

# Development of Standards and BPRs for Friction Ridge Evidence: Update from the OSAC FRS and ASB FRCB

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Chair, Friction Ridge Consensus Body (FRCB), ASB

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Vice-Chair, Friction Ridge Subcommittee (FRS), OSAC

**International Association for Identification - IAI**

**August 12, 2024**

# Disclaimer

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The opinions contained in this presentation are the private views of the author and are not to be construed as official or reflecting the views of NIST, OSAC, ASB, or AAFS.

# Two organizations working together

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- OSAC was established in 2014 to replace SWGs
- OSAC is administered by the National Institute of Standards and Technology (NIST)
- ASB was established in 2015 to be an ANSI-accredited Standards Development Organization (SDO)
- ASB is administered by the AAFS
- Both organizations work together to facilitate the promote the development and implementation of standards and best practice recommendations relating to friction ridge examination and have a balance of interests represented and opportunities for public involvement

# OSAC Structure

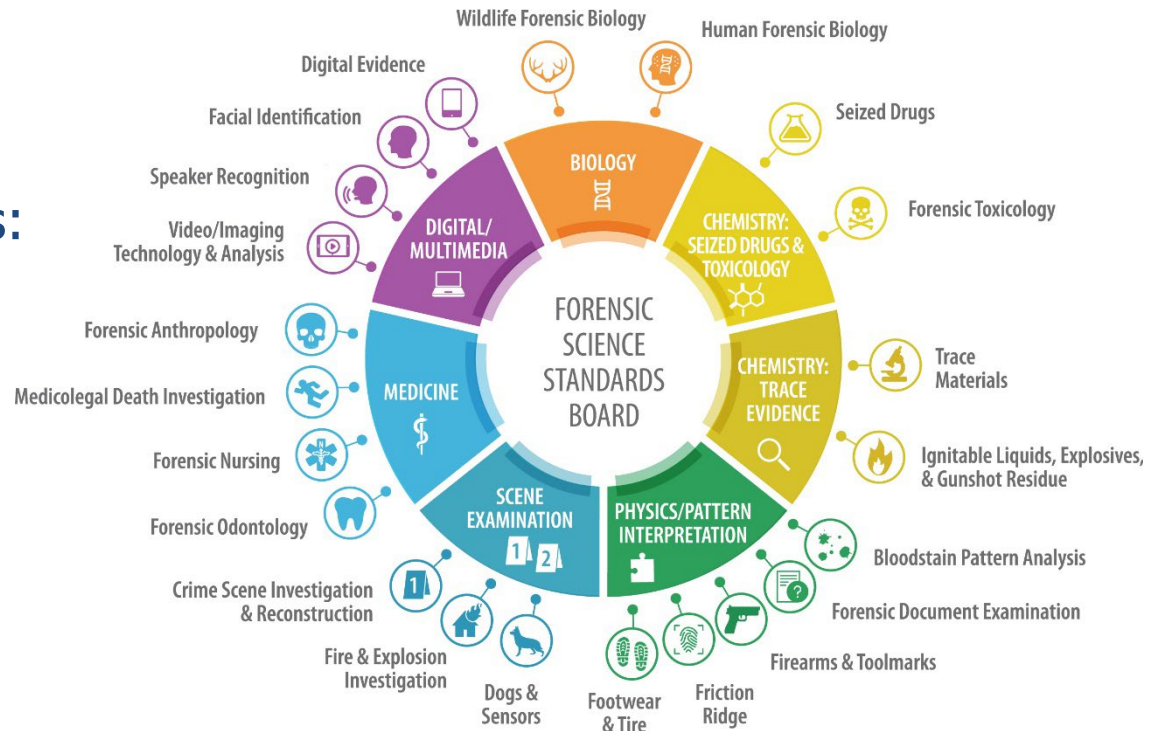
Forensic Science Standards Board (FSSB)

