

FORENSIC SCIENCE STANDARDS BOARD (FSSB) UPDATE



Steven Johnson

Senior Vice President, West Virginia Operations
Ideal Innovations, Inc.

Chair

Forensic Science Standards Board (FSSB)
Organization of Scientific Area Committees (OSAC)

American Academy of Forensic Science (AAFS) 2018



Who Are the Members?

OSAC Members

- 550+ Members
 - *Practitioners*
 - *Researchers and Academics*
 - *Private sector*
 - *Professional Societies*
- Expertise
 - *25 specific forensic disciplines*
 - *General expertise in scientific research, measurement science, statistics, law, and policy*
- ~250 OSAC Members are members of AAFS

FSSB Members

- 20 Members
 - *SAC and Resource Chairs*
 - *Professional Societies*
 - *Researchers and Academics*
- New Chair in 2017
- New members in 2017
 - *Dave Fowler, NAME Rep*
 - *Melissa Gische, Physics SAC Chair*
 - *Ray Wickenheiser, ASCLD Rep*

ALL VOLUNTEERS



Who Makes Up OSAC?

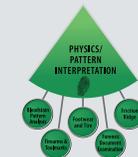
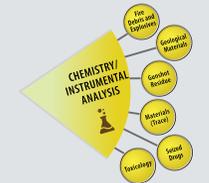
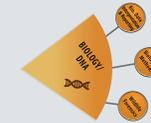
Board and Committees

- Forensic Science Standards Board (FSSB)
- 3 Resource Committees
 - *Legal*
 - *Human Factors*
 - *Quality Infrastructure*
- Statistics Task Group
 - *Statistician and/or Measurement Scientist appointed from each relevant OSAC unit*

