatized model, are there other means to maintain a governance or coordinating body in the long term? If possible, please give examples of existing structures and their positive and negative attributes.

The current structure and means of the current SWGs are the forensic scientists who volunteer their time and service for a very worthy cause. As previously described, the SWGDOC meetings have been productive. Other SWG groups are self publishing their standards. If there is a negative with the current SWG groups setup, is that there is a lack of standardization within all the SWG groups. All the SWG groups should follow a similar template from a lead SWG overseer group that has standardized bylaws, standards writing criteria, etc.

### **2. Impact of Guidance Groups:**

- Given that the Guidance Groups cannot mandate the adoption of standards, what can they do to best leverage their position and encourage adoption? To what extent does membership and transparency impact possible adoption of guidance at the state and local level?

It is very important that Guidance Groups are transparent with the standards development process. Guidance Group members must communicate the standards development process with their discipline specific organizations within the forensic science community. The more the overall forensic community is aware of the standards development process, the better position of standards acceptance.

Both membership and transparency are very important in the standards development process. To make an impact, the Guidance Groups must take the lead and guide the rest of the forensic science community in setting the bar high for the development of standards.

- Are there best practices or models to consider with regard to a structure that would encourage effective communication with the scientific community to explore research gaps and aid in recognizing research priorities?

The recent NIST sponsored two-day conference/ webcast on “Measurement Science and Standards in Forensic Handwriting Analysis” was a meeting that explored the state of Questioned Document Examination and current research in the field. The structure of this conference may be an effective model and a means to communicate with the forensic disciplines in the community.

- How should NIST researchers engage with the Guidance Groups in support of the goal to strengthen the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline?

NIST researchers should be part of the Guidance Groups and participate in the meetings. Having a NIST researcher included would provide valuable resource input for the Guidance Groups and give a NIST perspective to each group. Qualified forensic



scientist volunteers and NIST researchers working together in the development of documentary standards would be a benefit to the standards development process.

### **3. Representation in the Guidance Groups:**

- Who are the stakeholders who should be represented on the Guidance Groups? What steps can NIST take to ensure appropriately broad representation within the Guidance Groups? What does balanced representation mean and how can it be achieved?

The Guidance Groups should be represented by the frontline stakeholders (Federal, State and Local forensic scientists) that are currently practicing in their respective forensic disciplines. These stakeholders must be fully trained competent forensic scientists and must meet the membership requirements to participate in the Guidance Groups. The Guidance Groups must be equipped with qualified members that will be dedicated to the standards development process. As previously mentioned, NIST should be represented and participate with the Guidance Groups as well.

NIST can ensure that representation within Guidance Groups is a balance of stakeholders from federal, state, and local levels and from all regions of the country. The membership for the respective Guidance Groups must meet membership requirements.

Balanced representatives within Guidance Groups would be those members from Federal, State, and Local levels from all regions of the country. Effective communication can help achieve balanced Guidance Groups.

- What is the best way to engage organizations playing a role in forensic science, standards development and practice?

Communication is very important in providing information for the forensic science community and organizations. Forensic science organizations and forensic scientists will take notice when it is communicated that a mechanism is in place for the standards development process.

- How should interested parties who may not be direct participants in Guidance Groups, engage in a meaningful way to have an impact on issues in front of the Guidance Groups?

With transparency, interested parties can follow along and participate by commenting on draft standards. The draft standards are accessible on the SWG/ Guidance Group websites. Communication through email can facilitate participation.

- To what extent and in what ways must the Federal government, as well as state, local, tribal and territorial governments be involved at the outset?

Being supportive of the goals of the Guidance Groups is very important for the standards development process to work. Government agencies should support their forensic scientists to be active in the standards development process by encouraging membership. Or, if unable to be a member, to stay involved as an interested party in the process.

#### **4. Scope of the Guidance Groups:**

- Should all of the current forensic Scientific Working Groups (SWGs) transition to Guidance Groups?

If a transition can continue with the current standards development process to self publish work, then a transition can work.

- Are there broader groupings of forensic science disciplines that could form the basis of Guidance Groups than the current group of twenty-one SWGs? If so, what are those groupings?

Not enough knowledge on the other SWG groups standards development process to comment.

- Is there a need for a cross disciplinary functional approach (i.e. statistical analysis) and how could the Guidance Groups be structured to best address that need?

A cross disciplinary approach should be explored if a need should arise. Having a research think tank can be a valuable tool for Guidance Groups.

- To what extent do Guidance Groups need to support different forensic science disciplines differently from one another?

The forensic science community and Guidance Groups should have mutual support for each other in the advancement of standards development. Guidance Groups support should be similar for all forensic science disciplines.

Andrew T. Szymanski, D-ABFDE

Forensic Scientist

Questioned Documents Section

WASHINGTON STATE PATROL

Spokane Crime Laboratory

*Response from Warren Tewes of OCME, State of Maryland*

To: Susan Ballou  
Office of Special Programs  
National Institute of Standards and Technology

From: Warren Tewes, DDS, MS [tewesdds@ocmemd.org](mailto:tewesdds@ocmemd.org)  
Diplomate, American Board of Forensic Odontology  
Chief Forensic Odontologist, OCME, State of Maryland  
Faculty, NCIC Dental Coding, CJIS, FBI

Date: October 23, 2013

Re: Notice of Inquiry

I have selected portions of the Notice of Inquiry (NOI) to comment that I hope will be helpful. I am chiefly speaking from my experience on the Maryland State Health Claims Arbitration Board. This Board attempts to settle medical malpractice claims prior to a full judge/jury trial. Claimant and defense attorneys fully argue their case to a tribunal of an attorney, a healthcare provider and a lay person. While the lay person has no insight on the science of the medical malpractice, I always find their challenging, sometimes adversarial, questions as thought provoking and grounding. In this context, my over reaching suggestion herein is the integration of certified forensic scientists serving in Guidance Groups who are not subject matter experts (SME) in that Group to facilitate a role as a devil's advocate to simply ask the challenge questions that will provoke the SMEs into grounded, foundation outcomes. I will apply this notion to the NOI questions that follow. My comments will begin and end with WT.

#### 1. Structure of the Guidance Groups

Given the scope and principles of the Guidance Groups outlined here, what are structural models that could best support the Guidance Groups, taking into account the technical, policy, legal, and operational aspects of forensic science?

What are the elements which make existing forensic Scientific Working Groups (SWGs) successful? Are there examples of best practices in specific SWGs that ought to be replicated in Guidance Groups? If so, what are they?

Would partnership with a standards development organization (SDO) in which the standard is issued by the SDO present any obstacle for participation by a broad range of forensic science stakeholders in the development of a standard? If so, why?

Would partnership with an SDO in which the standard is issued by the SDO present any obstacle to broad adoption of a standard? If so, why?

WT: Comments and suggestions to these four groups of questions have a common thread that could be addressed with "the integration of certified forensic scientists serving in Guidance

Groups who are not subject matter experts (SME) in that Group to facilitate a role as a devil's advocate to simply ask the challenge questions that will provoke the SMEs into grounded, foundation outcomes." WT

## 2. Impact of Guidance Groups

How should NIST researchers engage with the Guidance Groups in support of the goal to strengthen the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline?

WT: In a similar vein, I have been serving NIST for forensic odontology informatics which has been facilitated by Brad Wing who is not a SME. Nonetheless, he has been the non "subject matter experts (SME) in that Group to facilitate a role as a devil's advocate to simply ask the challenge questions that will provoke the SMEs into grounded, foundation outcomes." This has worked well for our informatics project and could be a model for NIST to "engage with the Guidance Groups". WT

## 3. Representation in the Guidance Groups

Who are the stakeholders who should be represented on the Guidance Groups? What steps can NIST take to ensure appropriately broad representation within the Guidance Groups? What does balanced representation mean and how can it be achieved?

How should interested parties who may not be direct participants in Guidance Groups, engage in a meaningful way to have an impact on issues in front of the Guidance Groups?

WT: For these two questions, the certified SMEs are the "stakeholders" and the non "subject matter experts (SME) in that Group to facilitate a role as a devil's advocate to simply ask the challenge questions that will provoke the SMEs into grounded, foundation outcomes" are the "interested parties who may not be direct participants in Guidance Groups," yet they "engage in a meaningful way to have an impact on issues in front of the Guidance Groups". WT

## 4. Scope of the Guidance Groups

Is there a need for a cross-disciplinary functional approach (i.e. statistical analysis) and how could the Guidance Groups be structured to best address that need?

To what extent do Guidance Groups need to support different forensic science disciplines differently from one another?