7 Scientific Area Committees (SACs)

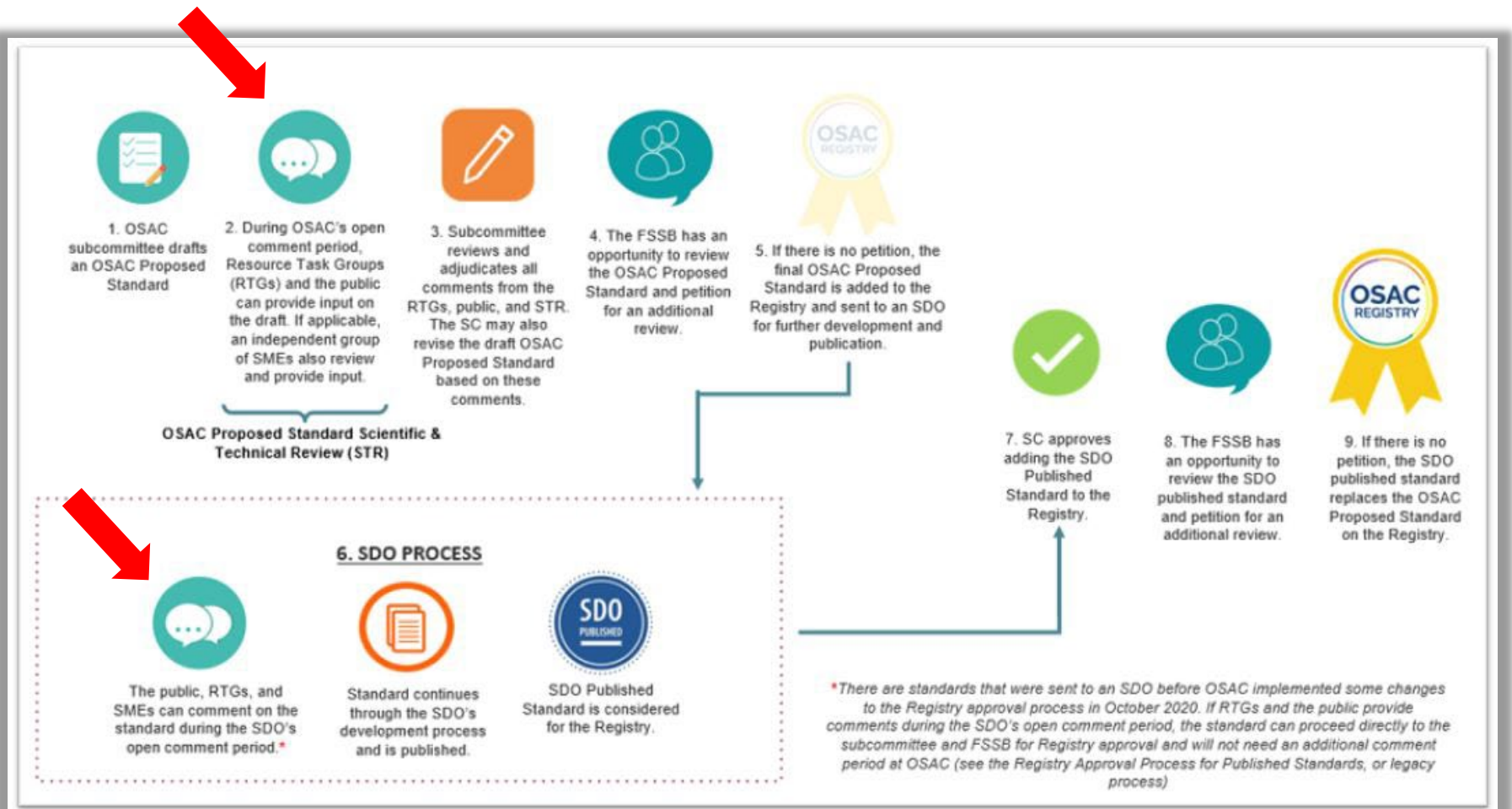
22 Subcommittees (SCs)

FSSB Resource Task Groups:

- Human factors
- Legal
- Quality
- Statistics
- Terminology



# OSAC and Standards Development



# FRS Subcommittee Leadership

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## Chair – Heidi Eldridge

- George Washington University
- Email: [heidi.eldridge@gwu.edu](mailto:heidi.eldridge@gwu.edu)

