

Stetson University College of Law
Essentials in Forensic Science and the Law
Webinar Series

**Organization of Scientific Area Committees
for Forensic Science (OSAC)**

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Disclaimer

Opinions provided in this presentation are mine and not necessarily those of the National Institute of Standards and Technology, the US Department of Commerce, nor the US Government.



Agenda

- NIST Forensic Science Activities (Why NIST?)
- OSAC Structure and Operational Functions
- OSAC Research Needs
- Future Impact & Staying Connected



565 Experts
at OSAC April
2017 All
Hands
Meeting in
Leesburg, VA



NIST Forensic Science Efforts

<http://www.nist.gov/forensics/>

Organization of Scientific Area Committees (OSAC)



*NIST-administered effort with
>560 members of the community
establishing standards and guidelines*

NIST Funded Internal Research Programs

1. Ballistics & Associated Tool Marks
2. Digital & Identification Forensics
3. Forensic Genetics (DNA)
4. Toxins
5. Trace
6. Statistics

~\$7.5M/year
invested

CoE: ~\$4M/year invested
for 5 years (2015-2020)

NIST Forensic Science Center of Excellence



Consortium of universities funded to improve statistical foundation for pattern and digital evidence and to develop training on probabilistic methods for practitioners and other stakeholders

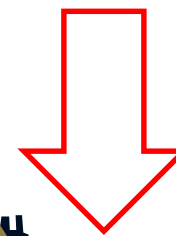
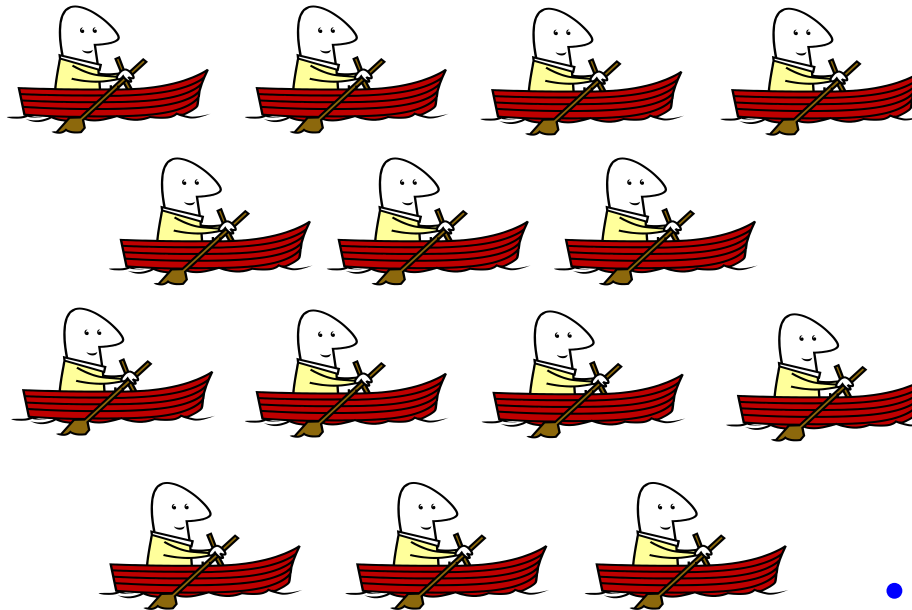
International Symposium on Forensic Science Error Management



