Priority Action Report

Friction Ridge Subcommittee

SAC Physics/Pattern

Henry Swofford, Chair

August 1, 2018
Subcommittee Leadership

- **Chair**: Henry Swofford  
  - Defense Forensic Science Center  
  - Term expiration September 30, 2020  
  - Email: Henry.J.Swofford.Civ@mail.mil

- **Vice Chair**: Thomas Wortman  
  - Defense Forensic Science Center  
  - Term expiration September 30, 2018  
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- **Executive Secretary**: Maria Ruggiero  
  - Los Angeles County Sheriff’s Office  
  - Term expiration September 30, 2019  
  - Email: mcruggie@lasd.org
<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Year</th>
<th>Email</th>
</tr>
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<tbody>
<tr>
<td>Black, John P.</td>
<td>Black &amp; White Forensics, LLC</td>
<td>2018</td>
<td><a href="mailto:john@bwforensics.com">john@bwforensics.com</a></td>
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<tr>
<td>Brock, Steven</td>
<td>Santa Clara County Sheriff's Office</td>
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<tr>
<td>Connelly, Joshua</td>
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<tr>
<td>Eldridge, Heidi</td>
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<td>Fontaine, Liz</td>
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<tr>
<td>French, Michael, K.</td>
<td>MorphoTrak, LLC</td>
<td>2018</td>
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<td>German, Edward R.</td>
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<td>2018</td>
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<tr>
<td>Hall, Carey</td>
<td>Minnesota Bureau of Criminal Apprehension</td>
<td>2019</td>
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<td>Hornickel, Mandi</td>
<td>Illinois State Police</td>
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<td>Kriel, Louis</td>
<td>Georgia Bureau of Investigation</td>
<td>2020</td>
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<td>Lavine, Michael</td>
<td>Umass Amhearst</td>
<td>2020</td>
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<td>Ruggiero, Maria C.</td>
<td>Los Angeles County Sheriff's Department</td>
<td>2019</td>
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<tr>
<td>Schwarz, Matthew T.</td>
<td>Schwarz Forensic Enterprises, Inc.</td>
<td>2019</td>
<td><a href="mailto:matt@schwarzforensic.com">matt@schwarzforensic.com</a></td>
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<td>Smith, Ron</td>
<td>Ron Smith &amp; Associates, Inc.</td>
<td>2020</td>
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<td>Speckels, Carl</td>
<td>City of Phoenix Crime Laboratory</td>
<td>2020</td>
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<tr>
<td>Swofford, Henry J.</td>
<td>Defense Forensic Science Center</td>
<td>2020</td>
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<tr>
<td>Tabassi, Elham</td>
<td>National Institute of Standards and Technology</td>
<td>2018</td>
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<td>Evolve Forensics, LLC</td>
<td>2020</td>
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<td>Wortman, Thomas M.</td>
<td>Defense Forensic Science Center</td>
<td>2018</td>
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<td>Zinn, Lisa M.</td>
<td>Orange County Sheriff's Crime Laboratory</td>
<td>2019</td>
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## Subcommittee Breakdown

<table>
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<tr>
<th>Category</th>
<th>Target</th>
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<tr>
<td>Federal</td>
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<td>3</td>
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<tr>
<td>State and Local</td>
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<td>9</td>
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<tr>
<td>Civil and Other</td>
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<td>4</td>
<td>20%</td>
</tr>
<tr>
<td>Researchers and Scientists</td>
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<td>3</td>
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</tr>
<tr>
<td>R&amp;D Technology</td>
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<td>1</td>
<td>5%</td>
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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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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
Additional Items of Interest

✓ OSAC FRS Response to PCAST
✓ OSAC FRS Response to the DoJ Proposed Uniform Language for Testimony and Reports
✓ OSAC FRS Response to the DoJ Forensic Science Discipline Reviews
✓ Discipline-Specific Baseline Documents (i.e. legacy SWGFAST documents)

• Documents publicly available online:
  • [https://www.nist.gov/topics/forensic-science/friction-ridge-subcommittee](https://www.nist.gov/topics/forensic-science/friction-ridge-subcommittee)
General Process
Visit us online!

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