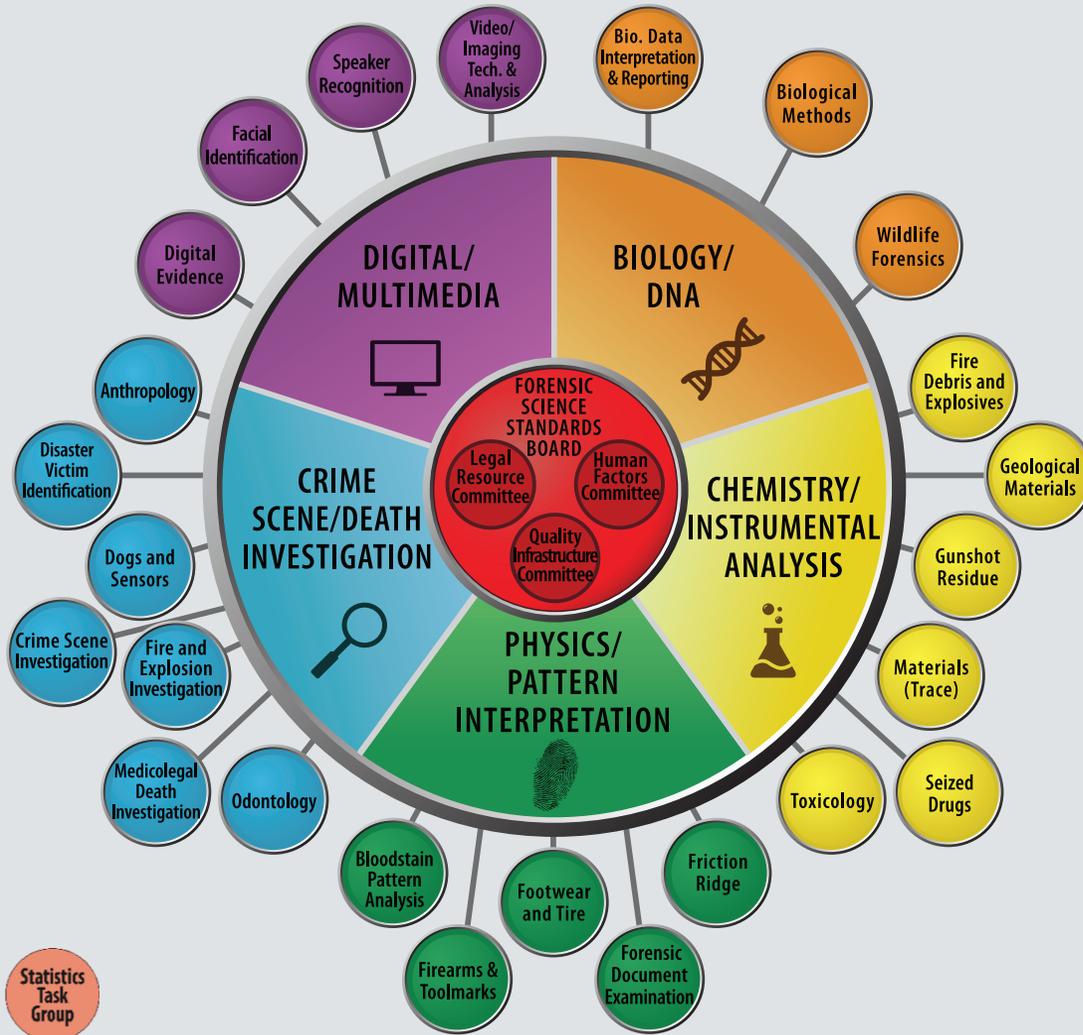


Scientific Area Committees (SACs)

- 5 SACs
- 25 SAC Subcommittees
- Biology/DNA
 - 3 Subcommittees
- Chemistry/Instrumental Analysis
 - 6 Subcommittees
- Crime Scene/Death Investigation
 - 7 Subcommittees
- Digital/Multimedia
 - 4 Subcommittees
- Physics/Pattern Interpretation
 - 5 Subcommittees



Composition



2/8/2018 Status

550+ members

325 affiliates

Employer Classification

Federal: 23%

State: 21%

Local: 19%

Academic: 17%

Private: 16%

FFRDC: 4%

Job Classification

Practitioner: 56%

Researcher: 17%

Educator: 10%

Other: 10%

Attorney: 2%

QA Manager: 2%

R&D Tech: 2%

Judge: 1%



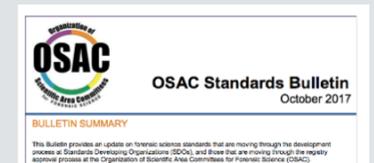
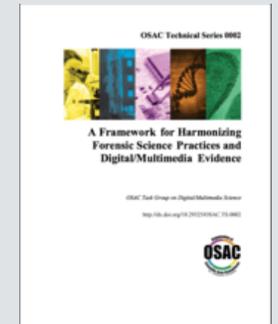
What Does the FSSB Do?

- Forensic Science Standards Board (FSSB) oversees the Scientific Area Committees and Subcommittees
- Establishes governance rules and policies to ensure the development of quality standards
- Encourages standards use in the provision of forensic science services
- Administers overall operation of the organization
- Approves standards for inclusion on the OSAC Registry
- Engages in all efforts related to forensic science standards
- Informs the forensic science community of research needs and gaps



What ARE We Doing?

- Established an OSAC Technical Publication Series
 - *Valuable information gathered as part of the standards development process*
 - Foundational
 - Framework
 - Guidance
 - Standards gaps
 - *OSAC.TS.0002 -- A Framework for Harmonizing Forensic Science Practices and Digital/Multimedia Evidence (DMSAC)*
- Launched Standards Bulletin October 2017
 - *Updates stakeholders about standards in process with SDOs and OSAC Registry*
- Revised current Organizational Priorities guidance for our OSAC members, which describes how OSAC works within the Forensic Science Community



Registry Approvals



The OSAC Registry is a collection of endorsed forensic science standards.

- Currently there are 8 standards on the OSAC Registry
- Currently there are 4 standards in the approval process
- 200+ standards projects on the Horizon
- Available from OSAC website, through SDO's links
 - *ASTM*
 - *ADA*
- Partnering with SDOs
 - *ADA, ASB, ANSI (NIST/ITL), ASTM, ISO, NFPA*



Research & Development

- 92 identified research and development gaps
- **EVERY SAC** has identified a research need in their discipline
 - *OSAC-identified R&D needs were referenced in NIJ's 2017 Forensic Science R&D Solicitation*
 - *OSAC-identified R&D needs are currently being supported by NIJ R&D awards, especially in the Footwear/Tire discipline*
- Formulating a Foundations Report to capture the current state of each forensic science discipline
- Established Interdisciplinary Projects across the disciplines
- Identify particular strengths and weaknesses - of all disciplines - so that we may chart an effective path forward



Lexicon

Undertook 2 activities related to terminology over the past 3 years

1. Identification and collection of existing terminology related to forensic science

- All Scientific Area Subcommittees, SACs and the QIC, identified over 3K terms and their associated definitions
 - *Terms and definitions come from a variety of sources*
 - *Standards, discipline specific glossaries and dictionaries, SWG documents, and OSAC subcommittee generated or modified*
- Created a database application to include all terms identified
 - *OSAC Lexicon of forensic science related terms has been publically released*
 - *Lexicon can be browsed and searched by discipline and/or keyword*
 - *Sources for these terms are complete as possible; some remain as "Source Being Verified"*
 - *The QIC is working with the OSAC units to confirm the source of these terms and definitions*
 - *Implementation of OSAC Preferred Terms when we have reached consensus across the OSAC units on a term and how it is defined*
 - *We still have work to do as this is an evolving database*
 - *Special thanks to:*
 - Bruce Houlihan, Director, Orange County Crime Lab/Orange County Sheriff-Coroner, and his staff for their providing the database and web development, technical support needed
 - QIC Lexicon Task Group members – Donna Kimball (OSAC Affairs), Christopher Krug, Mindy Raines (OSAC Affiliate), and Karen Reczek.