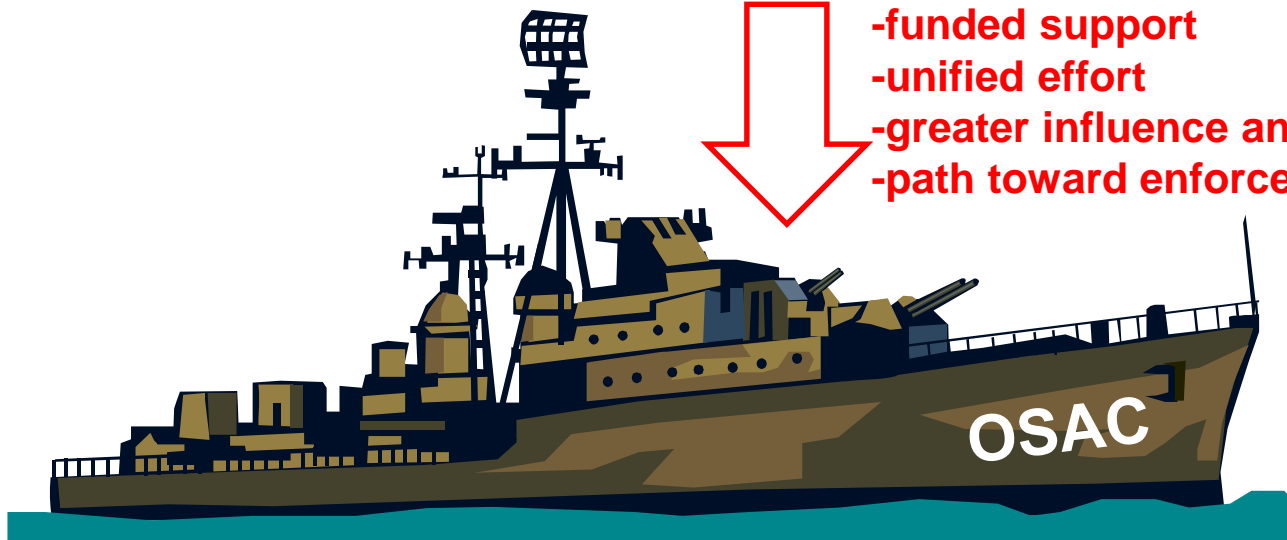
Held July 24-27, 2017 at NIST in Gaithersburg, MD
>75 presentations covering:

- Quality Assurance and Lab Management
- Human Factors and Legal Factors
- Criminalistics and Digital Evidence
- Crime Scene and Death Investigation

Individual Standards Development Effort vs. Organized Effort