*Response from Warren Tewes of OCME, State of Maryland*

WT: A way of addressing these two questions is to have non “subject matter experts (SME) in that Group to facilitate a role as a devil’s advocate to simply ask the challenge questions that will provoke the SMEs into grounded, foundation outcomes.” WT

I hope these thoughts contribute in a constructive fashion.



# The National Association of Medical Examiners®

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Dear Ms. Ballou:

The National Association of Medical Examiners (NAME) appreciates this opportunity to respond to the Notice published in The Federal Register, "Possible Models for the Administration and Support of Discipline-Specific Guidance Groups for Forensic Science".

NAME is the national professional organization of physician medical examiners, medicolegal death investigators, and death investigation system administrators who perform the official duties of the medicolegal investigation of deaths of public interest in the United States. NAME was founded in 1966 with the dual purposes of fostering the professional growth of physician death investigators and disseminating the professional and technical information vital to the continuing improvement of the medical investigation of violent, suspicious and unusual deaths. Growing from a small nucleus of concerned physicians, NAME has expanded its scope to include physician medical examiners and coroners, medicolegal death investigators, and medicolegal system administrators from throughout the United States and other countries. NAME serves as a resource to individuals and jurisdictions seeking to improve medicolegal death investigation by continually working to develop and upgrade national standards for death investigation. NAME aims to involve competent professional medicolegal death investigators in every jurisdiction in the United States.

We do not wish to address every question in The Federal Register, but would like to offer some general comments.

## **Structure of the Guidance Groups**

- Standards should be vetted and promulgated through cooperation and formal coordination with active professional organizations, such as NAME.
- Membership should not be fee-based. Membership should be based on competence (both professional and cultural) and subject matter expertise, not influence or financial assets. Many medicolegal death investigation systems lack the financial resources to support a fee-based model.

## **Impact of Guidance Groups**

- Any Guidance Group dealing with Forensic Pathology or Medicolegal Death Investigation should recognize that Forensic Pathology already has the most robust professional certification in all of forensic science (at least 12 years of post-high school education with certification by the American Board of Pathology).
- Forensic Pathology is the practice of medicine and does not need validation as a discipline. Because it is the practice of medicine, both an art and a science, it should be evaluated as such and be subject to the recommendations of peer scientists, namely other Forensic Pathologists and the medical community.
- Standards should be developed on the basis of quantitation of expected benefits, costs and the balance between them.
- NAME has been successful in promoting excellence in the practice of forensic medicine through its autopsy performance standards and office accreditation process. The Guidance Groups should support and build on these successes. It would be counterproductive to destroy the structure and standards that have already proven effective. The Guidance Groups should develop recommendations to encourage widespread implementation of the existing NAME standards.
- While the scope of the work of the Guidance Groups should be directed by NIST, it should not be dictated at the document-specific level.
- The Guidance Groups should not dictate enforcement mechanisms.
- NIST should recognize that different disciplines have different methods of inference and validation and cognitive specialties have different ways of drawing conclusions than the laboratory sciences. Medicine is not manufacturing and making a medical diagnosis is not simply a laboratory procedure. Not all disciplines lend themselves to statistical models and it is important to recognize the foundational differences between disciplines.

## **Representation in the Guidance Groups**

- Practitioners should make up the majority of the Guidance Group structure. “Stakeholders” who are not subject experts should not create or dictate professional medical practice standards. Stakeholders with an obvious function, such as a liaison to another discipline for example, could constitute a minority of the membership and serve in an advisory capacity. However, it is the position of NAME that physicians should be responsible for practicing medicine and that lay people should not dictate diagnoses, manner of death determination, or other aspects of forensic medical practice. It is not appropriate for a non-physician “stakeholder” such as a sheriff, coroner or funeral home director to dictate the practice of medicine.
- Any such Guidance Group should recognize the broad range of forensic medical practice and should not by its structure exclude private practitioners, private contractors, academic forensic pathologists, or other forensic pathologists who are not employed by governmental units.
- If the current SWGMDI transitions to a Guidance Group, it should increase the medical representation by including representatives from the College of American Pathologists and the American Society for Clinical Pathology and medicolegal death investigators should not be over-represented.

## **Scope of the Guidance Groups**

- If the Guidance Group is non-medical then it should not make pronouncements on medical practice or medical judgments.

We are grateful for this opportunity to respond to the Notice concerning Guidance Groups for Forensic Science and look forward to working with you in the future to strengthen forensic science in the United States.

Very truly yours,



Lindsey C. Thomas, MD

Chair, NAME Ad Hoc Committee on Government Affairs



Gregory A. Schmunk, MD

NAME President



Andrew M. Baker, MD

Chair, NAME Board of Directors



## *Response from Michele Triplett of King County Regional AFIS*

### **Call for comments on Guidance Groups:**

The current SWG's are 1) too large, 2) too discipline specific and 3) do not require that a scientific basis exists for recommendations or standards.

I suggest the GG's be **smaller** and **the members be knowledgeable in acceptable scientific protocols** to ensure that **all recommendations are scientifically valid.**

In addition, there is no reason for each pattern evidence discipline to have their own GG. If the procedures have a scientific basis, they should apply to all pattern evidence disciplines. Perhaps 2-3 people from each discipline (who show they understand scientific protocols) would make a good GG. A few academics who specialize in scientific methodology would be good too. If all pattern evidence disciplines were going in the same direction (had the same standards and were using the same criteria) then it would strengthen the weight of this type of forensic evidence.

Most agencies, regardless of discipline, say they follow the current SWG recommendations but tests show this is not true. The lack of adherence to the current SWG recommendations may serve to show that they are outside validated principles. Strong validated principles will catch on and be followed by others (regardless of whether they are from the SWGS, NCFS or elsewhere).

The Human Factors Group was a strong, well supported group. The forensic community was looking forward to their recommendations but the recommendations got little attention, notoriety, or acceptance. I think there are several reasons for this. The group was so big and diverse that even its members were not in support of what was put out. This severely impacted the acceptance of their report.

Houston has a Forensic Science Board with an advisory group (known as TAG – the Technical Advisory Group). It has one person from each discipline. You may want to check to see how this is working for them. Each member is individually vetted to ensure they are qualified.

**Michele Triplett**

Forensic Operations Manager  
King County Regional AFIS

I am a forensic document examiner with years of participation in drafting standards, both at ASTM International Sub-Committee E30.02 and SWGDOC. I have also held administrative posts in ASTM Committee E30. I believe that the development and promulgation of standards by these organizations has been valuable service to my profession, the field of forensic science, and the wider public that we serve. I look forward to further progress.

All the best,

Peter Tytell, NYC

## 1. Structure of the Guidance Groups

*§ Given the scope and principles of the Guidance Groups outlined here, what are structural models that could best support the Guidance Groups, taking into account the technical, policy, legal, and operational aspects of forensic science?*

The many decades of experience by private sector Standards Development Organizations (SDOs), government agencies, inter-governmental committees, and consortia of all kinds should be utilized to the greatest extent possible. There is no reason to spend time re-inventing the wheel. Indeed, the policies, practices, and procedures developed in the standard writing world, as reflected in various ISO documents, is recapitulated virtually verbatim in the MOU. Furthermore, a fully ISO compliant structural model will add credibility to the output of the Guidance Groups among practitioners, administrators, the judiciary, and the public. Such a structural model can be found at ASTM International (see *Regulations Governing ASTM Technical Committees*, available at <http://www.astm.org/COMMIT/Regs.pdf>).

Simply working within ASTM International would seem an easy choice and would also comply with the Federal policy to use private sector SDOs whenever practical. This solution has worked well for some disciplines for some years, including forensic document examination. However, it is a sad fact that problems within the forensic document examination sector made this solution unworkable. Furthermore, as shameful as it is to admit, the spectacle of the strife leading to the demise of ASTM International Sub-Committee E30.02 has negatively impressed both forensic document examiners and other forensic practitioners, souring many on involvement with ASTM or any other private sector SDO. Beneath the negative image from the Donnybrook, there were a number of issues, some of which are discussed below.

A possible path forward would involve a forensic SDO type organization (a Forensic Consortium) under the guidance of NIST. As with ASTM International Committee E30, documents from one Guidance Group would be vetted by the members of the other Guidance Groups, providing input from diverse forensic perspectives that should result in final output of the highest quality. Guidance of this quality could be used as a Standard Operating Procedure (SOP) in forensic crime labs, incorporated by reference into requirements for laboratory accreditation by organizations like ASCLD/LAB, and even mandated by legislation at the federal and state levels.

