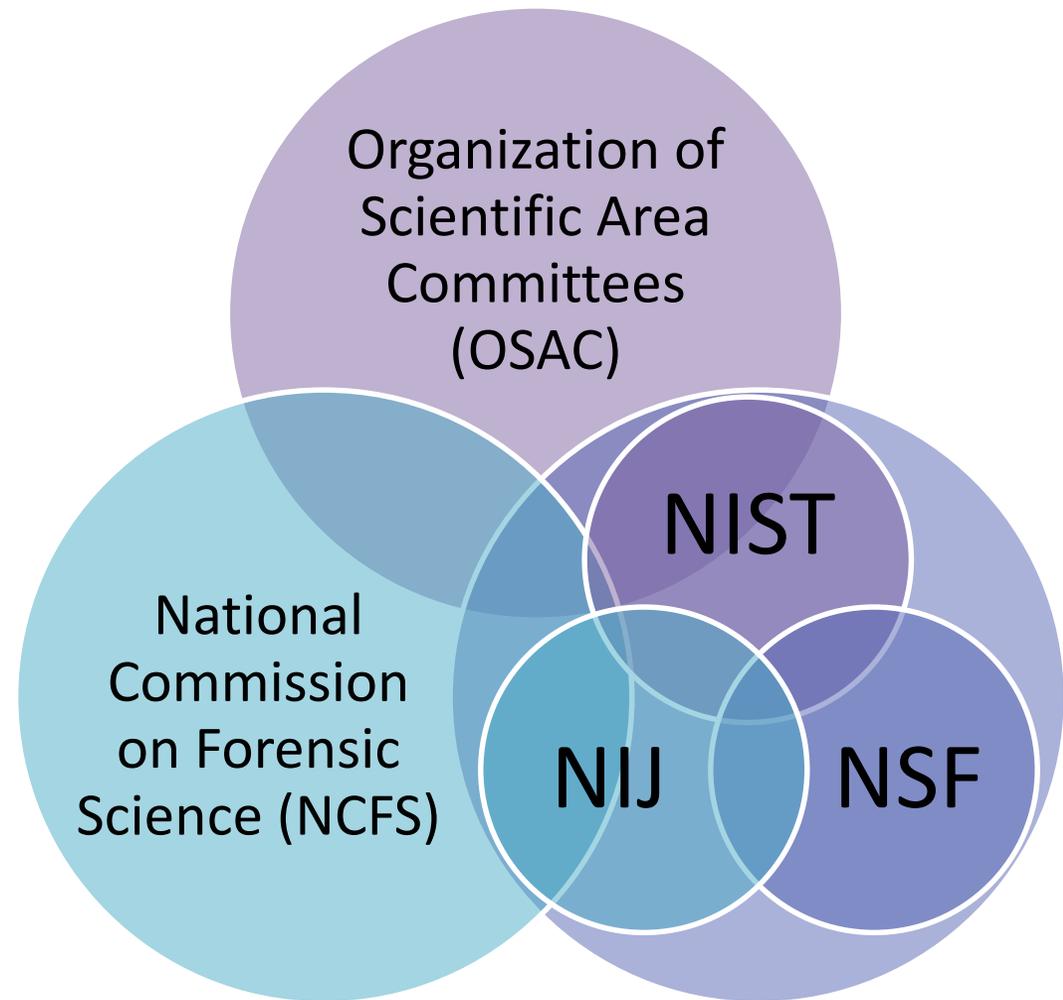


NIST and Forensic Science - Update

Richard R. Cavanagh
Director, Special Programs Office

June 7, 2016





- Provide technical leadership to help develop and promulgate **consensus-based documentary standards and guidelines** for forensic science.
- Promote standards and guidelines that are **fit-for-purpose** and **based on sound scientific principles**.
- Promote the use of OSAC documents by accreditation and certification bodies.
- Establish and maintain working relationships with similar organizations.

