



**NIST**  
National Institute of  
Standards and Technology  
U.S. Department of Commerce  
<http://nist.gov/osac>

**NIST OSAC**  
**CSI Subcommittee Update**  
Charles S. DeFrance, CSI Subcommittee

Presented to Colorado Forensic Investigators Group (COFIG)  
27 March 2019



2009

**National Academy of Science Report**

*Strengthening Forensic Science  
in the United States: A Path  
Forward*

STRENGTHENING  
**FORENSIC  
SCIENCE**  
IN THE UNITED STATES


A PATH FORWARD


NATIONAL RESEARCH COUNCIL  
OF THE NATIONAL ACADEMIES






# GOALS OF OSAC IN FORENSIC SCIENCE

- » OSAC is a result of the 2009 NAS Report
  - » Joint project of DOJ and NIST to encourage consensus standards in forensic science
  - » Registry of Forensic Science Standards & Guidelines
  - » Identify research needs
- 

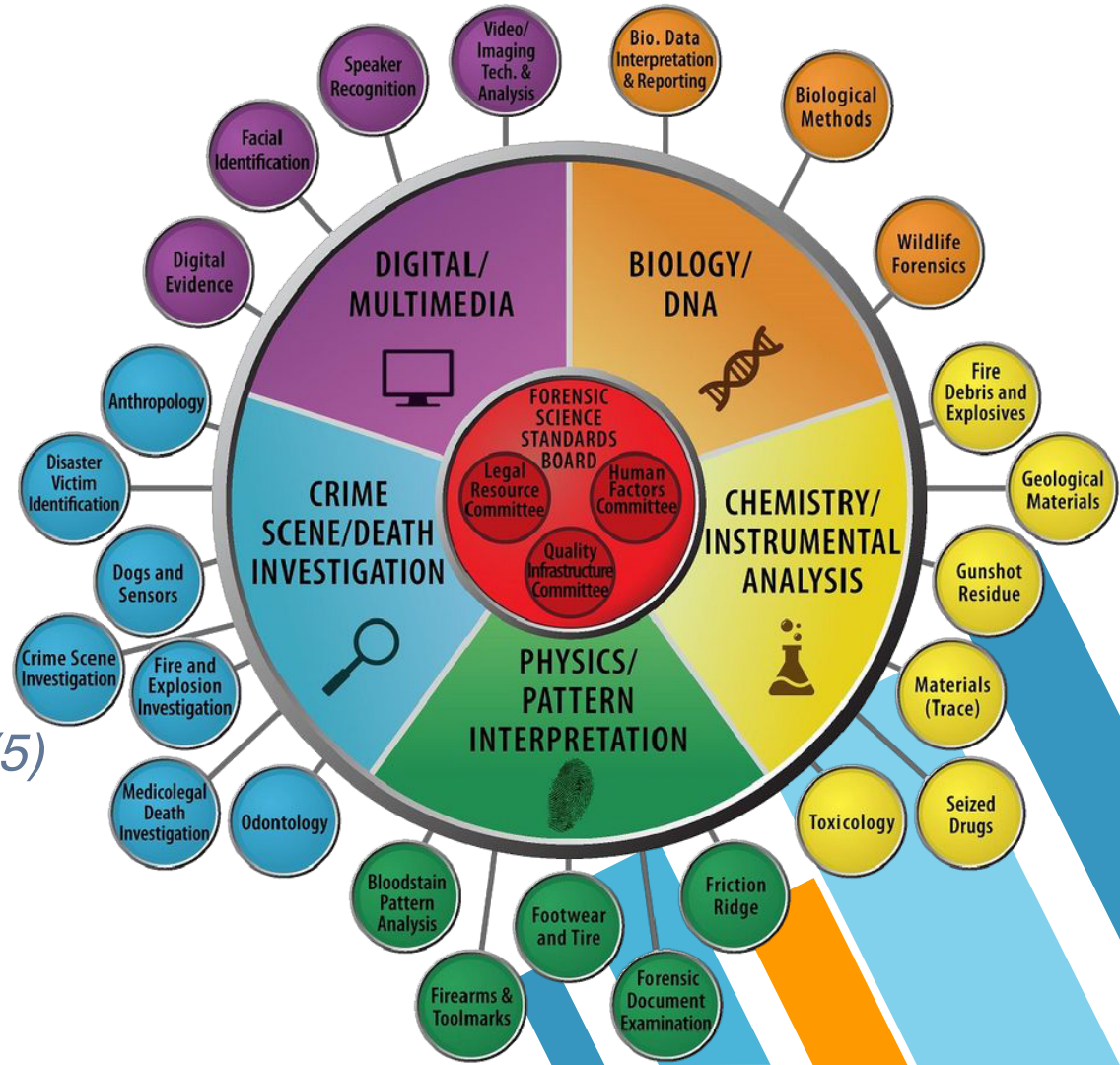


**“To create a sustainable organizational infrastructure dedicated to identifying and fostering the development of technically sound, consensus-based documentary standards and guidelines for widespread adoption throughout the forensic science community.”**