- funded support
- unified effort
- greater influence and impact
- path toward enforceable standards



OSAC Objective

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 Snapshot

1/10/2017 Status:

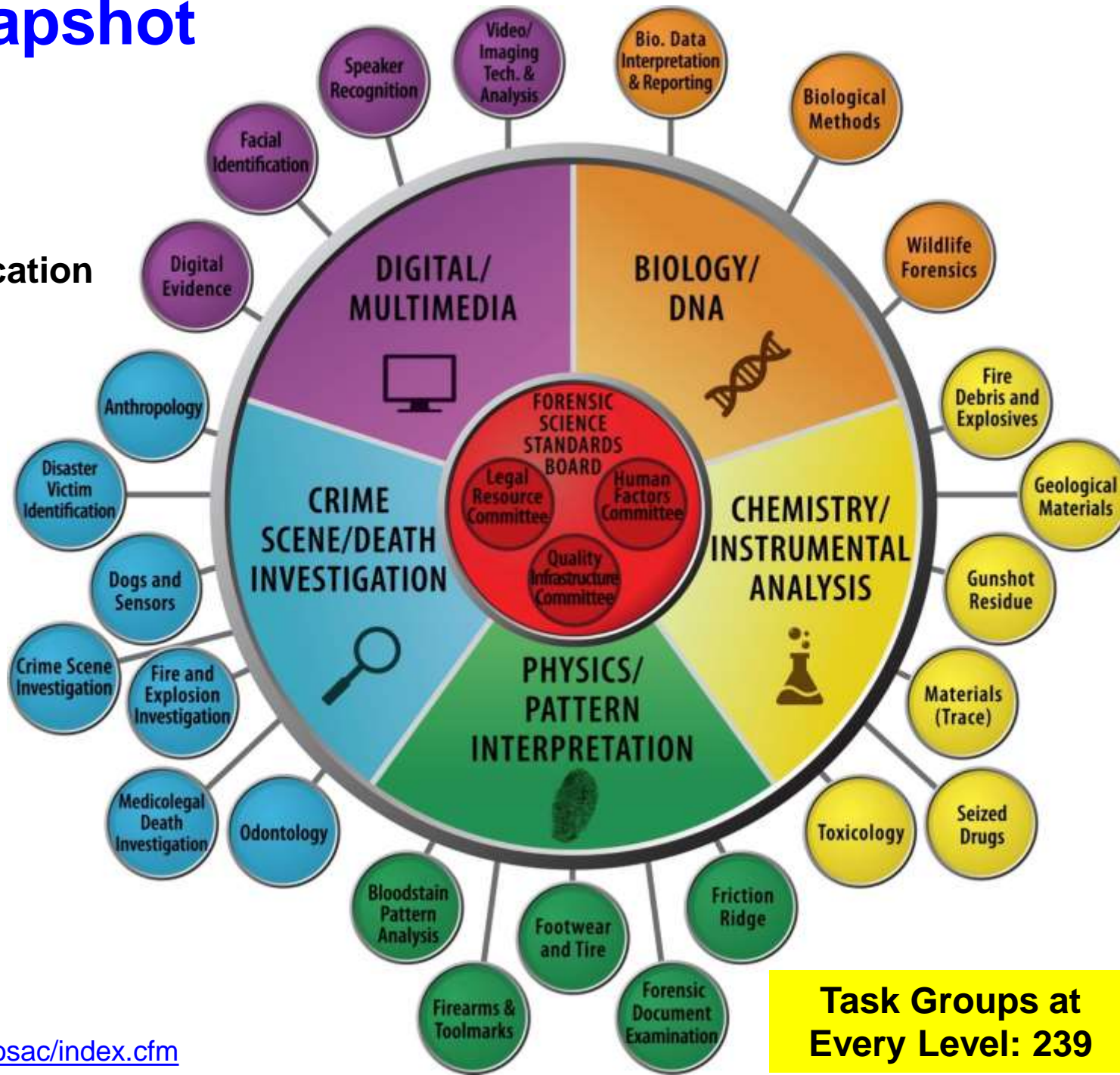
565 Members
266+ Affiliates
2431 Applications