The key to this kind of ideal situation is to make sure that the best people are involved in all phases of the process, from first draft through periodic review and updating (just ask

the unhappy folks dealing with the Affordable Care Act Health Insurance Marketplace web site). Attracting this level of talent can be a problem for the reasons discussed below. One solution to the previous problems could be to have the individuals (not organizations) that are voting members of the Guidance Groups meet the highest level of professional criteria.

Diversity of background experience in various federal, state, local, and private work would be desirable. It should be noted that while this enterprise will be run with government funds, the practitioners from the private sector should be included for several reasons:

- a) After years of training and decades of experience in one or more government labs, individuals retire into private practice; it would be a terrible waste to ignore this source of guidance.
- b) In some forensic disciplines the leading experts exist largely or entirely in the private sector.
- c) Due to lack of facilities, personnel, or because of budgetary constraints many law enforcement agencies and prosecutorial offices outsource forensic work to the private sector.
- d) When a government lab reports on a criminal matter it is simple due diligence for the defense to engage a private sector expert to review the case.
- e) Considerable forensic work is done in the context of civil litigation. where both sides will use private practice experts.

In other words, the tap the best possible discipline-specific expertise and to provide guidance appropriate to the broad areas of forensic practice, private sector specialists should be sought for the Guidance Groups.

While the highest quality of technical work should be done by such a group, it is desirable to have the broadest possible input from the field at large. This can be accomplished through public posting of drafts with notice broadcast by e-mail to all known professional organizations and practitioners (once a list is assembled, a matter of a single keystroke at virtually no cost). It is anticipated that some comments on drafts will be incorporated into documents (with thanks), while other comments will be rejected; procedures for voting, reconsideration, and appeal will be necessary and models already exist within the various SWGs (e.g., SWGIT). It might be advisable for NIST to provide a top level review committee to handle intractable problems.

#### *§ What elements or models would facilitate the sharing of best practices and uniform practices across the Guidance Groups?*

It is not clear whether it is synonymous with or subsumed under the concept of Transparency, but one important requirement in achieving the stated goals of “the establishment and maintenance of successful Guidance Groups” is Clarity.

One area of difficulty in drafting standards can be a lack of clarity in the meaning of basic terms. Here also the experience of the government standards organizations and private SDOs that all operate under the guidance of the ISO can be useful. It is common for these organizations to have a Style Guide that are used in drafting their documents. Having reviewed a number of these from diverse bodies, they are much more similar than they are different, no doubt due to the requirements of the ISO.

NIST should provide an ISO compliant Style Guide for the guidance of all the Guidance Groups, whether a guide is drafted under NIST supervision or an extant guide is adopted in whole or part (e.g., the ASTM “Blue Book” (*Form and Style for ASTM Standards* available

from [http://www.astm.org/COMMIT/Blue\\_Book.pdf](http://www.astm.org/COMMIT/Blue_Book.pdf)) has been used in drafting a dozens of forensic standards and is familiar to a many potential Guidance Group contributors).

Mandating use of a single ISO compliant Style Guide will ensure usage consistency and clarity of meaning for the user and other readers encountering important terms like *shall*, *should*, and *may*. Besides ensuring that all documents will have the full complement of information to maximize utility, the presence of an authoritative guide will avoid lengthy and time consuming debates over the niceties of grammar and usage (no matter how interesting or entertaining the discussions might be).

At another level NIST can help each Guidance Group develop uniform “boilerplate” for the language that inevitably repeats in related documents, and also to try to reach a consensus on that kind of language across several (or even all) Guidance Groups. The drafting of such set-piece sentences is not trivial, but it has been proven to be worthwhile. Also improvement of the boilerplate over time is both inevitable and useful, so a path for revision should exist, with provisions for simultaneously updating all relevant documents.

The combination of a Style Guide setting out the required parts of the document and establishing basic usage rules, along with “boilerplate” language for the routine portions of the document, has been found to save time and focus the subject-matter specialists on the topic-specific essentials.

*§ Are there public policies or private sector initiatives in other countries that have successfully strengthened the nation’s use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline? If so, what are they?*

The European Network of Forensic Science Institutes (ENFSI) a well organized and productive international consortium of government labs (<http://www.enfsi.eu/>). However, membership is institutional (not individual), excludes the private sector, and the material is not always available to the general public.

Every generation some Federal agency conducts a review of these needs. The items listed in the LEAA version from about 40 years ago are still largely relevant.

*§ What are the elements which make existing forensic Scientific Working Groups (SWGs) successful? Are there examples of best practices in specific SWGs that ought to be replicated in Guidance Groups? If so, what are they?*

Various SWGDOC practices have worked well:

- a) Membership is for individuals. A previous system of institutional memberships was abandoned; too many problems and too limiting.
- b) Members are chosen based on discipline-specific expertise. Previously, there was no formal membership and individuals were often asked to participate based topic-specific expertise relevant to the drafts being prepared. It may seem *ad hoc*, but it was run very well and was extremely productive
- c) Drafts were prepared by small task groups (3 to 7 knowledgeable individuals) run by a leader (usually with extensive topic-specific expertise); the task groups also dealt with comments on the drafts. Final drafts were brought to the larger group, and occasionally

specific problematic issues

b) Rounds of e-mails and phone conferences have been useful, but actual sit down meetings (one week, twice a year) were the most productive environment to craft documents. Meeting at a hotel in the Virginia suburbs of DC held down the room costs and facilitated attendance by commuters from the high concentration of labs in the area. Gaithersburg would also work along these lines, though meeting in the hotel where members are staying saves on morning commute and security clearance time.

*§ Would partnership with a standards development organization (SDO) in which the standard is issued by the SDO present any obstacle for participation by a broad range of forensics science stakeholders in the development of a standard? If so, why?*

Several objections arose from the private sector SDO model, ending the very fruitful years of forensic document examiners working with ASTM; some of these issues were also problematic for practitioners of other forensic disciplines within ASTM:

- a) Fee for participation.
- b) Loss of control of work product.
- c) Purchase of standards.
- d) Restriction on voting membership.
- e) No qualifications for voting membership.

It is said that if you work for free, you will be very busy. It is one thing get the best people in a field to spend days and weeks away from work to write standards (instead of an article or a book) by appealing to the better angels of our nature, invoking the greater good of the profession, of the justice system, etc., etc. However, it is more than a little galling to be required to pay for the privilege of working for nothing, especially when fiscal constraints at all levels of government make it increasingly less likely that agencies will pay membership fees (this fiscal factor has led to the loss of some members of ASTM E30).

Added to this is the issue that the copyright on the intellectual property resulting from all that work will be held by the SDO, creating a potential issue if the authors of the standard ever want to use their own words in a subsequent book. Indeed, permission from the SDO could be required if those who created the standard want to use it in court for a Daubert hearing, or during testimony (direct or cross-examination), or even as an attachment to a report, in the interests transparency, for the use of the submitting client, opposing counsel, and the court. These aspects of a private sector SDO's operation might not conflict with the letter of the provisions of the MOU to produce "discipline-specific practice guidance that will become publicly available" because they would be publicly available for purchase, but it would likely be counter productive to the "the development and propagation of forensic science consensus documentary standards".

Other problems that arose during the work of forensic document examiners within the private SDO framework of ASTM International involved issues of voting membership. While a large, active government lab that handled many hundreds of cases per year might have a concentration of highly motivated, thoroughly experienced, top-level subject-matter experts working on a draft document, only one person in that part of the lab could vote on acceptance of the standard or vote to resolve negative comments. On the other hand, an equal vote could be cast by a member with very limited understanding of the topic who had entered private practice by taking an ad in the phone book after only the most cursory exposure to the discipline.

There was considerable frustration of these restrictions, but they were secondary to the aggravation caused by individuals who many of those actively drafting the documents felt really should not have been participating at this level of professional activity.

These frustrations and disputes that slowed work to a halt led to the withdrawal of SWGDOC from ASTM participation, depriving the sub-committee of its most productive members and its major stakeholders. This is not something to be repeated.

*§ Would partnership with an SDO in which the standard is issued by the SDO present any obstacle to broad adoption of a standard? If so, why?*

See the sad tale above. The forensic document examiners would not go through that again, and their bad experience has probably warned off others from what should have been (could have been) an ideal situation.

*§ Would a fee-based membership model run through a not-for-profit organization (similar to the National Conference of Weights and Measures) present a significant obstacle for participation?*

This model seems to involve institutional membership rather than individual membership, a negative based on SWGDOC experience.

Fees might not be a problem during the Seven Fat Years, but those years are behind us.