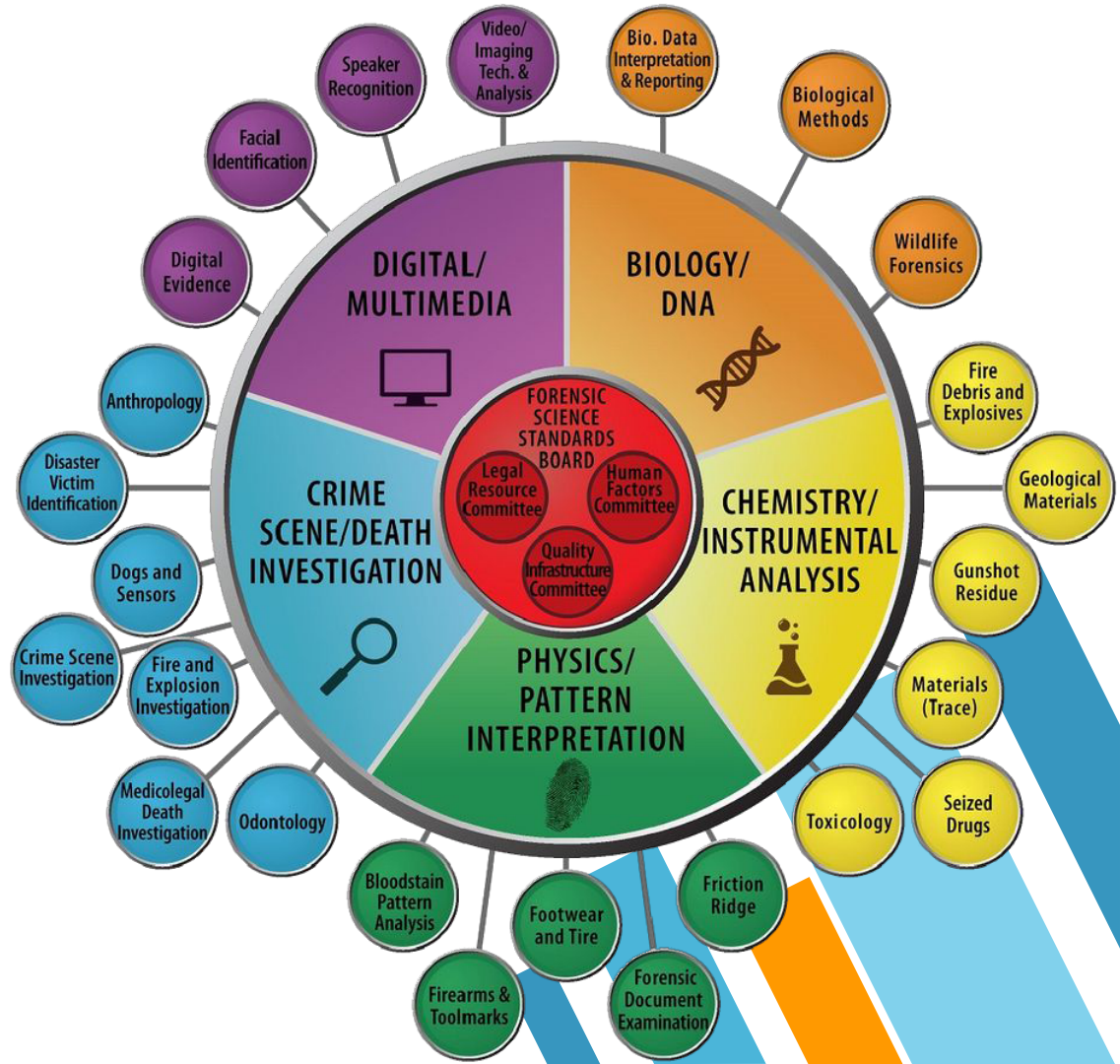
# OSAC STRUCTURE

- » *Forensic Science Standards Board*
- » *Resource Committees (3)*
- » *Scientific Area Committees (5)*
- » *Subcommittees (25)*
- » *Task Groups*

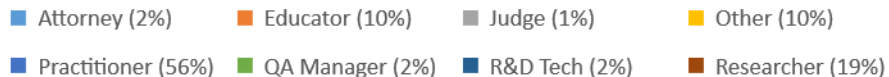


# OSAC CORE PRINCIPLES

- » *Openness*
- » *Balance*
- » *Consensus*
- » *Harmonization*



# OSAC MEMBER CURRENT JOB CLASSIFICATION



## OSAC SNAPSHOT

February 2017

### Makeup

565 Members

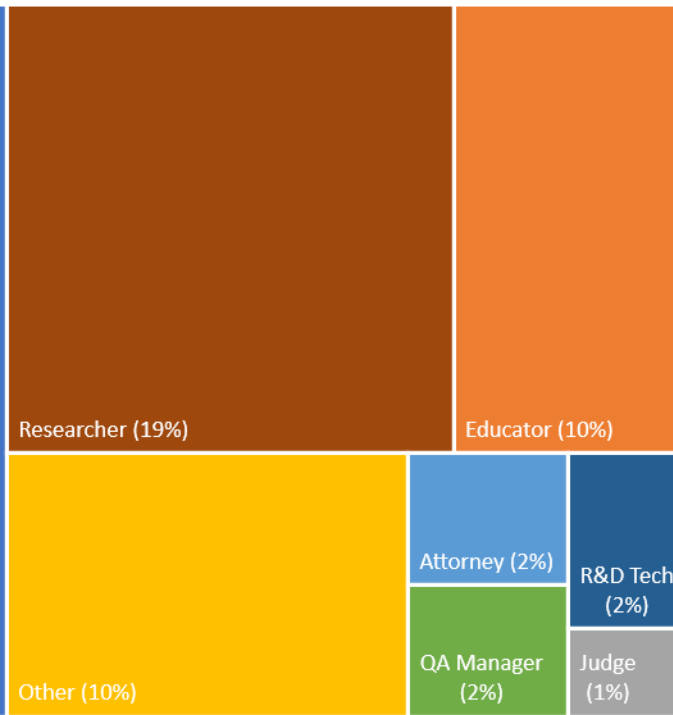
266 Affiliates

50 States represented

239 Task groups

2,470 Applications

Practitioner (56%)





# WHAT OSAC REALLY DOES

- » Evaluates existing standards published by SDOs for placement on the OSAC Registry
- AND**
- » Introduces draft documents into existing SDOs for formal development – drafts go through the SDO’s consensus process
- 





OSAC REGISTRY

# OSAC REGISTRY PLACEMENT MEANS

## OSAC Registry

Serves as a trusted repository of high-quality, science-based standards and guidelines for forensic practice.