Employer Classification

Academic: 18%
Federal: 24%
FFRDC: 1%
Local: 19%
Private: 16%
State: 21%

Job Classification

Attorney: 2%
Educator: 10%
Judge: 1%
Other: 10%
Practitioner: 56%
QA Manager: 2%
R&D Tech: 2%
Researcher: 19%



Task Groups at Every Level: 239

OSAC Membership

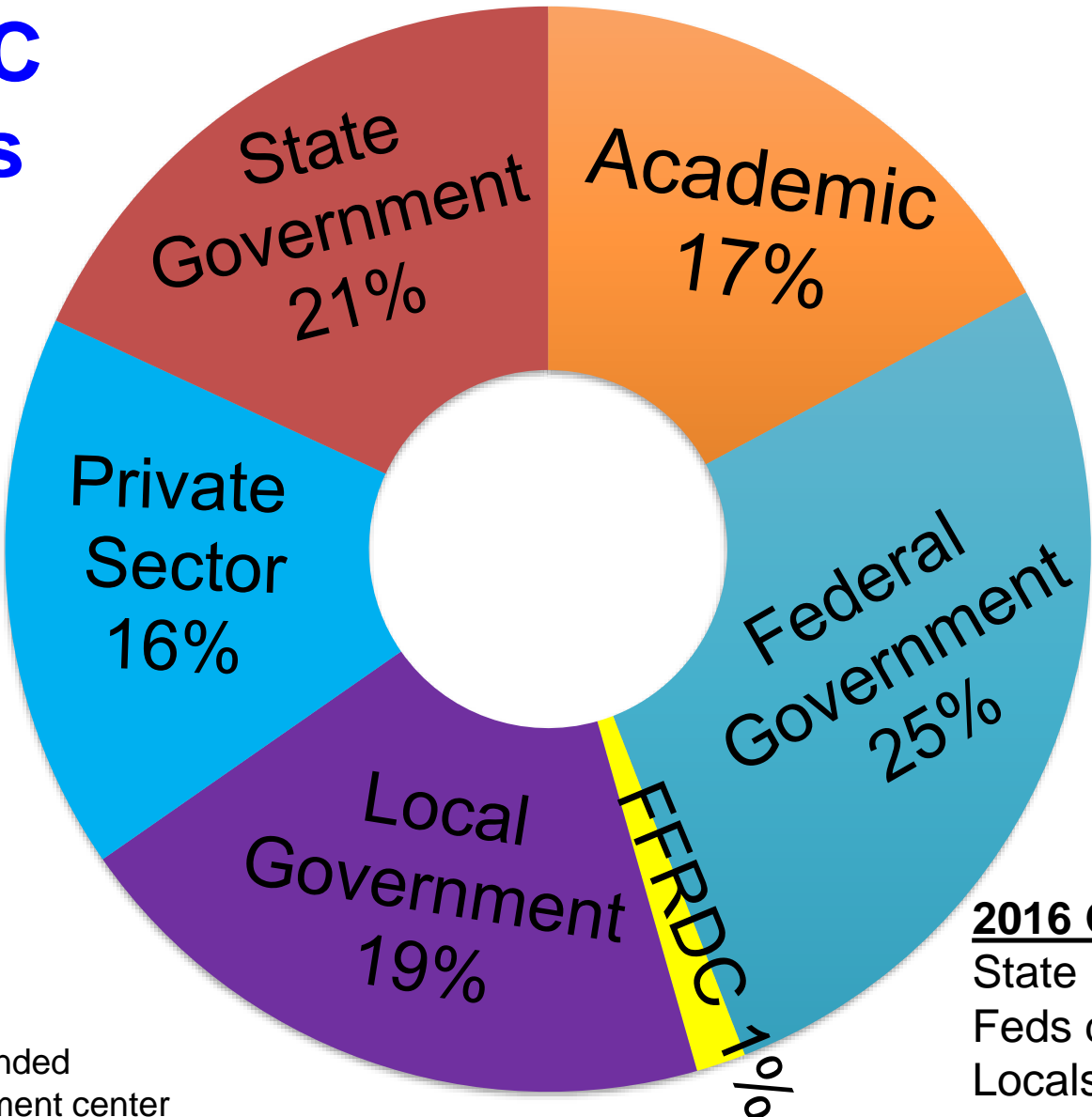
OSAC's **568 members** and **266 affiliates** consist of forensic science practitioners, researchers, educators, Q&A managers, attorneys, and judges; and are employed by Federal, state, and local governments as well as industry and academia.



OSAC Members Employer Classification

(as of 07 October 2016)