## Vice-Chair – Joshua Connelly

- Douglas County Sheriff's Office
- Email: [Joshua.Connelly@douglascounty-ne.gov](mailto:Joshua.Connelly@douglascounty-ne.gov)

## Executive Secretary – Andrew Pacejka

- Utah Bureau of Forensic Services
- Email: [apacejka@utah.gov](mailto:apacejka@utah.gov)

# FRS Subcommittee Breakdown

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<u>Category</u>	<u>Current</u>	
Practitioner Total	14	74%
Federal	5	26%
State & Local	7	37%
Academia	5	26%
Private Sector (includes self-employed)	2	11%

# The ASB Process

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- New Work Proposal received
- ASB Board review/approval
- Working Group formed to review/draft document
- WG document presented to Consensus Body for review/comment/vote
- Document goes to Public Comment
- Comments adjudicated
- Additional rounds of comment on any changes made, if necessary
- Final approval by Consensus Body
- ANSI Process Review
- Document returns to OSAC to be considered for placement on OSAC Registry





# Friction Ridge Consensus Body Leadership

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## Chair – Heidi Eldridge

- George Washington University
- Email: Heidi.Eldridge@gwu.edu

## Vice-Chair – Simon Cole

- University of California, Irvine
- Email: scole@uci.edu

## Executive Secretary – Michele Triplett

- King County AFIS
- Email: michele.triplett@kingcounty.gov

# FRCB Breakdown

<u>Category</u>	<u>Current</u>	
User - Government	8	38%
User – Non-Government	4	19%
Academics and Researchers	3	14%
Producer	2	10%
Jurisprudence and Crim. Just.	3	14%
General Interest	1	5%
<b>Total</b>	<b>21</b>	<b>100%</b>

# FRS Published Proposed Standards & BPRs

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1. Std for Proficiency Testing in Friction Ridge Examination (6/7/22)\*
2. Std for Feature Selection in Friction Ridge Examination (9/5/23)\*
3. Std for Processing Evidence for the Detection of Friction Ridge Imp. (9/6/22)\*
4. BPR for Limited Examinations in Friction Ridge Examination (4/5/22)\*
5. Std for Consultation During Friction Ridge Examination (7/2/24)
6. BPR for
7. Std for
8. Std for
9. BPR for
10. BPR for
11. BPR for
12. Std for Reporting Results from Friction Ridge Examinations
13. BPR for Technical Review in Friction Ridge Identification
14. BPR for Testimony Monitoring
15. TR on the Articulation of the Reasoning and Foundational Principles Behind Friction Ridge Examinations
16. Std for Friction Ridge Examination Conclusions

*“All published documents are completed work products of the OSAC Friction Ridge Subcommittee and have passed a rigorous technical and quality review by the subcommittee. The subcommittee encourages the forensic science community to implement these proposed standards.”*

# FRS Documents Under Development

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1. Acceptance of a Request for Friction Ridge Examinations (BPR)
2. Task Relevant Information in Friction Ridge Examination (TR)
3. Method Validation (Standard and BPRs)
4. Automated Biometric Identification System Best Practices
5. Recruiting/Selection for Pattern Recognition
6. \*Process Map Update
7. \*OSAC Implementation Guides and Slides
8. \*R&D Needs Assessments

*\*Supplemental guides; not resulting in a standard or best practice recommendation document*

# OSAC FRS R&D Needs

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1. ACE-V Bias
2. Assessing the Sufficiency and Strength of Friction Ridge Features
3. Close Non-Match Assessment
4. Complexity in Analysis and Comparison of Friction Ridge Impressions
5. Culture, Communication, Comprehension and Psychology in Friction Ridge Evidence
6. Determination of the Relevance of Marks to an Incident in Question Through Age and Activity Estimation
7. Development and Processing Techniques
8. Examiner Consistency During Friction Ridge Feature Mark-Up
9. Friction Ridge Statistical Modeling
10. Latent Fingerprint Image Quality Usage
11. Personnel Selection and Retention of Friction Ridge Science Practitioners
12. Technical Review and Verification