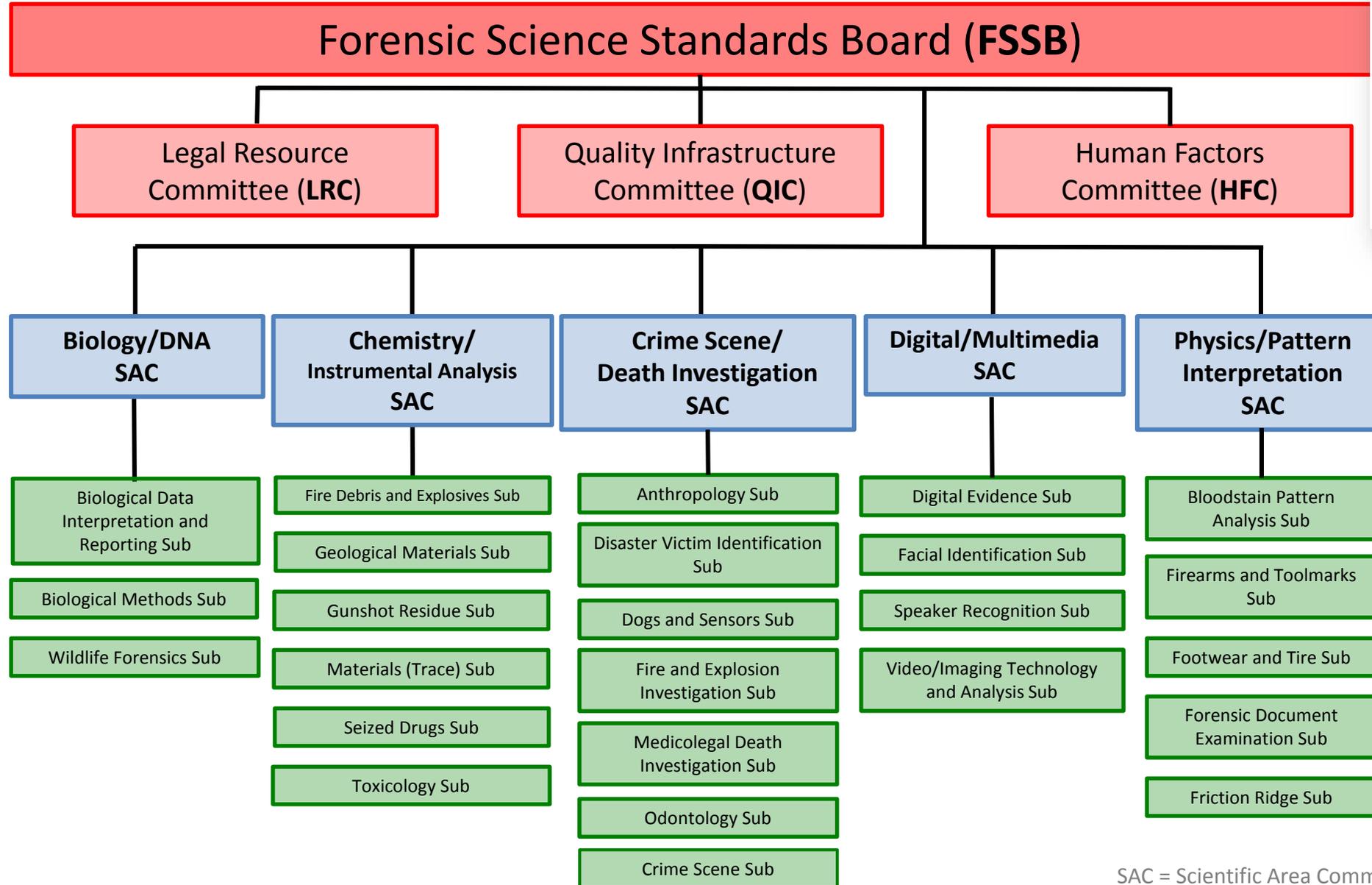
OSAC Success to Date



Draws on NIST's scientific strength/reputation and our ability to convene the relevant parties.