## Criteria

Standards and guidelines must have been developed using a **consensus-based process** and must pass OSAC review of **technical merit** by forensic practitioners, academic researchers, statisticians, and measurement scientists.

## Endorsement

Elevating a standard to the official OSAC Registry is an endorsement of the high quality of the document and encourages its adoption by all relevant agencies and practitioners.



## STANDARDS DEVELOPMENT ORGANIZATIONS

### **ASB**

American Academy of  
Forensic Sciences – AAFS  
Standards Board

### **ASTM International**

American Section of the  
International Association  
for Testing and Materials

### **NFPA**

National Fire Protection  
Association

### **ADA**

American Dental  
Association

### **NIST**

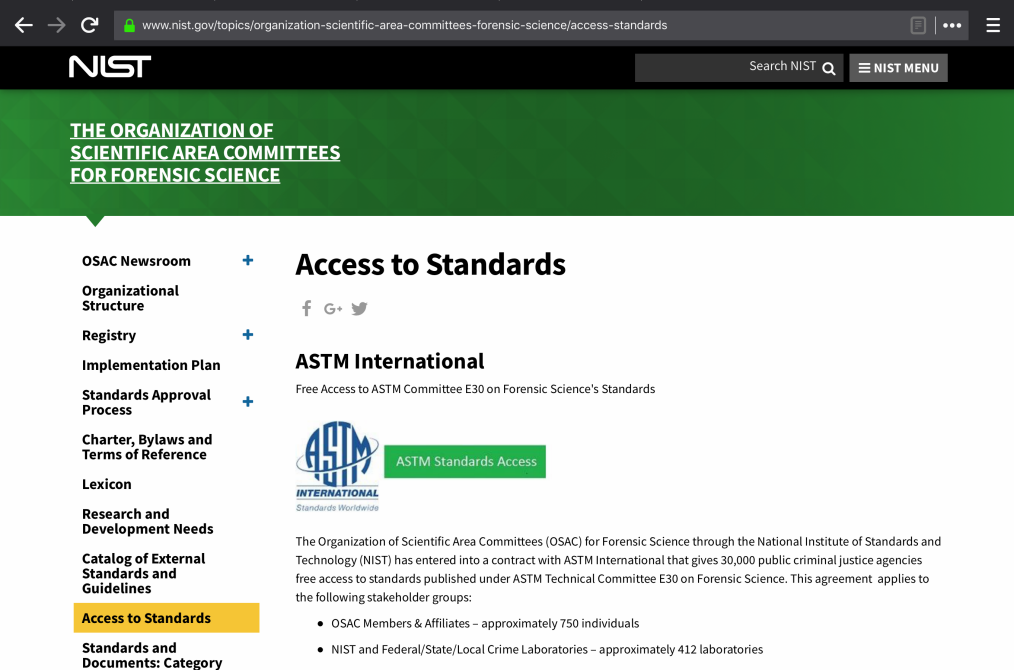
National Institute of  
Standards and Technology

### **ISO**

International Organization  
for Standardization

# Accessing Published Standards

- » ASB - public access
- » ASTM - free access via OSAC.