**554 OSAC
Members
Total**



2016 Oct 1st Change:

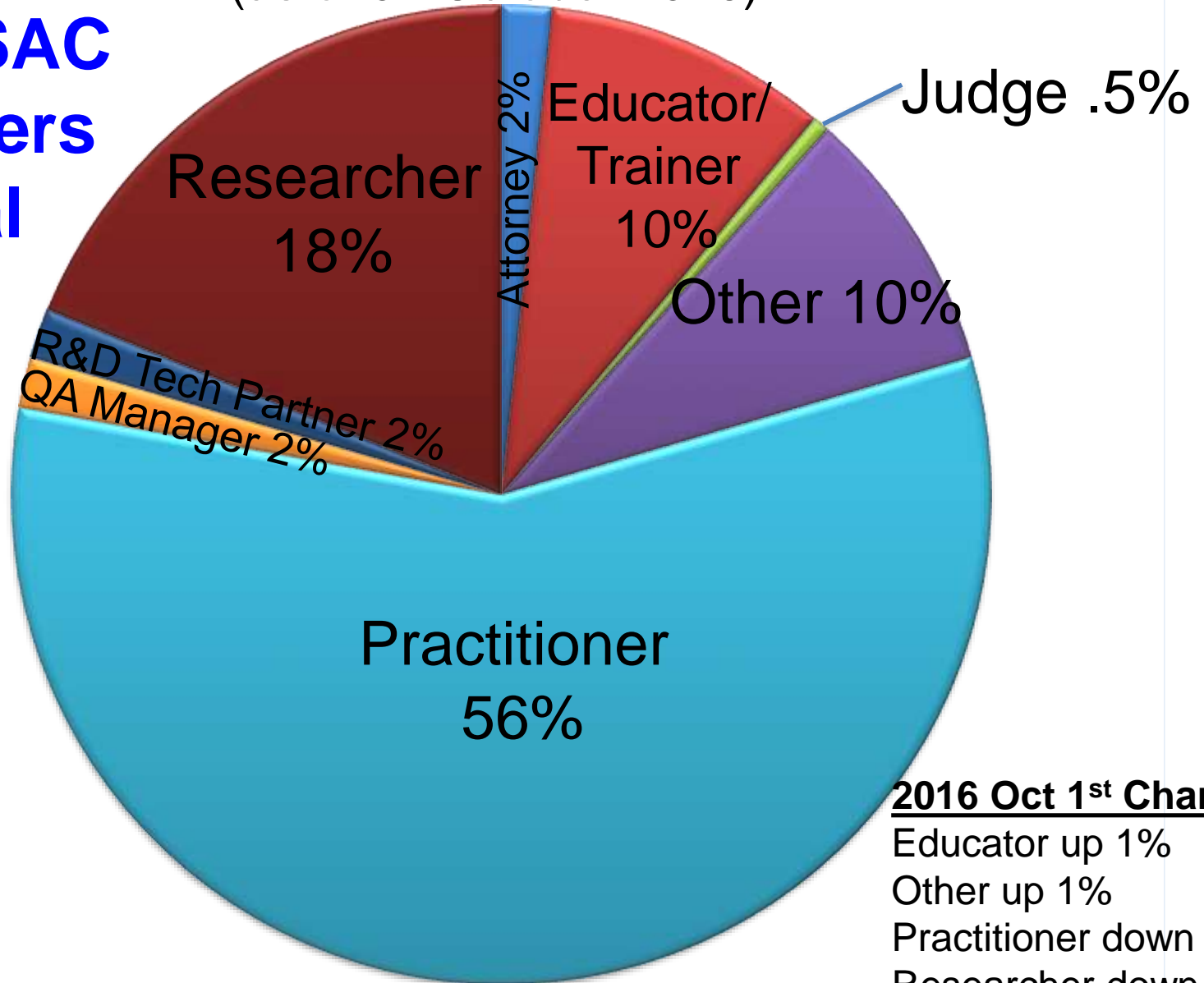
- State up 3%
- Feds down 2%
- Locals down 1%
- Private down 1%

FFRDC = Federally-funded research and development center

OSAC Members Job Classification

(as of 07 October 2016)