- Designed a system to bring balance of interests to Documentary Standards in Forensics.
- Recruited key players.
- Meetings (both in-person and virtual) are drawing strong participation.
- Engagement with SDOs is encouraging.
- First "Standard" on the registry.

OSAC Structure



SAC = Scientific Area Committee
Sub = Subcommittee

Forensic Science

[OSAC Home](#)

[Forensic Science Standards Board](#)

[Resource Committees](#)

[Scientific Area Committees](#)

[OSAC Subcommittees](#)

[OSAC Registries](#)

[OSAC Research Needs Assessments](#)



- [ASTM: E2329-14 Standard Practice for Identification of Seized Drugs](#)
[In Revision: ASTM WK53625]





ASTM
INTERNATIONAL

E2329-14



Standard Practice for Identification of Seized Drugs

4.2 Correct identification of a drug or chemical depends on the use of an analytical scheme based on validated methods (see Practice E2549) and the competence of the analyst. *It is expected that in the absence of unforeseen error, an appropriate analytical scheme effectively results in no uncertainty in reported identifications.*

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NIST Home > Forensics > OSAC > osac approved standards

Forensic Science

- OSAC Home
- Forensic Science Standards Board
- Resource Committees
- Scientific Area Committees
- OSAC Subcommittees
- OSAC Registries
- OSAC Research Needs Assessments
- OSAC Catalog of External Standards and Guidelines



- ASTM: E2329-14 Standard Practice for Identification of Seized Drugs
[In Revision: ASTM WK53625]

NIST Statement on ASTM Standard E2329-14



Nevertheless, based on accepted scientific protocols, no measurement, qualitative or quantitative, **should be characterized as without the risk of error or uncertainty.** It is important to note that NIST is not **contesting results obtained from seized evidence using the standard.**

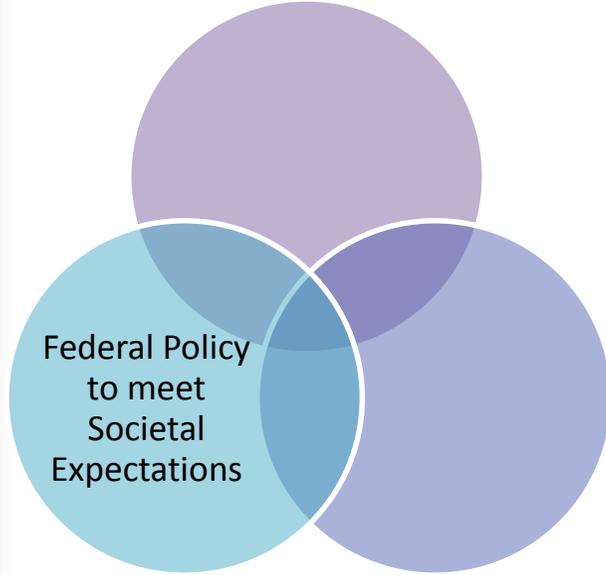
Challenges

Transition to OSAC “2.0”

- to allow “regulatory role”
- Retain NIST involvement
- Establish independence from NIST
 - allows regulatory role
- Looking at the *National Conference on Weights and Measures* as a MODEL



NCFS



THE UNITED STATES
DEPARTMENT OF JUSTICE

en ESPAÑOL

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DOJ Co-Chair



Willie E. May
Director of NIST
NIST Co-Chair



John M. Butler
Vice-Chair (NIST)

Some of the Recommendations from NCFS



Accreditation and Proficiency Testing

- Universal Accreditation

Interim Solutions

- Transparency of Quality Management System
- Automated Fingerprint Identification System (AFIS) Interoperability

Scientific Inquiry and Research

Medicolegal Death Investigation

Reporting and Testimony

- Use of the Term “Reasonable Scientific Certainty”