*§ If the Guidance Groups followed a fee-based membership model, are there appropriately-tiered systems for fees that would prevent "pricing out" organizations, including individuals?*

This would create levels of members. The idea is to have everyone on the same level working toward a common goal. Would there be a level of agency budget that would qualify a participant for Guidance Group Aid

*§ Other than a privatized model, are there other means to maintain a governance or coordinating body in the long term? If possible, please give examples of existing structures and their positive and negative attributes.*

Maybe.

Establish uniform consensus based bylaws that apply to each and every Guidance Group as well as a general set of bylaws that govern interaction of the Guidance Groups and provide for an appeal process.

## **2. Impact of Guidance Groups**

*§ In its role in administering and supporting the Guidance Groups, NIST's aim is to improve discipline practices by advancing forensic science standards and techniques through a collaborative consensus building process with Federal, state and local*

*community partners. NIST thus seeks comments about the ways in which the structure, function and operation would best support the Guidance Groups by being a catalyst for such improvements.*

Every generation some Federal agency conducts a review of these needs. The items listed in the LEAA version from about 40 years ago are still largely relevant.

*§ Given that the Guidance Groups cannot mandate the adoption of standards, what can they do to best leverage their position and encourage adoption? To what extent does membership and transparency impact possible adoption of guidance at the state and local level?*

As noted above, membership in the Guidance Groups of the best experts in the field with produce the best guidance documents, and that level of quality should attract the attention of the field and lead to the general taking up of the documents (made especially attractive by the price).

As the kind of individuals that should be actively involved in Guidance Groups are also the kind that tend to be actively involved in professional membership organizations, they can encourage endorsement of the work of their Guidance Group through their organizations. These individuals are sometimes inspectors for accrediting bodies such as ASCLD/LAB, and would accept Guidance Group document that had been 3-hole punched and put in a binder as an appropriate SOP at time of inspection. A consensus by inspectors and accreditation organizations could lead to a recommendation and widespread adoption of Guidance Group documents as SOPs.

*§ Are there best practices or models to consider with regard to a structure that would encourage effective communication with the scientific community to explore research gaps and aid in recognizing research priorities?*

Every generation some Federal agency conducts a review of these needs. The items listed in the LEAA version from about 40 years ago are still largely relevant.

Also, in 1974 a task group of E30.02 members prepared a memo:

“Re: Areas within Questioned Document Examination wherein research funds may be expected to appreciably advance expertise and facilities for the discovery and proof facts concerning documents.”

These projects were “shovel ready” 39 years ago, and are essentially still ready to go today.

*§ How should NIST researchers engage with the Guidance Groups in support of the goal to strengthen the nation’s use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline?*

See above.

Things should develop during ongoing contact.

### **3. Representation in the Guidance Groups**

*§ Given the diverse, multi-sector set of stakeholders in forensic science, representation in Guidance Groups must be carefully balanced and inclusive.*

The level of individual that should have membership in the Guidance Groups is discussed above. The full breadth of stakeholder input can be obtained through comments on drafts posted on the Guidance Group's web site, with notice widely distributed to every relevant organization and individual. The balance of interests of stakeholders can be ensured by a proper appeals process in the Guidance Groups' bylaws.

*§ Who are the stakeholders who should be represented on the Guidance Groups? What steps can NIST take to ensure appropriately broad representation within the Guidance Groups? What does balanced representation mean and how can it be achieved?*

See above.

*§ What is the best way to engage organizations playing a role in forensic science, standards development and practice?*

See above.

*§ How should interested parties who may not be direct participants in Guidance Groups, engage in a meaningful way to have an impact on issues in front of the Guidance Groups?*

Through comment on posted draft documents. General suggestions could also be solicited for submission through the Guidance Group web site.

*§ To what extent and in what ways must the Federal government, as well as state, local, tribal and territorial governments be involved at the outset?*

Federal financial support will be necessary at the beginning and for ongoing support.

All levels of government will have to provide support by giving employees time to work on Guidance Group documents and perhaps financial support for travel and membership.

Private sector participation will also require commitment of time (which is money for the private practitioner).

### **4. Scope of the Guidance Groups**

*§ Should all of the current forensic Scientific Working Groups (SWGs) transition to Guidance Groups?*

To the extent that members of the various disciplines are willing to work within the new structure and actively support the efforts, yes.



*§ Are there broader groupings of forensic science disciplines that could form the basis of Guidance Groups than the current group of twenty-one SWGs? If so, what are those groupings?*

The American Academy of Forensic Sciences has fewer sections, but certain sections have major internal divisions (*e.g.*, at the annual meetings the Criminalistics section has full, but separate, sessions tracks for DNA and for the other criminalistics topics) and the General section naturally covers a multitude of topics. Certain groupings might seem to fit well, like the disciplines that could be considered to be based on pattern recognition of trace or physical evidence, including handwriting identification; yet examination of ignitable liquid residue with GC/MS can also be considered to involve pattern recognition, though this area of criminalistics could be grouped more closely with other analytical laboratory fields like toxicology.

Though twenty-one SWGs might seem like an excessively fragmented and disparate group, bear in mind that many of these specialized SWGs include many task groups devoted to discrete sub-topics.

*§ Is there a need for a crossdisciplinary functional approach (i.e. statistical analysis) and how could the Guidance Groups be structured to best address that need?*

A Research Guidance Group could address these issues based on requests from the other Guidance Groups. Again following the experience of ASTM E30, such an Interdisciplinary Guidance Group might also be useful for working on general “boilerplate” cross-discipline sentences as well as general procedural standards.

*§ To what extent do Guidance Groups need to support different forensic science disciplines differently from one another?*

While special needs might surface as things proceed, there will likely be more similarities than differences in the production of guidance documents.

## *Response from Scott Vajdos of SWGDRUG*

Dear Ms. Ballou:

My name is Scott Vajdos. I proudly serve on the core committee of SWGDRUG, as the representative from the Southwestern Association of Forensic Scientists (SWAFS). I currently serve SWAFS as a member of its Board of Directors. I also am a member of the Clandestine Laboratory Investigating Chemists, where I have served on its Steering Committee. Speaking a member of all three organizations, I would like respond to the notice published in the Federal Register by NIST regarding Possible Models for the Administration and Support of Discipline-Specific Guidance Groups for Forensic Science.

First and foremost, the existing Scientific Working Group (SWG) model has a proven track record of being extremely valuable to the forensic science and legal communities. It is unclear why NIST is proposing to create a new model using Guidance Groups (GG) when a proven model for forensic science disciplines already exists. SWGs and their standards have been promulgated for nearly two decades. Courts rely on SWG minimum standards in forensic science evidence admissibility hearings (e.g., Daubert). SWG standards are not only published in academic forensic science textbooks as good laboratory practices, but are taught in forensic science degree programs. Lastly, the instrument manufacturers in private industry continue to cite SWGs touting that their products meet or exceed SWG standards. SWGs have a well-established name in forensic science, academic and legal arenas, so why start over?

It is fully recognized that the current SWG model is not perfect and does in fact require enhancements, so why not start there? The primary criticisms of SWGs identified in the NAS report “Strengthening Forensic Science in the United States: A Path Forward” were that SWGs: meet irregularly; have no clear funding; have no standardized membership standards; recommendations are not enforceable; and don’t measure their impact by formal survey. Rather than create a new model using GGs, it is recommended that NIST consider strengthening the existing SWG model by addressing those identified criticisms. NIST could simply absorb the current SWGs (name included) under their umbrella and establish a governing body which provides: a clear source of annual Federal funding; shared resources; uniform membership standards; uniform bylaws; mandated use of Standard Developing Organizations (SDO); overall administration; etc.

### **1. Structure of the Guidance Groups**

- QUESTION: Given the scope and principles of the Guidance Groups outlined here, what are structural models that could best support the Guidance Groups, taking into account the technical, policy, legal, and operational aspects of

## *Response from Scott Vajdos of SWGDRUG*

forensic science? What elements or models would facilitate the sharing of best practices and uniform practices across the Guidance Groups?

ANSWER: NIST should provide overall administration (funding, meeting venues, IT support, etc.) of the SWGs and create an executive board of SWG chairs/members that are responsible for harmonizing the SWGs (bylaws, standard setting practices, glossary of terms, membership standards, etc.). This executive board could then use a system similar to that of SDOs for the adoption of their governance documents. Once a governance document is established, the individual SWGs must comply.

- QUESTION: Are there public policies or private sector initiatives in other countries that have successfully strengthened the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline? If so, what are they?