The screenshot shows a web browser window with the URL [www.nist.gov/topics/organization-scientific-area-committees-forensic-science/access-standards](http://www.nist.gov/topics/organization-scientific-area-committees-forensic-science/access-standards). The NIST logo is in the top left, and a search bar and 'NIST MENU' are in the top right. The main heading is 'THE ORGANIZATION OF SCIENTIFIC AREA COMMITTEES FOR FORENSIC SCIENCE'. A left-hand navigation menu includes: OSAC Newsroom, Organizational Structure, Registry, Implementation Plan, Standards Approval Process, Charter, Bylaws and Terms of Reference, Lexicon, Research and Development Needs, Catalog of External Standards and Guidelines, **Access to Standards** (highlighted in yellow), and Standards and Documents: Category. The main content area is titled 'Access to Standards' and includes social media icons for Facebook, Google+, and Twitter. Below this is the 'ASTM International' section, which states: 'Free Access to ASTM Committee E30 on Forensic Science's Standards'. The ASTM logo is shown with the text 'ASTM Standards Access' in a green box. The text below the logo reads: 'The Organization of Scientific Area Committees (OSAC) for Forensic Science through the National Institute of Standards and Technology (NIST) has entered into a contract with ASTM International that gives 30,000 public criminal justice agencies free access to standards published under ASTM Technical Committee E30 on Forensic Science. This agreement applies to the following stakeholder groups:'. A bulleted list follows: 'OSAC Members & Affiliates – approximately 750 individuals' and 'NIST and Federal/State/Local Crime Laboratories – approximately 412 laboratories'.



## **OSAC HAS NO AUTHORITY TO ENFORCE STANDARDS**

### **Endorse Standards**

OSAC endorses standards and promotes their adoption by forensic science service providers and by accrediting bodies that audit participating agencies for compliance.

### **Fill the Gap**

While accredited forensic service providers are currently audited to general laboratory standards, there are very few discipline-specific standards that the laboratories can be audited against.

### **Facilitate Development**

The ultimate goal of OSAC is to facilitate the development of science-based standards for each of 25 distinct forensic science disciplines and to promote their widespread adoption.



## OSAC STANDARDS: IMPLEMENTATION PATHWAYS

### Self Adoption

Forensic Service providers incorporate OSAC standards in SOPs

### Professional Associations

Issue policy statements encouraging adoption

### Criminal Justice (Courts)

Attorneys begin demanding forensic practitioners use OSAC standards

### Accrediting Bodies

ISO 17025/20 supplemental standards or checklists

### Funding Bodies

Offer funding incentive to implement standards

### Funding Bodies

Require OSAC standards implementation to access funding



# OSAC NEWSLETTER

*Released monthly and includes notification of public comment periods, R&D needs, OSAC vacancies, OSAC meetings, and feature articles.*

*Sign Up at  
[www.nist.gov/osac](http://www.nist.gov/osac)*



August 2015 | Vol. 1, Issue 1

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### Feature Article:

## OSAC Publishes the Standards/Guidelines Registry Approval Process

One aim of the OSAC is to identify and promote existing technically sound, consensus-based, and fit-for-purpose documentary standards that are based on sound scientific principles. This is achieved through the *OSAC Registry of Approved Standards* and the *OSAC Registry of Approved Guideline*. A standard or guidelines that is posted on the registry demonstrates that the methods it contains have been judged by forensic practitioners, academic researchers, measurement scientists, and statisticians, to be valid.

Once populated, forensic scientists and practitioners will be able to refer to the *OSAC Registry of Approved Standards* and the *OSAC Registry of Approved Guidelines* for a uniform set of high quality standards on how to produce scientifically sound and statistically valid test results, laboratory results, and courtroom testimony. These standards should help to increase confidence in the criminal justice system and the testimony put forth by practitioners.



The OSAC has recently developed and launched the *OSAC Registry Approval Process of Published Standards and Guidelines*, which is a rigorous process that includes checklist criteria against which existing standards and guidelines are to be analyzed before they are posted to the registries. This includes an analysis of technical merit, the openness of the development process (to ensure balanced interests are represented), consensus,

... Continued page 4



**OSAC**  
**ANNUAL REPORT**

*Summary of OSAC activities from  
February 2016 to February 2017  
including OSAC unit profiles.*

*Available at  
[https://www.nist.gov/sites/default/  
files/documents/2018/01/11/  
osac\\_annual\\_report\\_2017.pdf](https://www.nist.gov/sites/default/files/documents/2018/01/11/osac_annual_report_2017.pdf)*

OSAC Technical Series 0001



**Annual Report**  
**February 2016 – February 2017**

Annual Report Working Group  
*Organization of Scientific Area Committees for Forensic Science (OSAC)*

<http://dx.doi.org/10.29325/OSAC.TS.0001>





# LEXICON

» OSAC has created a lexicon of over 4,000 terms organized by forensic discipline. New terms will be added, revised or removed, as sources are verified, and as new standards are published.