Training on Science and Law

Immediate Challenge



NIST
National Institute of
Standards and Technology
U.S. Department of Commerce

Subcommittee on Research and Integrity

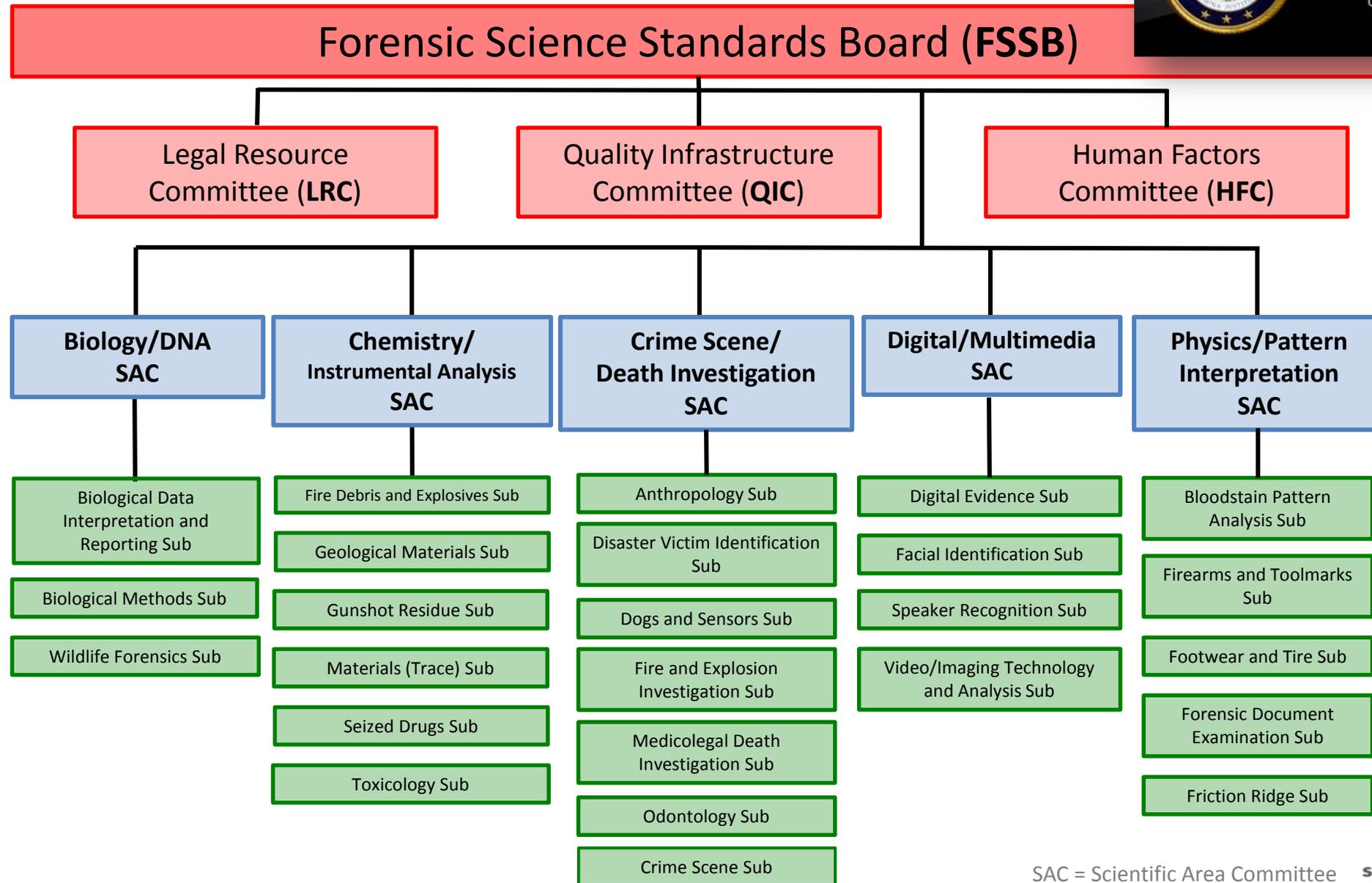
- Scientific foundations of Forensic analysis
 - NIST in-house capability to assess the technical merit of the forensic disciplines.
 - NIST expertise gaps in the current forensic disciplines
 - Include assessments of the validity of published studies through associated open data and/or original work.