ANSWER: There are many organizations in other countries that exist that have strengthened the nation's use of forensic science. Just to name a few: European Network for Forensic Science Institutes (ENFSI); International Forensic Strategic Alliance (IFSA); Senior Managers of Australian and New Zealand Forensic Laboratories (SMANSZFL); Iberoamerica Academy of Criminalistics and Forensic Studies (AICEF); Asian Forensic Science Network (AFSN); and United Nations Office on Drugs and Crime (UNODC). As an example, SWGDRUG has a strong collaboration with ENFSI's Drug Working Group. Each organization endorses the other's work products and close communication exists to pool resources such that the two organizations are not working on the same projects. This has led to even more standard/recommendation development over the past decade.

- QUESTION: What are the elements which make existing forensic Scientific Working Groups (SWGs) successful? Are there examples of best practices in specific SWGs that ought to be replicated in Guidance Groups? If so, what are they?

ANSWER: Primarily, strong leadership, consistent funding and actively engaged members. Membership established by representing larger forensic science institutions (e.g., UNODC, ENFSI, ASCLD, AAFS, NIST, SWAFS, etc.) proves to be more successful than individual organizations. By representing larger institutions, it requires information transfer to all levels for a much broader audience including local, state, federal and international entities. Forensic science is an international endeavor, as such; SWGs must have representation from international organizations to be effective and globally recognized. This concept is similar to laboratories being accredited to international standards; it carries much more weight to be internationally recognized. Smaller groups are in

## *Response from Scott Vajdos of SWGDRUG*

fact more productive, as such it is recommended to maintain a group of less than 30 individuals. Other best practices include: Soliciting the public for comments; seeking international acceptance; and working with SDOs to promulgate standards.

- QUESTION: Would partnership with a standards development organization (SDO) in which the standard is issued by the SDO present any obstacle for participation by a broad range of forensics science stakeholders in the development of a standard? If so, why?

ANSWER: Partnership with an SDO or establishing standards following international standard setting protocols are absolutely essential. For broad range forensic science stakeholders there are only minimal obstacles (membership fees, standard costs, etc.), none of which are insurmountable.

- QUESTION: Would partnership with an SDO in which the standard is issued by the SDO present any obstacle to broad adoption of a standard? If so, why?

ANSWER: No, in fact it would actually help with the broad range adoption and enforcement of the standard. Once standards are generated, accrediting bodies can use them in assessing laboratories conformance with internationally recognized standards.

- QUESTION: Would a fee-based membership model run through a not-for-profit organization (similar to the National Conference of Weights and Measures) present a significant obstacle for participation?

ANSWER: Yes. The National Conference of Weights and Measures has an entire economy that is based on an extremely large consumer base which corresponds to minimal costs. Forensic Science organizations are primarily an inherent Governmental function and the consumer base is relatively small in comparison, which would result in prohibitive costs to participate. The fee based membership will automatically result in exclusion of lower funded organizations, which in turn will result in bias. A truly non-biased system must not be influenced by things such as available financial resources. As such, all efforts need to be focused on obtaining a steady reliable source of Federal funding.

- QUESTION: If the Guidance Groups followed a fee-based membership model, are there appropriately-tiered systems for fees that would prevent “pricing out” organizations, including individuals?

ANSWER: As indicated above, a fee based system is not recommended and would be expected to create a system of the “haves and have-nots” which will result in bias. However, should a fee-based membership model be adopted,

consider a tiered system for laboratory organizations that is based upon the number of proficiency tested personnel. Generally, larger organizations have more available funding than smaller ones; this might help to provide smaller organizations the ability to participate. As for other members such as academia, consider establishing a flat minimal fee that would mimic that of a small laboratory. It is also not recommended to allow other entities such as instrument manufacturers be able to “buy a seat” on a SWG as it could lead to additional bias.

- QUESTION: Other than a privatized model, are there other means to maintain a governance or coordinating body in the long term? If possible, please give examples of existing structures and their positive and negative attributes.

ANSWER: As indicated in the introduction above, the best model is to restructure the current SWGs under NIST’s umbrella rather than create a new model. It is recommended that NIST consider strengthening the existing SWG model by addressing the aforementioned criticisms. NIST could simply absorb the current SWGs (name included) and establish a governing body which provides: a clear source of annual Federal funding; shared resources; uniform membership standards; uniform bylaws; mandated use of Standard Developing Organizations (SDO); overall administration; etc.

## **2. Impact of Guidance Groups**

- QUESTION: Given that the Guidance Groups cannot mandate the adoption of standards, what can they do to best leverage their position and encourage adoption? To what extent does membership and transparency impact possible adoption of guidance at the state and local level?

ANSWER: SWGs need to first seek out international acceptance in the form of converting their recommendations to a standard using either an SDO or an equivalent process. International accreditation would then play the next biggest role in enforcing the standards. There is a clause in ISO/IEC 17025 under section 5.4.2 Selections of methods that includes language that indicates that “Methods published in international, regional or national standards shall preferably be used and when the customer does not specify the method to be used, the laboratory shall select appropriate methods that have been published either in international, regional or national standards, or by reputable technical organization...” Accrediting bodies could then assess laboratories against this clause. In addition, adoption of SWG standards by the National Commission on Forensic Sciences (NCFS) would go a long way to promulgate forensic science best practices. The NCFS as chartered would carry a wide variety of stakeholders to include the legal community, forensic science practitioners, educators, etc.

NIST should also consider a significant effort to establish an outreach committee tasked with regularly engaging forensic science organizational meetings, legal community, law enforcement community and discipline specific groups like IAI and AFTE.

- QUESTION: Are there best practices or models to consider with regard to a structure that would encourage effective communication with the scientific community to explore research gaps and aid in recognizing research priorities?

ANSWER: The best way to proceed is to continue to have an open dialogue with the forensic science community, academia, legal and law enforcement communities to continue to dream up basic research and further develop applied research. The open dialogue can be best achieved through the use of interactive websites, webinars, and participation in forensic science meetings. These venues provide the core structure to ask those questions on what would help the community move forward. The SWG groups are also an excellent source for research direction, especially for applied research. Under the structured bylaws overseen by NIST, the mission of developing research objectives should be added to each group. In order to build on disciplines with related methodology or expertise, research objectives could then be brought to the executive board of SWG chairs/members for review.

- QUESTION: How should NIST researchers engage with the Guidance Groups in support of the goal to strengthen the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline?

ANSWER: NIST should primarily provide expertise in the field of statistical determinations and traceability of reference materials. NIST is the resident expert in these two scientific areas and their assistance would be critical to the success of the SWGs.

### **3. Representation in the Guidance Groups**

- QUESTION: Given the diverse, multi-sector set of stakeholders in forensic science, representation in Guidance Groups must be carefully balanced and inclusive. Who are the stakeholders who should be represented on the Guidance Groups?

ANSWER: First and foremost, the forensic science practitioners need to have the largest voice. Forensic science practitioners have the necessary education, skills, training and experience to provide the most valuable contribution. Academia

## *Response from Scott Vajdos of SWGDRUG*

would have a secondary role; they provide valuable insight that is critical to the process. It is recommended that the selected individuals represent a larger, multi-agency forensic science organization to assist with cross communication. As stated before, international participation is highly recommended as it provides more weight when standards are being developed globally. It is not necessary to permanently staff each SWG with legal professionals, statisticians, etc., as they would only be required on an as needed or invited basis. Commercial entities should not be involved in the SWGs because of the potential for undue influence in favor of their commercial products. That said, this would not prevent commercial entities the ability to provide input during SWG public comments periods and to join a particular SDO so that they could be part of the process of developing standards.

- QUESTION: What steps can NIST take to ensure appropriately broad representation within the Guidance Groups?

ANSWER: The most effective step is to establish standardized bylaws which include the makeup of the membership and rules with how members are recommended and chosen.

- QUESTION: What does balanced representation mean and how can it be achieved?

ANSWER: To obtain balanced representation, stakeholders must first be sought out and identified. Then, members need to be sought that capture the majority of the stakeholders in the appropriate ratios, much like what is done with the formation of SDO committees. It is also important to cap the group size to maximize productivity, which is recommended at less than 30 individuals.

- QUESTION: What is the best way to engage organizations playing a role in forensic science, standards development and practice?

ANSWER: Creating a transparent openly-publicized system that provides the ability for stakeholders to become active members of the organization and offers many opportunities for input into the process. Requests for community input should move past drafted standards and also include ideas for future standards, projects, research and measurement of how community needs are met.

- QUESTION: How should interested parties who may not be direct participants in Guidance Groups, engage in a meaningful way to have an impact on issues in front of the Guidance Groups?