» <https://lexicon.forensicosac.org/>





## Crime Scene/Death Investigation SAC

*Consists of seven subcommittees.*





# Crime Scene Investigation

# CSI

**SUBCOMMITTEE**

<https://www.nist.gov/topics/forensic-science/crime-scene-investigation-subcommittee>



# CSI

## Subcommittee

17 Subject Matter Experts

- » Crime Scene Investigators
- » Crime Scene Reconstructionists
- » Sexual Assault Nurse Examiners
- » CSI/Trace Examiners
- » Laboratory Managers
- » Firearms Examiner
- » Shooting Reconstructionists
- » Academic Researchers
- » Independent Practitioners
- » R&D/Industry Representatives






# CSI Subcommittee Officers

- » **Michael P. Kessler**, Chair, NFSTC@FIU
  - » **Charles S. DeFrance**, Vice Chair, Federal Bureau of Investigation
  - » **Kimberlee Sue Moran**, Executive Secretary, Rutgers University
- 




# CSI Subcommittee Members

- » **Adam Becnel**, Louisiana State Police
  - » **Teresa Devitt-Lynch**, U.S. Navy
  - » **Karen Green**, Green Forensics Inc.
  - » **Michael Haag**, Albuquerque Police Department Crime Laboratory
  - » **Kevin Kosiorek**, Boston Police Crime Laboratory Unit
  - » **Guy Nutter**, Michigan State Police Forensic Science Division
  - » **Kevin Parmelee**, Somerset County Prosecutor's Office (NJ)
  - » **Christine Pinto**, Los Angeles County Sheriff's Department
  - » **Stephanie Regan**, Kauai Police Department
  - » **Ryan Rezzelle**, Leica Geosystems
  - » **Kim Shapiro**, San Bernardino County Sheriff's Office
  - » **Joyce Williams**, Stevenson University
  - » **Troy E. Wilson**, Texas Department of Public Safety
  - » **Neil Zielinski**, Palm Beach County Sheriff's Office
- 




# PRIORITIES

- » Education, Credentials, Training
  - » Crime Scene Administration-report writing, evidence testing requests, data management
  - » Human Factors/Contextual Bias-detective vs crime scene investigator, hospital/nurse
  - » On Scene Activities-response, safety, documentation, evidence search, packaging/collection, final considerations
  - » Crime Scene Reconstruction
  - » Specialty Areas of Crime Scene Investigation
- 



# RESEARCH & DEVELOPMENT NEEDS

- » Assessing the Culture of Contextual Bias in Forensic Scene Evidence Collection, Handling, and Processing
  - » Assessment of Level of Personal Protective Equipment (PPE) Required at Crime Scenes
  - » Crime Scene Research: Creation of a Centralized Searchable Database
  - » Decontamination of Crime Scene Equipment
  - » Laboratory Techniques and Technologies at the Crime Scene
  - » Use of Technology for Crime Scene Documentation
- ◇ <https://www.nist.gov/topics/forensic-science/osac-research-development-needs>
- 




# STANDARDS IN DEVELOPMENT

- » CSI Training and Education  
(Submitted to ASTM.)
  - » Task Groups
    - General Evidence Collection and Preservation
    - Biological Evidence
    - Drug Evidence
    - Weapons
    - Crime Scene Reconstruction
    - Shooting Reconstruction
    - Sexual Assault Investigation
- 