**554 OSAC
Members
Total**



2016 Oct 1st Change:

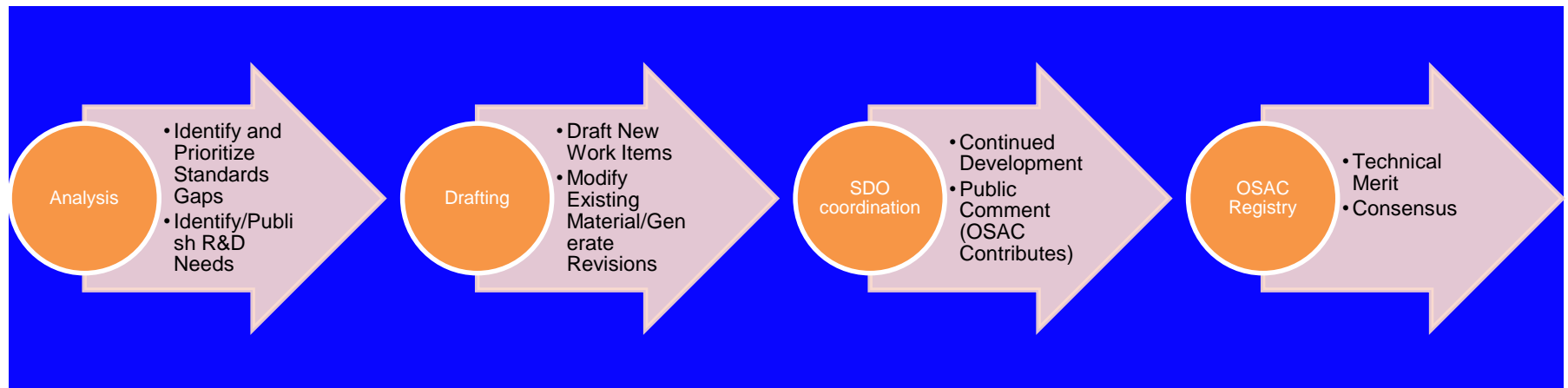
Educator up 1%

Other up 1%

Practitioner down 1%

Researcher down 1%

What Does OSAC Provide?



- Published research and development (R&D) needs that emerge during these standards discussions
 - **92 published to date**
- More than 565 members on 25 Subcommittees submit new work items or standards revisions to standards developing organizations (SDOs)
 - **Over 144 work items under development**
- Final standards and guidelines published by the SDOs (in part due to OSAC inputs)
 - **1 published to date: *ADA Technical Report 1088 for Human Identification by Comparative Dental Analysis***
- Standards and guidelines posted to the **OSAC Registry**
 - **6 posted to date**
 - Documents posted to the registry have been deemed valid by forensic practitioners, academic researchers, measurement scientists, and statisticians



OSAC REGISTRY

Documentary standards and guidelines that have demonstrated:

1. Technical merit

2. Reasonable standards development process

1. **ASTM E2329-14: Standard Practice for Identification of Seized Drugs** – January 27, 2016 [In Revision: ASTM WK53625]
Joint OSAC FSSB and NIST Statement on ASTM Standard E2329-14 (July 5, 2016)
2. **NFPA 921: Guide for Fire and Explosion Investigations, 2014 Edition** – September 20, 2016
3. **ISO/IEC 17025:2005: General Requirements for the Competence of Testing and Calibration Laboratories** – September 27, 2016 [In Revision: ISO/IEC CD 17025]
4. **NFPA 1033: Standard for Professional Qualifications for Fire Investigator, 2014 Edition** – December 22, 2016
5. **ASTM E2548-11e1: Standard Guide for Sampling Seized Drugs for Qualitative and Quantitative Analysis** – April 3, 2017
6. **ISO/IEC 17020: Conformity Assessment—Requirements for the Operation of Various Types of Bodies Performing Inspection** – April 18, 2017
7. **ANSI/NIST ITL-1 2011: Data Format for the Interchange of Fingerprint, Facial & Other Biometric Information** – July 13, 2017
8. **ASTM E2926-13: Standard Test Method for Forensic Comparison of Glass Using Micro X-ray Fluorescence (μ -XRF) Spectrometry** – July 19, 2017

OSAC is not a regulatory entity and does not enforce compliance

OSAC Standards: Implementation Pathways

- **Self Adoption:** Crime labs incorporate OSAC standards in SOPs
- **Professional Associations:** Issue policy statements encouraging adoption
- **Criminal Justice (Courts):** Attorneys begin demanding testing using OSAC standards
- **Accrediting Bodies:** ISO 17025/20 supplemental standards or checklists
- **Funding Bodies (Carrot):** Offer funding incentive to implement standards
- **Funding Bodies (Stick):** Require OSAC standards implementation to access funding
- **Others**



OSAC Future Impacts on Labs and Courts

1. Forensic science practitioners embrace change
2. Forensic analyses routinely employ quantification, uncertainty measurements and probabilistic models to the extent possible within each discipline
3. OSAC standards become implemented in all forensic disciplines in addition to DNA
4. Prosecutors and defense attorneys begin to use the OSAC Registry in direct and cross examinations of expert witnesses
5. Judges and juries routinely hear expert witnesses testify how their analysis met scientific standards and scientific validity and transparently describe the transparency of their tests
6. Significant forensic science research is finally well organized and well funded with influence from OSAC to inform research priorities
7. Discipline specific standards finally become a uniform part of the accrediting body audit process



Questions?

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