Lexicon

2. 29 Terms exercise related to what the legal resource committee felt were problematic

- A task group led by R. Vorder Bruegge with reps from SAC units reviewed the problematic terms; made specific recommendations to the FSSB
- *OSAC Lexicon definitions of “Control,” “CSI Effect,” and “Validation Test” are consistent across all OSAC disciplines, appear to be acceptable to all, and should be considered “official” OSAC definitions.*
- *Definitions of “Cognitive Bias,” “Confirmation Bias,” and “Contextual Bias,” as provided by the Human Factors Committee should be considered OSAC Preferred Terms.*
- *QIC led an effort to achieve consensus on the current QIC definitions of “Chain of Custody,” “Competency Test,” “Guideline,” “Peer Review,” “Proficiency Test,” and “Technical Review” with those units that have definitions for these terms in the OSAC Lexicon. QIC is leading efforts on other challenging definitions such as, “Authentication,” “Class Characteristics,” “Forensic,” “Individual Characteristics,” “Individualization,” “Reliability,” “Reproducibility,” and “Verification.” This effort should include representation from units that have definitions for these terms in the OSAC Lexicon and units with an interest. If consensus is achieved, those terms would be considered OSAC Preferred Terms.*
- *Units to define the following terms within the context of their individual disciplines: “Bias,” “Identification,” “Identity,” “Match,” “Noise,” “Protocol,” “Signal,” “Validation,” and “Validity.”*
- *OSAC members should discontinue the “abbreviation” of terms to a single word (e.g., bias) and instead use “phrases” (e.g., cognitive bias or contextual bias or measurement bias) to ensure the context of the term is clear. If the mere use of a phrase is insufficient, then further explanation is appropriate.*
- *OSAC Lexicon definitions will be referenced when drafting or revising standards. New definitions should NOT be created when definitions already exist.*
- *Special thanks to Task Group Members:*
 - Patrick Buzzini, George Cronin, Angelo Della Manna, Paul Kish, Karen Reczek, Richard Vorder Bruegge



Challenges We Are Attempting to Maneuver

- Conclusion Scales in the Pattern Disciplines
- Terminology
 - *not all disciplines agree on same definition for many terms*
 - *Why the OSAC preferred terms are important*
- Quantifying “Significant Differences” in Trace Disciplines
- Addressing for whom the Standards should be written
- Good Enough vs. Perfect
 - *“living documents”*
- Uncertainty in Qualitative Identifications



We Still Have Work To Do

■ Within OSAC

- *Registry Approvals*
 - Improved the Registry Approval Process within OSAC
 - Revised Technical Merit Worksheet and Guidance
- *Included the Resource Committees and Statistics Task Group as part of the FSSB*
- *Instituted an annual OSAC Leadership Strategy Sessions with OSAC members to seek 360° feedback*

■ Outside OSAC

- *Continue to work alongside our partners, e.g., Federal offices, SDOs, practitioners, and other stakeholders*
- *Promote the adoption and implementation of OSAC Standards to forensic service providers, associations, criminal justice system, and Federal, state, and local offices.*
 - We keep plugging away



What Are OSAC's Highest Priorities?

- Short-term and/or Long-Term Strategic Plans or Roadmaps for the FSSB and SACs
- Engage with our OSAC members, stakeholders, forensic science industry for amplified impact
- Increase the standards approved for the OSAC Registry
- Update current R&D Gaps
- Increase the number of Technical Publications made available to our stakeholders
- Release OSAC Standards Implementation Plan
- Publish an OSAC preferred Lexicon
- Expand Interdisciplinary Projects across the disciplines
- Publish a Foundations Report - a state-of-the-discipline document



How Can You Help? Work with Us.

- Apply to work with OSAC as an affiliate or member
- Subscribe to our communications
 - *Newsletter*
 - *Standards Bulletin*
 - *Email Blasts*
- Promote use of the Standards on the OSAC Registry
- Find an OSAC member. Let's talk. (ribbons on)





FOR MORE INFO:



“OSAC FORENSICS”

Email: forensics@nist.gov
www.nist.gov/osac