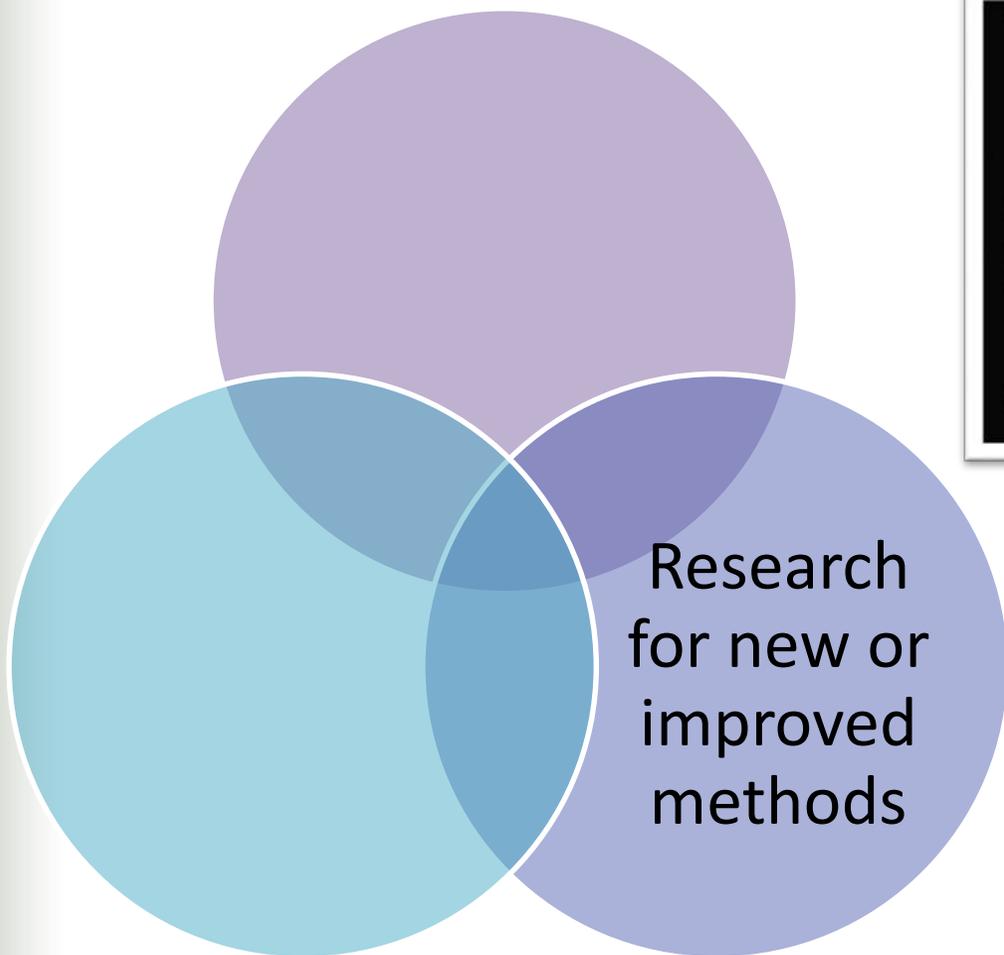
Discussions with OSTP

- Engage with *Metrologia* to be the open access resource for data and papers on the metrological aspects of Forensics