ANSWER: At a minimum, SWGs must provide public comment opportunities to allow interested parties the ability to comment on proposed standards – much

like the Federal Register process. Then, it is recommended that documents be presented to an SDO or other SDO compatible process. The reason the SDO process is being recommended as secondary is that SDOs are typically only open to members of that organization, thus limiting the standardization process to a smaller group of stakeholders. In summary, it is recommended that both processes be incorporated to allow the ability for all interested parties to have a voice.

- QUESTION: To what extent and in what ways must the Federal government, as well as state, local, tribal and territorial governments be involved at the outset?

ANSWER: Efforts should be made to ensure that entities from all levels are included. However, care must be taken as to not “stack the deck” by creating an inequity between larger and smaller organizational participation.

#### **4. Scope of the Guidance Groups**

- QUESTION: Should all of the current forensic Scientific Working Groups (SWGs) transition to Guidance Groups?

ANSWER: As indicated in the introduction, it is strongly recommended that the current SWGs “carry the torch” forward and be the building blocks that NIST further refines throughout this process. It is not understood why NIST proposes to establish Guidance Groups when such a viable and valuable option already exists in the SWGs. SWGs already have a well-established history and are highly recognized by academia, private industry, courts and the domestic and international forensic science community. The most productive SWGs already have nearly two decades of experience and standards that have been developed, why start over? Lastly, there is at least one SWG that will remain a SWG as a result of a Congressional mandate. It seems that it would cause unnecessary confusion to have any SWG continue to operate as a SWG while the other SWGs are dispersed into Guidance Groups. Why not simply transition all existing SWGs under NIST’s umbrella and allow them to keep their name while providing more oversight and administration?

- QUESTION: Are there broader groupings of forensic science disciplines that could form the basis of Guidance Groups than the current group of twenty-one SWGs? If so, what are those groupings?

ANSWER: Yes, several groups do share similar methodology and therefore could share resources. However, typically when groupings are established, discipline specific issues fall victim to competing priorities. Whereas if dedicated and focused forensic disciplines are kept separate, they have a much better chance of proactively reacting to the community needs. In SWGDRUG, we have found it



*Response from Scott Vajdos of SWGDRUG*

beneficial to have a member with expertise in Toxicology, since the methodologies are related. This has allowed us to focus on seized drug issues but gain a different perspective.

- QUESTION: Is there a need for a cross disciplinary functional approach (i.e. statistical analysis) and how could the Guidance Groups be structured to best address that need?

ANSWER: Yes, the governance body must address the question of “statistics” across all forensic disciplines. NIST is the resident expert when it comes to statistics, maybe they could establish a working group that is assigned to support the work of all SWGs.

- QUESTION: To what extent do Guidance Groups need to support different forensic science disciplines differently from one another?

ANSWER: It is fundamental to the success of the SWGs that difference be allowed. However, it is incumbent upon NIST or the governance board to attempt to standardize the forensic science across disciplines to the extent possible. The governance board would do this by defining requirements as indicated above.

Thank you for your time.

Sincerely,

Scott Vajdos

*Response from Jennifer Valdez of Scottsdale Police Department Crime Lab Controlled Substances*

Susan Ballou  
Office of Special Programs  
NIST  
100 Bureau Drive, Mailstop 8102  
Gaithersburg, MD, 20899

Ms. Ballou,

Thank you for the opportunity to comment on the development of discipline specific guidance organizations (GOs) for forensic science. I am truly only familiar with SWGDRUG, so my comments will be confined to that area. I am sure the other SWGs are similar but I have not worked with them. Also please understand that I am not currently nor have I ever been a member of SWGDRUG and do not personally know anyone on their core committee.

The first recommendation is that the current SWGs be incorporated into the new GOs rather than reinventing the groups. These groups have worked diligently for many years to put out recommendations and are made up of a diverse group of scientists from all over the world, including several from your own organization. These individuals have, with no authority to implement requirements and no funding to speak of, developed guidelines for their specific disciplines knowing that the reward is only the satisfaction of knowing they have collaborated with international specialists in their area and developed guidelines that are truly the best for the application of science to forensics. This alone should demonstrate the unbiased nature of the endorsements already made and the individuals who have joined to make them.

Partnership with an SDO for these groups would improve the likelihood of adoption across the disciplines. A fee-based model is appropriate, however, if there is *any* possibility this could be added to a fee labs already pay to an organization (eg, ASCLD-Lab or ILAC) this would greatly increase the possibility it could be achieved. Finding new funding is extremely challenging in a budget, whereas increasing funding for a fee already accepted as a valid expense is fairly straightforward. I would also encourage that it be a lab-wide fee system, not a per-discipline system, which would lead to the "less glamorous" disciplines likely not receiving the money to participate.

I firmly believe the new GOs should be restricted to scientists, both in and out of forensic science. Enlarging it to include legal and government representatives with no experience in applying science will simply make this another non-functional bureaucracy making mandates that are impractical, years behind the methodology, without any clear direction, and nearly impossible to understand. I also strongly encourage the retention of the international makeup of the SWGs. This will prevent the egocentric vision I often note in national policy making.

I also promote the creation of subgroups within the GO that work equally represented across all disciplines, such as those working on uncertainty of measurement, error rates, and other concepts that are difficult to apply to the many diverse areas of forensic science. That said, I think it is still very important for each discipline to maintain their own GO with specialized knowledge and recommendations for that area.

I appreciate the opportunity to comment and thank you for your time.

Jennifer Valdez  
Scottsdale PD Crime Lab Controlled Substances  
Scottsdale, AZ

## NIST Response

### **1. Structure of Guidance Groups:**

Given the scope and principles of the Guidance Groups outlined here, what are structural models that could best support the Guidance Groups, taking into account the technical, policy, legal, and operational aspects of forensic science?

A structural model not based on the private sector business industry is necessary. The majority of forensic work is performed by analysts employed by law enforcement agencies. These law enforcement agencies are funded by federal, state, and local government not by the sale of products, goods, or services. Therefore it would be a huge disservice to the forensic community to force them into a model created for the business industry.

What elements or models would facilitate the sharing of best practices and uniform practices across the Guidance Groups?

Standardizing all of the SWG groups could be a start. Having uniform bylaws and procedures would make it easier for groups to share their knowledge (I thought the SWG groups were already in the process of doing this). Technical and administrative review of best practices by interdisciplinary, yet closely related, groups would help the sharing of information. For example, a best practice created by the firearms group could be vetted by members of the latent print group and vice versa.

Are there public policies or private sector initiatives in other countries that have successfully strengthened the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline? If so, what are they?

This examiner has no knowledge of policies in other countries.

What are the elements which make existing forensic Scientific Working Groups (SWGs) successful?

Money: Funding that allows the SWG members to meet in person twice a year to discuss, write, re-work, vet, and finalize necessary standards.

Dedication: All SWG members are dedicated to the advancement of their science, and accomplish this free of charge and mostly without thanks.

Compromise: There are many brilliant examiners in the world, but not all of them have the ability to work well with others. A successful SWG group has members who speak their minds, but also listen. Who argue their point, but can also see the other point of view. Who know a lot, but realize they don't know everything.

Smaller Groups: A smaller group of examiners (3-6) assigned a particular task get a lot more accomplished than an entire room. In the early days of SWGDOC all of the members would meet in a large room and attempt to wordsmith a document. After hours of discussion and arguing members would get frustrated, get quiet, or zone out completely. When the decision was made to break the meeting into separate smaller groups that's when the work started to flow.

Are there examples of best practices in specific SWGs that ought to be replicated in Guidance Groups? If so, what are they?

The system in SWGDOC has worked well for many years. The SWGDOC members meet twice a year at the same hotel in Woodbridge, VA. The hotel offers the group ample space in their meeting room all week and free wireless internet service. At any one meeting more than half of the members are from out of town and stay at the hotel, the rest commute locally. The entire membership meets the first day (Monday) to discuss any broad topics or to vote on any pending issues, but then break out into committees consisting of 4 or 5 examiners. It is in these smaller, more manageable groups that the bulk of the work gets completed. Each committee is assigned a Presiding Officer who oversees the meeting. The Presiding Officer will also coordinate remarks, praises, and criticisms when the work product goes out for comment. A committee may have one or multiple tasks to complete during the week. The assigned task(s) usually involves the creation of a new standard or the revision of an existing one. When completed, the finished product will be presented to the entire SWGDOC membership for a vote. If it is accepted it will then be posted on the SWGDOC website for public comment.

Would partnership with a standards development organization (SDO) in which the standard is issued by the SDO present any obstacle for participation by a broad range of forensics science stakeholders in the development of a standard?

It would definitely be an obstacle.

If so, why?

