Subcommittee Leadership

• **Chair**: Henry Swofford  
  • Defense Forensic Science Center  
  • Term expiration September 30, 2020  
  • Email: [Henry.J.Swofford.Civ@mail.mil](mailto:Henry.J.Swofford.Civ@mail.mil)

• **Vice Chair**: Thomas Wortman  
  • Defense Forensic Science Center  
  • Term expiration September 30, 2021  
  • Email: [Thomas.M.Wortman.Civ@mail.mil](mailto:Thomas.M.Wortman.Civ@mail.mil)

• **Executive Secretary**: Maria Ruggiero  
  • Los Angeles County Sheriff’s Office  
  • Term expiration September 30, 2019  
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Subcommittee Membership

- Black, John P., Black & White Forensics, LLC, 2021, john@bwforensics.com
- Brock, Steven, Santa Clara County Sheriff's Office, 2021, Steve.Brock@shf.sccgov.org
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- Schwarz, Matthew T., Schwarz Forensic Enterprises, Inc., 2019, matt@schwarzforensic.com
- Smith, Ron, Ron Smith & Associates, Inc., 2020, ron@ronsmithandassociates.com
- Speckels, Carl, City of Phoenix Crime Laboratory, 2020, carl.speckels@phoenix.gov
- Swofford, Henry J., Defense Forensic Science Center, 2020, Henry.j.Swofford.civ@mail.mil
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- White, Alice, Evolve Forensics, LLC, 2020, alicevirginiawhite@gmail.com
- Wortman, Thomas M., Defense Forensic Science Center, 2021, thomas.m.wortman.civ@mail.mil
- Zinn, Lisa M., Orange County Sheriff's Crime Laboratory, 2019, lzinn@occl.ocgov.com
## Subcommittee Breakdown

<table>
<thead>
<tr>
<th>Category</th>
<th>Target</th>
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<td>Practitioner Total</td>
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<td>Researchers and Scientists</td>
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<tr>
<td>R&amp;D Technology</td>
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Scope

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

• Current Strategic Priority:
  • Promulgation of standards and guidelines related to the examination, interpretation, and reporting of friction ridge evidence
Documents Completed (at SDO)

✓ Standard for Friction Ridge Examination Conclusions

✓ Standard for Friction Ridge Examination Training


• Document drafts publically available online:
  • https://www.nist.gov/topics/forensic-science/friction-ridge-subcommittee
Update → Standard for Conclusions

• Defines terms and qualitative expressions of source conclusions that may be reached following friction ridge comparisons.

• Five conclusion scale
  • Source Exclusion
  • Support for different sources
  • Inconclusive/Lacking Support
  • Support for same source
  • Source Identification

• Source Identification:
  • Strongest degree of association between two friction ridge impressions
  • Expressed as a “strength of evidence” statement
Update  ➔ Standard for Conclusions

• **Source Identification**: The strongest degree of association between two friction ridge impressions. It is the conclusion that the observations provide extremely strong support for the proposition that the impressions originated from the same source and extremely weak support for the proposition that the impressions originated from different sources.

• Source Identification is reached when the friction ridge impressions have corresponding ridge detail and the examiner would not expect to see the same arrangement of details repeated in an impression that came from a different source.

• **Qualifications & Limitations**: An examiner shall not assert that a source identification is the conclusion that two impressions were made by the same source or imply an individualization to the exclusion of all other sources.
Documents in Progress

• Examination Method
  • Analysis
  • Comparison/Evaluation
• Consultation
• Verification
• Technical Review
• Reporting Results
• Conflict Resolution
• ACE-V Process Map
• ABIS Best Practices
• Terminology

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Documents in Progress

Examination Method

• Prescribes minimum requirements of the analysis, comparison, and evaluation steps performed during the examination of friction ridge impressions, including:
  
  • The set of expected procedures that need to be implemented and their order
  • The procedures requiring validation
  • The required elements of analysis, comparison, and evaluation
  • The required minimum documentation for each procedure

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Documents in Progress

Analysis

• Describes the best practice recommendations for how to perform the analysis steps during the examination of friction ridge impressions.

  • Suitability criteria
  • Feature selection and associated confidence
  • Complexity criteria
  • Quality criteria
  • Documentation

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Documents in Progress
Comparison & Evaluation

• Describes the best practice recommendations for how to perform the comparison and evaluation steps during the examination of friction ridge impressions.
  
  • Method of comparison
  • Complex comparison criteria
  • Sufficiency criteria for conclusions
  • Assessment of similar and dissimilar characteristics between impressions
  • Assessment of the strength of the evidence
  • Determination of the appropriate conclusion
  • Documentation

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Documents in Progress

Consultation

• Describes the best practice recommendations for how to perform consultations during friction ridge impression examinations.

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Verification

• Describes the best practice recommendations for how to perform the verifications steps during friction ridge impression examinations.

  • Verification considerations (e.g. extent, utility, case type, approach)
  • Types of verification and application options
  • Documentation

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Documents in Progress
Conflict Resolution

• Describes the best practice recommendations for how to resolve conflicts between examiners:
  
  • Conflicting suitability decisions
  • Conflicting evaluation conclusions
  • Documentation

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Documents in Progress

ACE-V Process Map

• Provides an interactive business process map illustrating the process of conducting friction ridge impression examinations.
  • Provides an interactive and illustrative interface for the friction ridge community
  • Codifies current practice
  • Identifies gaps and research needs for future practice
  • Dynamic document updating as the standards and best practices update

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Documents in Progress

Terminology

• Describes the terms and definitions commonly used by the friction ridge examination discipline.
  
  • Intended to reside in the OSAC Lexicon Library
  • Intended to be dynamic and updated as appropriate
  • Searchable for easy user interface

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Current Research Needs

- ACE-V Bias
- Assessing the Sufficiency and Strength of Friction Ridge Features
- Close Non-Match Assessment
- Examiner Consistency During Friction Ridge Feature Mark-Up
- Friction Ridge Statistical Modeling
- Latent Fingerprint Image Quality Usage

- Research needs publically available online:
  - [https://www.nist.gov/topics/forensic-science/osac-research-development-needs](https://www.nist.gov/topics/forensic-science/osac-research-development-needs)
Additional Items of Interest

✓ OSAC FRS Response to PCAST
✓ Discipline-Specific Baseline Documents (i.e. legacy SWGFAST documents)

• Documents publically available online:
  • https://www.nist.gov/topics/forensic-science/friction-ridge-subcommittee
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