# OSAC FRS R&D Needs Under Development

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1. How FRS translates to 2D impressions – Reliability
2. Measuring performance of FSP in relation to the 3-point and 5-point interpretation scales

# Ambassador Program

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- Std for Proficiency Testing
- BPR for Limited Examinations
- Std for Processing Evidence
- Std for Feature Selection
- TR for Articulation

# NIST *Interactive* Process Map

*Free* tool → Links users to helpful related content associated with steps in the process—standards, best practices, trainings, tools, and research associated with each step, and provides controls that allow users to create an individual highlighted path as they navigate through the process, to show and record the course of their own examination.

**LATENT PRINT EXAMINATION PROCESS**

1000 Administrative Assessment    2000 Technical Assessment    3000 Latent Analysis    4000 Known Analysis    5000 Comparison /Evaluation    6000 Reporting /Verification

## WELCOME TO THE LATENT PRINT EXAMINATION PROCESS MAP

This tool presents the sequence of steps in a latent print examination, presented as an interactive process map.

It allows you to browse the process map to see details and links to helpful related content associated with steps in the process.

It also provides controls (available to the left of the map), that allow you to create an individual highlighted path as you navigate through the process, to show and record the course of your own investigation.

**ENTER THE PROCESS MAP**

<https://ipm.nist.gov/lpe>



# NIST-AAFS Cooperative Agreement

Training

Factsheets

Checklists



*These resources made possible through the following financial assistance award 70NANB21H097 awarded to AAFS from U.S. Department of Commerce, National Institute of Standards and Technology*


# Visit Us Online!

**NIST** Search NIST

## THE ORGANIZATION OF SCIENTIFIC AREA COMMITTEES FOR FORENSIC SCIENCE

- Organizational Structure +
- Governing Documents
- Standards Open for Comment
- OSAC Registry +
- Registry Approval Process +
- Registry Implementation +
- OSAC Work Products +
- News & Communications +
- Standards Resources +
- OSAC Events
- Apply to Join OSAC

### Friction Ridge Subcommittee



The **Friction Ridge Subcommittee** focuses on standards and guidelines related to the forensic examination of friction ridge detail from the hands and feet.

[Officers](#) | [Members](#) | [Standards](#) | [Other Work Products](#)

#### Officers

**Henry Swofford**, Subcommittee Chair, National Institute of Standards and Technology (NIST)

**Heidi Eldridge**, Subcommittee Vice Chair, George Washington University

**Andrew Pacejka**, Subcommittee Executive Secretary, Utah Bureau of Forensic Services

<https://www.nist.gov/osac/friction-ridge-subcommittee>

# OSAC Registry Open Enrollment

- OSAC has transitioned to an “open enrollment” format to annually assess the state of implementation of standards on the OSAC Registry.
- Establishes a yearly cadence (summer) and opportunity for FSSPs to **update or initiate** an *OSAC Registry – Standards Implementation Declaration Form*.
- OSAC will compile and use this data to prepare reports covering the number of new and updated declaration forms, general implementation trends, and which standards are being implemented.
- Download, complete and submit an updated or initial declaration form to [forensics@nist.gov](mailto:forensics@nist.gov) by September 2.



# How Can YOU Get Involved?



Sign up for OSAC communications to get updates on standards moving through the OSAC Registry and SDO development processes.

<https://public.govdelivery.com/accounts/USNIST/subscriber/new>



Share your expertise by reviewing and commenting on documents being considered for the OSAC Registry and open for comment at SDOs.

<https://www.nist.gov/osac/standards-open-comment>



Become an OSAC member.

<https://www.nist.gov/osac/apply-join-osac>



Stay informed – visit the [OSAC website](#) and follow us on [LinkedIn!](#)

# Visit OSAC and NIST at Booth #322!

**Pick up a declaration form** to take back to your organization to complete.


**Learn more** about the investments being made to help enhance implementation.

**Sign up** to participate on OSAC's Implementer Cohort Task Group.

**Join NIST's Forensic Science mailing list** to receive the latest information on OSAC and other NIST forensic science efforts.