1) Since SDO's are membership based an examiner would have to pay a fee to become a member and participate. It has already been shown that many examiners balk at this idea and will not join. 2) SDO's copyright the standards they produce making it illegal for examiners to openly share the standards in their field. This smacks in the face of science which should be open and transparent. 3) SDO's charge a fee for copies of the standards they publish. If an examiner is in court and a judge wants a copy of a standard, it would be detrimental to tell him he needed to go to an SDO website and purchase a standard for himself. The same goes for attorneys. 4) It's ridiculous for a scientific group to spend an exorbitant amount of time and energy to create a product and then turn around and surrender the intellectual property rights of that product to an SDO who in turn copyrights the product and makes the creators of said product pay for it. 5) SDO's have no membership criteria; anyone who pays their fee can become a member. This opens the door for criminals, charlatans, and the untrained to have a say concerning a product they have no business being involved in. 6) SDO's can have deleterious

voting criteria for their members. One example is ASTM's "redundant interest" which is a "member of a committee whose voting interest is already represented on the committee by an official voter" In laymen's terms it means if ten forensic scientists work in a laboratory only one of those scientists is allowed a vote when it comes to adopting standards. This alone is enough to deter most forensic scientists from joining an SDO. Who would pay money to join an organization that publishes standards for their field when they cannot even comment on those standards as they're being created?? Lastly, since nearly all of the SWG groups self-publish their standards, forcing them into an SDO could have catastrophic consequences. Imagine a SWG group working for months on a standard. They go through the discussions, the research, the arguing, the frustration, and finally accept a finished product. NOW they have to submit their work product, a work product they have bled for, to an SDO so it can go through another vetting process. This SDO may very well contain members who do not have what's best for their discipline at heart. It may contain members not qualified to perform the work. Or maybe it has members who think they are qualified, but who have no formal training. Now their work product comes back to them completely shredded by members who don't care, who want to halt the process, or who were simply too inept to grasp the technical aspect of the document. How many SWG members (or guidance group members) would put up with this for very long? The answer is none.

Would partnership with an SDO in which the standard is issued by the SDO present any obstacle to broad adoption of a standard? If so, why?

Adoption by whom? It has been this examiners experience that the courts do not care how standards are produced or published as long as the discipline in question has, and utilizes, standards.

As far as the greater forensic community is concerned adoption would be much more difficult. As stated above nearly all of the existing SWGs currently self-publish their standards. If they were forced to give up their work product to an SDO and then have to pay for it, it's doubtful any would be accepting.

Would a fee-based membership model run through a not-for-profit organization (similar to the National Conference of Weights and Measures) present a significant obstacle for participation?

It will be hard to persuade examiners to add another fee-based organization to their annual budget. It will be even more difficult if said organization has no membership criteria and allows anyone to join. If, however, legitimate, fully trained, examiners are allowed to create membership criteria (as does the American Academy of Forensic Science) there could be a slim chance. In the case of questioned document examination (QDE), of which this examiner is familiar, there is a large contingent of people whom are not properly trained yet pretend to be document examiners. If these charlatans were allowed to become members, NO legitimate document examiner would join. If that happened the organization would not have any of the legitimate stakeholders and therefore could not function. Also, if this theoretical organization required that laboratories, like the FBI's QDE section for instance, only have one vote, even though they have over 20 examiners, no legitimate examiner would join.

If the Guidance Groups followed a fee-based membership model, are there appropriately-tiered systems for fees that would prevent “pricing out” organizations, including individuals?

**Imposing any fee will be a problem.**

Other than a privatized model, are there other means to maintain a governance or coordinating body in the long term? If possible, please give examples of existing structures and their positive and negative attributes.

The SWG groups, as they are now are a very functioning group. These are dedicated, hardworking examiners who devote enormous amounts of time and energy to their discipline free of charge. Nearly all of the SWG’s self-publish their standards, they always have, and they’ve never had issues with acceptance. A few include the Scientific Working Group for Shoeprint and Tire Tread Evidence (SWGTREAD), the Scientific Working Group on Friction Ridge Analysis, Study, and Technology (SWGFAST), the Scientific Working Group for Firearms and Toolmarks (SWGgun), and the Scientific Working Group on DNA Analysis Methods (SWGDAM). The Scientific Working Group for Forensic Document Examination (SWGDOC) created or updated every standard in the QDE field and only used ASTM (SDO) as its publishing vehicle. After years of creating standards only to give them over to ASTM and lose their rights to them, and then have to pay for them, the members decided to self-publish their standards.

A negative of the SWG’s is their over-all lack of continuity. Each SWG functions as a single entity with its own bylaws, membership criteria, and voting rules. It would be easier to streamline the existing SWG’s and get them all on the same page than it would be to create 20 something new organizations or force the current SWG members into an SDO.

## **2. Impact of Guidance Groups:**

Given that the Guidance Groups cannot mandate the adoption of standards, what can they do to best leverage their position and encourage adoption?

These groups will HAVE to have the support of their respective forensic communities. Having qualified examiners participate in the process will help persuade other qualified examiners to accept the work product. If organizations in a forensic field adopt the standards the more likely they will be accepted by their members.

To what extent does membership and transparency impact possible adoption of guidance at the state and local level?

Membership is important because without enough stakeholders involved there will be no acceptance.

Transparency is important because forensic examiners want to see the standards during their creation and be able to comment on them as they see fit.

Are there best practices or models to consider with regard to a structure that would encourage effective communication with the scientific community to explore research gaps and aid in recognizing research priorities?

None that this examiner is aware of.

How should NIST researchers engage with the Guidance Groups in support of the goal to strengthen the nation's use of forensic science by supporting the development and propagation of forensic science consensus documentary standards, identifying needs of forensic science research and measurement standards, and verifying the scientific basis exists for each discipline?

Having NIST researchers become members of specific SWG (or guidance) groups. Once members they can sit in on meetings, participate in discussions, and make recommendations for future plans. If a researcher is a member of a particular SWG group he or she will have vested interest in seeing that group succeed and accomplish its objectives.

NIST researchers should contact forensic scientist actively performing research projects. By contacting these examiners the researchers can gain knowledge about these projects, ask questions about the goals of the research, and give advice on how to better implement the research.

### **3. Representation in the Guidance Groups:**

Who are the stakeholders who should be represented on the Guidance Groups?

The majority of the stakeholders should be legitimate, fully trained examiners, currently working in their respective field. Some form of criteria regarding training, experience, and knowledge must be considered for membership. These majority stakeholders should have final say on any and all decisions concerning the standards they write, the research they conduct, and the treatise they produce. They are the real players in the game here, they do the work, they are the experts and it's their reputations on the line when their results are questioned in court or otherwise.

The next level of stakeholder should include those in the legal and academic fields e.g. attorney's judges, professors, and researchers.

A third level of stakeholder should include those individuals with an indirect interest such as vendors, instrument technicians, students, administrators, and the general public.

What steps can NIST take to ensure appropriately broad representation within the Guidance Groups?

The major stakeholders could be divided into Federal, State, and local examiners. The same could be done with the lower tiered stakeholders. Membership should represent geographic areas all over the country. Members from other countries should be encouraged to join and or participate.

What does balanced representation mean and how can it be achieved?

Equal numbers of Federal, State, or Local examiners. Equal numbers of examiners from across the country.

What is the best way to engage organizations playing a role in forensic science, standards development and practice?

First and foremost the standards development organization has to attract legitimate, trained, competent examiners in its representative field. If that is done the forensic science organizations will become engaged and so will the forensic examiners in practice. Forensic professionals will not participate in a group wherein they do not have the final word on the product they produce. They also will not participate in a group consisting of untrained, illegitimate examiners.

How should interested parties who may not be direct participants in Guidance Groups, engage in a meaningful way to have an impact on issues in front of the Guidance Groups?

Stay abreast of information posted on the guidance group website. Get on the email list for said guidance group. Participate in any online discussions.

To what extent and in what ways must the Federal government, as well as state, local, tribal and territorial governments be involved at the outset?

Federal funding for the groups. The state and local governments must recognize the importance of these groups and continue to allow their employee's to participate.

#### **4. Scope of the Guidance Groups:**

Should all of the current forensic Scientific Working Groups (SWGs) transition to Guidance Groups?

That decision should be left up to the individual SWG groups. However, if the future guidance groups, or whatever they will be called, offer a solid platform for creating standards that doesn't disrupt or destroy their current standards production, each SWG group should want to transition.

Are there broader groupings of forensic science disciplines that could form the basis of Guidance Groups than the current group of twenty-one SWGs? If so, what are those groupings?

Possibly, but this examiner is not familiar enough with the other SWGs to comment.