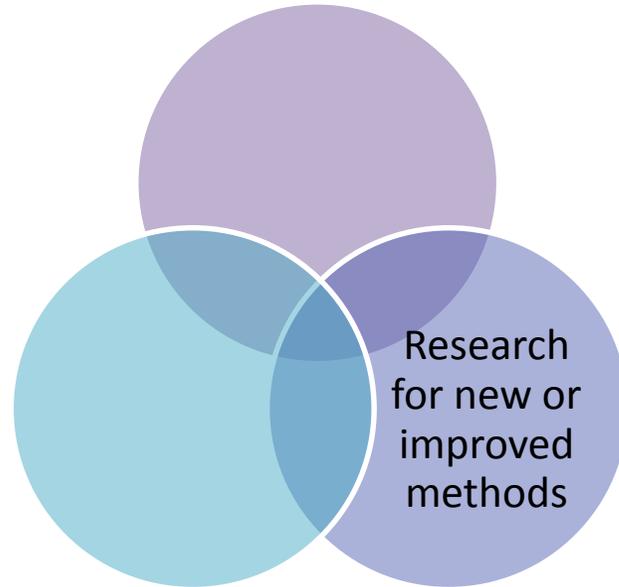
NIST Membership within OSAC



SAC = Scientific Area Committee
Sub = Subcommittee



Forensic Research in NIST Labs



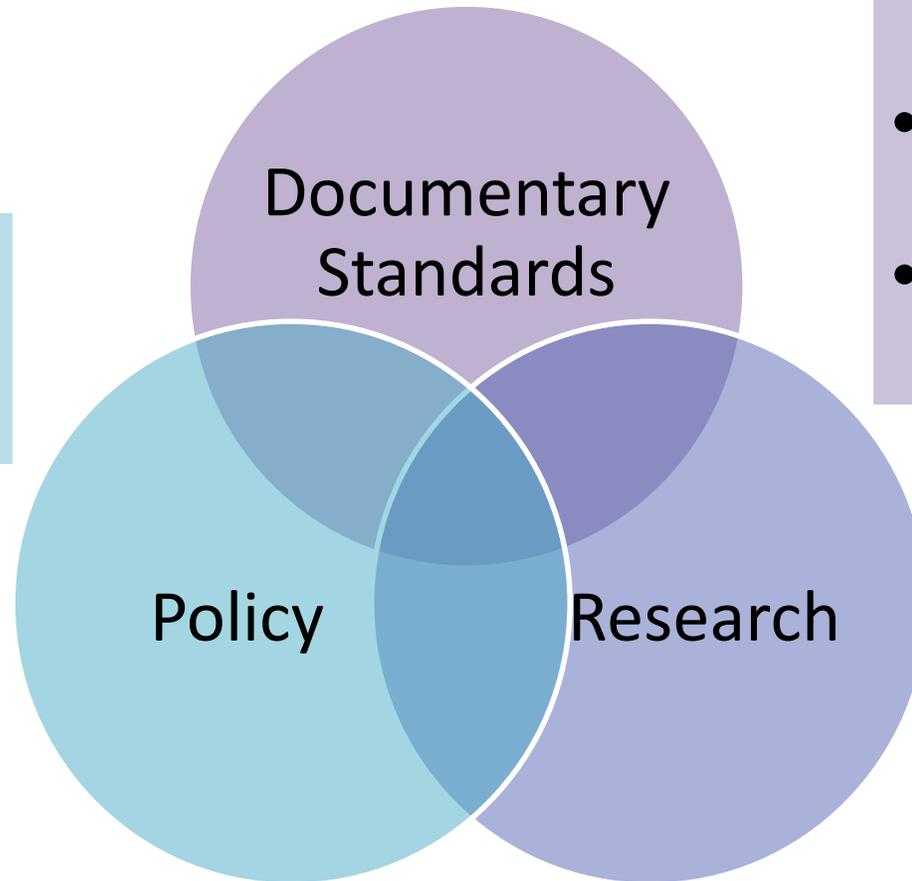
Forensic Genetics
Ballistics and Associated Tool Marks
Digital and Identification Forensics
Statistics
Toxins
Trace Evidence

Common Themes

- Error and Uncertainty
- Data and Information
- Algorithm Development
- Method Validation
- Training

Challenges

- NIST co-leads
- DOJ directly funds (\$1M) this effort



- All Funding (\$3M) comes to NIST from DOJ.
- Relies on Accrediting bodies for compliance
- OSAC 2.0 - Regulatory flavor and sound science

- Funding: ~\$15M SPO, ~\$5M Labs, ~\$5M OA
- Proposed “Validation” efforts could exceed NIST funding and divert our experts.