# Standards in Development with Other Subcommittees

- » Crime Scene  
Photography (VITAL)
  - » Footwear and Tire  
Impressions (5 already  
sent to SDO)
- 




## **EXISTING ASTM STANDARDS SUBMITTED TO REGISTRY**


- » E620 – Standard Practice for Reporting Opinions of Scientific or Technical Experts
  - » E678 – Standard Practice for Evaluation of Scientific or Technical Data
  - » E860 – Standard Practice for Examining And Preparing Items That Are Or May Become Involved In Criminal or Civil Litigation
  - » E1020 – Standard Practice for Reporting Incidents that May Involve Criminal or Civil Litigation
  - » E1492 – Standard Practice for Receiving, Documenting, Storing, and Retrieving Evidence in a Forensic Science Laboratory
- 



## **EXISTING ASTM STANDARDS UNDER CONSIDERATION**

**continued**


- » E1188 – Standard Practice for Collection and Preservation of Information and Physical Items by a Technical Investigator
  - » E1492 – Standard Practice for Receiving, Documenting, Storing, and Retrieving Evidence in a Forensic Science Laboratory
  - » E1459 – Standard Guide for Physical Evidence Labeling and Related Documentation
- 



“Laboratory accreditation and individual certification of forensic science professionals should be *mandatory*, and all forensic science professionals should have access to a certification process.”




# Standards Sent to SDO

- » Standard Practice for Crime Scene Investigator Training, Continuing Education, Professional Development, Certification, and Accreditation
    - Current posted on OSAC website as a draft.
    - Submitted to ASTM
- 




# Highlights from CSI Training and Education Standard

» **Crime Scene Investigator** - a forensic science practitioner whose responsibility is to use the appropriate combination of knowledge, skills, and experience to undertake one or more of the following tasks in relation to a crime scene investigation: documentation, search for or identify evidence, evidence collection, and preservation of evidence. **OSAC Lexicon**






# Education Requirements

- » Associates degree with at least 8 hr of science.
  - » Strongly recommends a bachelor of science.
  - » Current experience can be substituted for the formal education requirement.
- 



# Continuing Education Requirements


- » Responsibility of parent agency
  - » Minimum of 48 hr over a 2-year period.
  - » Continuing education must be structured, measurable, and documented.
- 





# Certification/Accreditation

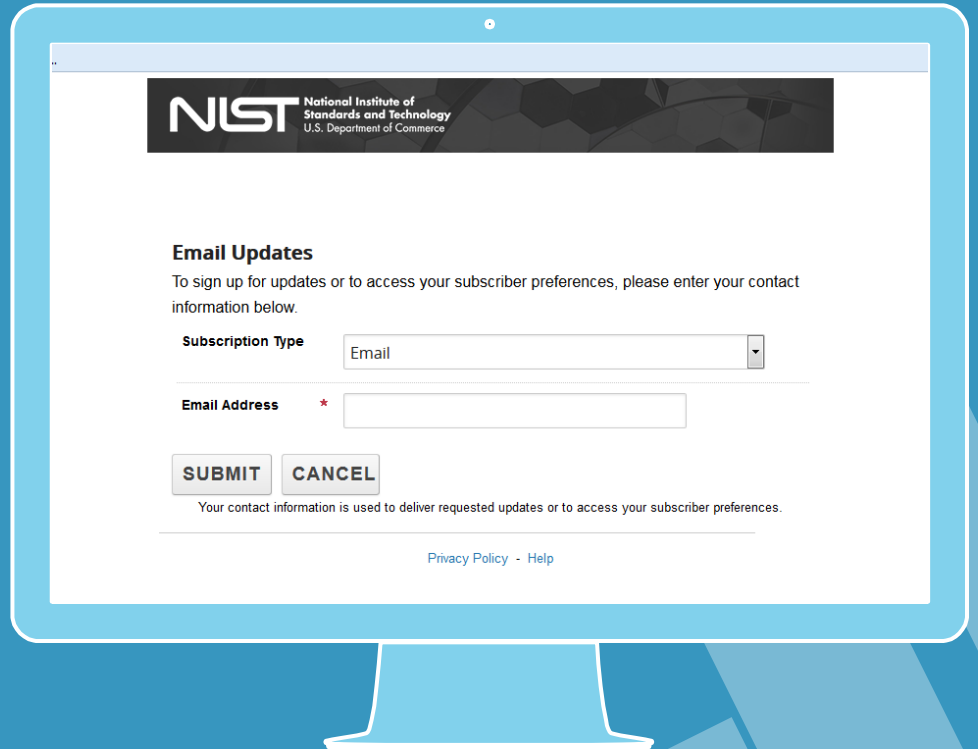
» “All crime scene units shall either have all crime scene investigation personnel certified or the crime scene unit shall be accredited. Ideally, all personnel will be certified and the crime scene unit will be accredited.”