Is there a need for a cross disciplinary functional approach (i.e. statistical analysis) and how could the Guidance Groups be structured to best address that need?

I do not believe there is a need for such an approach, but an approach could look like this.

Groups could be separated into Analytical and Impression forensic groups. The analytical group could include; Drugs, Toxicology, Implied Consent, et al. And the Impression group could include; Questioned Documents, Firearms, Latent Prints, and Shoeprint and Tire Tread. If this occurred these groups would still have to be broken down into sub-groups. This would be necessary because even though they share some similarities each discipline is still unique and has



*Response from Rigo Vargas of the Mississippi Crime Laboratory*

its own special needs and nuances. Having three separate groups come together at one large meeting would be a waste of time.

The more closely related disciplines, like the Impression Groups (as discussed earlier) could be involved in cross disciplinary technical review of work product. For example the members of the Latent Print group would be allowed to have technical input on a standard created by the Questioned Document group. The Questioned Document group, however, would have the final say on the end product. The unrelated disciplines could be allowed input on each other's work product in an administrative capacity, e.g. spelling, grammar, clarity.

To what extent do Guidance Groups need to support different forensic science disciplines differently from one another?

There should be support for sure, but to what extent is a subjective question. This examiner envisions the process like this:

The more closely related disciplines, like the Impression Groups (as discussed earlier) could be involved in cross disciplinary technical review of work product. For example the members of the Latent Print group would be allowed to have technical input on a standard created by the Questioned Document group. The Questioned Document group, however, would have the final say on the end product. The unrelated disciplines could be allowed input on each other's work product in an administrative capacity, e.g. spelling, grammar, clarity.

Rigo Vargas

Questioned Documents Section Chief

Mississippi Crime Laboratory (Gulf Coast Regional Lab)



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11 November 2013

Ms. Susan Ballou  
National Institute of Standards and Technology  
100 Bureau Drive, Mailstop 8102  
Gaithersburg, MD 20899

**RE: Notice of Inquiry - Possible Models for the Administration and Support of Discipline-Specific Guidance Groups for Forensic Science**

Dear Ms. Ballou,

The Australian Federal Police (AFP) are actively involved in a number of the Scientific Working Groups (SWGs), notably fingerprint and facial identification, and wish to acknowledge the ongoing value these are bringing to the strengthening of forensic science within our organisation and to others in Australia.

Whilst acknowledging that the creation of Guidance Groups is an internal US matter, the AFP sees value in having the biometrics-related disciplines being represented in the Guidance Groups in order to facilitate the overlap between biometrics and the associated forensic comparison sciences.

The AFP looks forward to future involvement in the Guidance Groups, as a place where the international community can collaborate to improve and promote best practices and standards for forensic science.

Regards,

Dr Simon Walsh  
Acting Chief Scientist  
FORENSICS

Program Manager Ballou,

I am personally writing in response to the Federal Register notice eliciting comment for possible models for the administration and support of discipline-specific guidance groups for forensic science.

1. There is a strong sentiment that the Guidance Groups must be predominantly practitioners. While agree with this basic view, I believe that there is room for academicians, basic scientists, and a public at-large member. I think the inclusion would permit expression of a greater diversity of perspective and that the Groups would enjoy greater credibility, at least from outside entities. I note that the Leahy legislative proposal drew strong arguments based upon the NAS report to include strong representation for basic scientists--I think there should be some deference to this, but they should be a distinct minority. I do not think this is accomplished through the presence of open meetings with observers or with guests. You might give some consideration to voting and non-voting members.
2. Since community buy-in is vital to this initiative, I think there should be formal representation from relevant professional associations, where appropriate. SWGs are inherently self appointed blue ribbon panels, where professional associations are elected representative bodies--including formal representatives that can be terminated at the will of the association will help ensure community input and democratic process. Then regardless, of that representation, that such organizations should be specifically sought out for input, rather than mere federal register notices.
3. I have noted on several occasions that some SWG leadership at times have acted in haste to put out products because their funding sources were concerned about seeming inaction of the SWGs. I think this is a mistake and I would urge you to recognize that consensus standard setting requires time to hash through things and vet ideas and wording. As painful and slow, a deliberative process can achieve a higher quality product. A rushed bad recommendation or standard can be worse than no recommendation or standard--although the federal agency may be pleased that a product was produced.
4. I strongly urge you to distinguish recommendations, normative guidelines, minimal standards, and best practices. I believe these are often confused. Just because someone thinks something should be done, doesn't mean that all agree with the idea at all times or that it is financially possible. In this context, I advocate standards over standardization, as I think the latter is stultifying and the former permits individual lab creativity and advancement.

Sincerely,  
Victor W. Weedn, MD, JD

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**Victor W. Weedn, MD, JD**  
Professor and Chair  
Department of Forensic Sciences  
George Washington University

Possible Models for the Administration and Support of Discipline Specific Guidance Groups

for Forensic Science

Structure of Guidance Groups

**Who are the stake holders who should be included?**

I feel the most important decision that NIST-DOJ will make when setting up the Guidance Groups is who they choose to represent the disciplines within forensic science. The Guidance Groups will set up Federal standards, but to be broadly successful in strengthening forensic science, local and state forensic science practitioners, researchers and interested parties need to be included. Having practitioners included will be essential for broad based acceptance and implementation of standards. No single agency or jurisdiction works in isolation of another. Real progress will only happen when there is a majority “buy-in”.

Academic researchers will also be essential to the success of Guidance Groups. The vast majority of practitioners do not have the time or support to conduct research or keep up to date with publications outside the traditional forensic science journals. This could be balanced out with academic researchers, who may look at the gaps and deficiencies in forensics science in a different light than practitioners would.

The Groups should represent legal professionals as well.

**Is there a need for a cross-disciplinary approach to the Guidance Groups?**

The application of science to legal proceedings to aid the trier of fact can result in any number of physical items being included in the definition of forensic evidence. It is for this reason that there are twenty one or more scientific working groups (SWGs) representing the different disciplines in forensic science. These

disciplines have grown and evolved over time relatively independently. As a practicing footwear and fingerprint examiner I often questioned the difference in conclusions between the two disciplines.

I feel that discrete guidance groups are needed for discipline specific areas of forensic science, but there should be a strong collaborative connection between these new Guidance Groups. The current SWG groups develop guidelines and standards independently from one another. There would be great cohesive strength and benefit to the end users (prosecutors, defense teams, judges and juries) if definitions and language in standards were united across the Guidance Groups. This could be established by a mandatory initiative to choose the same language across the discipline standards. This is something that is not a strength of the current SWGs.

**What are the elements or models would facilitate the sharing of best practices and uniform practices across the guidance groups?**

Each discipline in forensic science is distinct, has unique challenges and gaps in research. There should be a guidance group for each common science category. To be able to best bring the disciplines of forensic science together, special members of each guidance group could be responsible for meeting periodically, for the purpose of uniformity where appropriate and applicable. During the selection process for membership of the guidance groups, DOJ-NIST should consider individuals with qualities and experience in bringing groups and ideas together.

**Fee Based Membership**

I do not agree that the guidance groups should be fee based and this would appear in conflict with being inclusive, sustainable and transparent. The individuals should be chosen for their expertise, balancing with other members and for their commitment in effort and longevity to the mission of the Guidance Group. For too long many of the disciplines within forensic science have not have the physical or financial support to fill gaps in research. These guidance groups need to be financially supported to be successful in the long term.

**How would Guidance Group Members be selected?**

I believe that membership to the guidance groups should follow a competitive process. This would ensure the best combination of individuals would make up the group. The selection process should look at researchers, criminal justice professionals and practitioners with a broad based knowledge of forensic science. Dynamic individuals with broad experience will be able to facilitate the consolidation of forensic science standards. This will give strength to forensic science field as a whole.

**Transparency and Effective Scientific Community Participation**

This is an area, in my opinion, that the current SWG groups need improvement. Transparency has improved over the past few years but going forward much can be done in this area. The scientific community at large needs to be able to understand the decisions and participate with the Guidance Groups. This could be done using collaboration and decision making software for groups. This would give a paper trail on input received, how the idea was processed and final outcome. This type of transparency would lead to more involvement from the local and state level, which would in turn make the Guidance Groups more effective and sustainable.

*Response from R.K. Wright*

Sent: Monday, November 04, 2013 9:30 AM  
To: Ballou, Susan M  
Subject: NIST GUIDELINES FORENSIC PATHOLOGY

This is more than a terrible idea, even though it will make my practice as a criminal defense expert primarily much more lucrative

R.K. Wright MD  
Forensic Pathologist