**OSAC Registry - Standards Implementation Declaration**

Declaration: This forensic science service provider (FSSP) has determined current compliance or has self-adopted, either in its entirety or partially, the following standards on the OSAC Registry in its standard operating procedures (SOP) manual(s) or quality manual. Standards may also be checked as not yet implemented, will not implement, or as not applicable. Download, complete form, save, attach to email and send to [forensics@nist.gov](mailto:forensics@nist.gov)

 Forensic Science Service Provider  
Address \_\_\_\_\_  
FSSP Director Signature \_\_\_\_\_ Printed Name \_\_\_\_\_ Date: \_\_\_\_\_

Note: Standards in black text are SDO published standards. Standards in blue text are OSAC Proposed Standards.

**ANTHROPOLOGY** If this discipline is not performed in your organization, check the box and continue to the next discipline

Standard	Date added to OSAC Registry	Implemented (Full)	Implemented (Partial)	Not Yet Implemented/Undecided	Will Not Implement	Not Applicable
1. ANS/ASB Best Practice Recommendation 089, Best Practice Recommendation for Facial Approximation in Forensic Anthropology, 2020, 1st Ed.	Sep 07, 2021	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**BIOLOGY/DNA** If this discipline is not performed in your organization, check the box and continue to the next discipline

Standard	Date added to OSAC Registry	Implemented (Full)	Implemented (Partial)	Not Yet Implemented/Undecided	Will Not Implement	Not Applicable
1. ANS/ASB Standard 018, Standard for Validation of Probabilistic Genotyping Systems, 2020, 1st Ed.	May 04, 2021	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. ANS/ASB Standard 020, Standard for Validation Studies of DNA Mixtures, and Development and Verification of a Laboratory's Mixture Interpretation Protocol, 2018, 1st Ed.	May 12, 2020	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. ANS/ASB Standard 022, Standard for Forensic DNA Analysis Training Programs, 2019, 1st Ed.	Sep 01, 2020	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. ANS/ASB Standard 023, Standard for Training in Forensic DNA Isolation and Purification Methods, 2020, 1st Ed.	Aug 03, 2021	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. ANS/ASB Standard 038, Standard for Internal Validation of Forensic DNA Analysis Methods, 2020, 1st Ed.	May 02, 2023	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. ANS/ASB Standard 040, Standard for Forensic DNA Interpretation and Comparison Protocols, 2019, 1st Ed.	May 12, 2020	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. ANS/ASB Standard 077, Standard for the Developmental and Internal Validation of Forensic Serological Methods, 2020, 1st Ed.	Dec 06, 2022	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. ANS/ASB Standard 110, Standards for Training in Forensic Serological Methods, 2020, 1st Ed.	Aug 03, 2021	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. ANS/ASB Standard 115, Standard for Training in Forensic Short Tandem Repeat Typing Methods using Amplification, DNA Separation, and Allele Detection, 2020, 1st Ed.	Aug 03, 2021	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. ANS/ASB Standard 116, Standard for Training in Forensic DNA Quantification Methods, 2020, 1st Ed.	Aug 03, 2021	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. ANS/ASB Standard 130, Standard for Training in Forensic DNA Amplification Methods for Subsequent Capillary Electrophoresis Sequencing, 2021, 1st Ed.	Apr 05, 2022	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. ANS/ASB Standard 131, Standard for Training in Forensic DNA Sequencing Using Capillary Electrophoresis, 2021, 1st Ed.	Apr 05, 2022	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

# Act and Make an Impact!

Participate in OSAC's 2024 Registry Implementation  
Open Enrollment Event

July 1 Through September 2



September 15 Through 21



Visit booth #322 for more info!





**ASB**  
**ACADEMY**  
**STANDARDS BOARD**

<https://www.aafs.org/academy-standards-board>

# Contact

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OSAC

<https://www.nist.gov/osac/friction-ridge-subcommittee>

ASB

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