# STAY INFORMED

[https://www.nist.gov/topics/  
forensic-science](https://www.nist.gov/topics/forensic-science)

FOLLOW FORENSIC SCIENCE  
AT NIST

A screenshot of a web browser displaying the NIST email update form. The browser window has a light blue border. At the top of the page is the NIST logo and text: "National Institute of Standards and Technology, U.S. Department of Commerce". Below the logo is the heading "Email Updates" and a paragraph: "To sign up for updates or to access your subscriber preferences, please enter your contact information below." The form contains two fields: "Subscription Type" with a dropdown menu showing "Email", and "Email Address" with a red asterisk indicating it is required. Below the fields are two buttons: "SUBMIT" and "CANCEL". At the bottom of the form, there is a line of text: "Your contact information is used to deliver requested updates or to access your subscriber preferences." and a link: "Privacy Policy - Help".

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

### Email Updates

To sign up for updates or to access your subscriber preferences, please enter your contact information below.

**Subscription Type**

**Email Address** \*

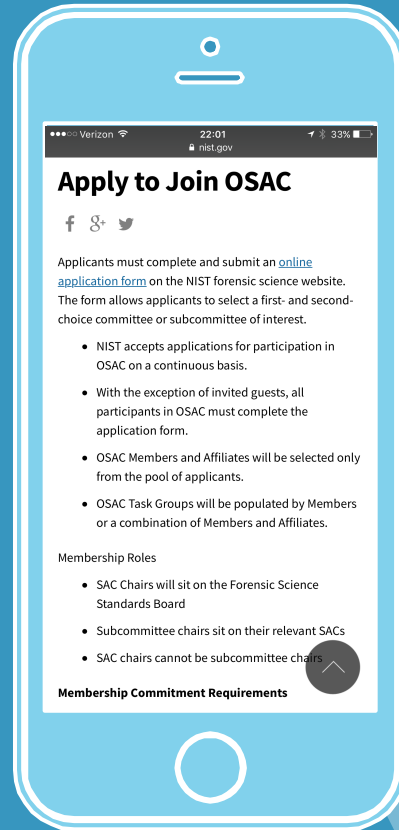
**SUBMIT** **CANCEL**

Your contact information is used to deliver requested updates or to access your subscriber preferences.

[Privacy Policy](#) - [Help](#)

# TO APPLY

[www.nist.gov/topics/forensic-science/osac-application](http://www.nist.gov/topics/forensic-science/osac-application)





# Web addresses

To apply

- » [www.nist.gov/topics/forensic-science/osac-application](http://www.nist.gov/topics/forensic-science/osac-application)

Research & Development Needs

- » <https://www.nist.gov/topics/forensic-science/osac-research-development-needs>

Stay informed

- » <https://www.nist.gov/topics/forensic-science>

# THANKS!

## Any questions?

You can find me at

- » [csdefrance@fbi.gov](mailto:csdefrance@fbi.gov)



FOLLOW FORENSIC SCIENCE  
AT NIST

