



# Priority Action Report

## Friction Ridge Subcommittee

SAC Physics/Pattern

Melissa R. Gische

February 14, 2017





# Subcommittee Leadership

Position	Name	Organization	Term	Email
Chair	Melissa Gische	FBI Laboratory	2018	<a href="mailto:Melissa.Gische@ic.fbi.gov">Melissa.Gische@ic.fbi.gov</a>
Vice Chair	Henry Swofford	Defense Forensic Science Center	2017	<a href="mailto:Henry.j.swofford.civ@mail.mil">Henry.j.swofford.civ@mail.mil</a>
Executive Secretary	Rachelle Babler	San Diego Police Department	2018	<a href="mailto:Rachellebabler.osac@gmail.com">Rachellebabler.osac@gmail.com</a>

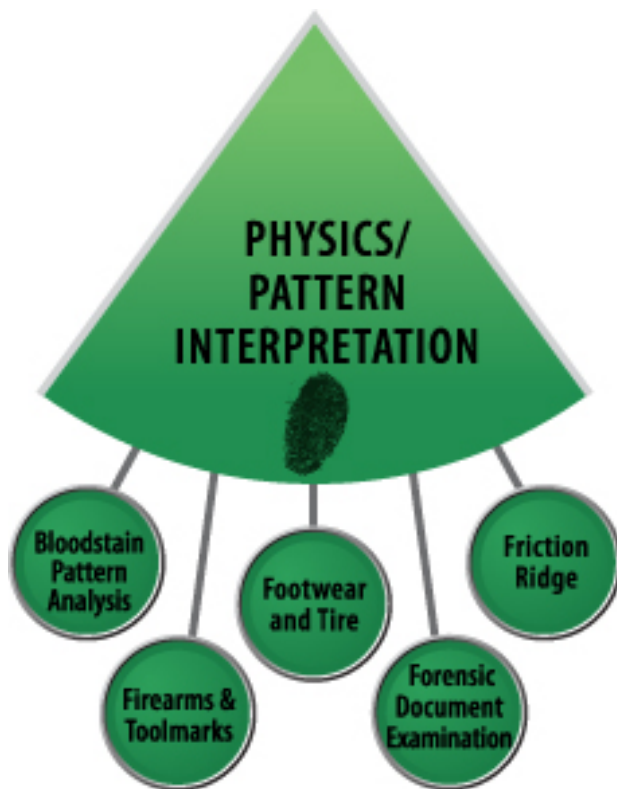


# Subcommittee Members



#	Name	Organization	Term	Email
1	Black, John P.	Black & White Forensics, LLC	2018	<a href="mailto:john@bwforensics.com">john@bwforensics.com</a>
2	Cathcart, Kerrie	Cathcart Forensics and Investigations, LLC	2017	<a href="mailto:cathcartforensics@gmail.com">cathcartforensics@gmail.com</a>
3	Connelly, Joshua	Douglas County Sheriff	2019	<a href="mailto:joshua.connely@douglascounty-ne.gov">joshua.connely@douglascounty-ne.gov</a>
4	Eldridge, Heidi	RTI	2019	<a href="mailto:heidi.eldridge@icloud.com">heidi.eldridge@icloud.com</a>
5	French, Michael, K.	MorphoTrak, LLC	2018	<a href="mailto:michael.french@morpho.com">michael.french@morpho.com</a>
6	German, Edward R.	Macon County Sheriff's Office	2018	<a href="mailto:ed.german@sheriff-macon-il.us">ed.german@sheriff-macon-il.us</a>
7	Hall, Carey	Minnesota Bureau of Criminal Apprehension	2019	<a href="mailto:carey.hall@state.mn.us">carey.hall@state.mn.us</a>
8	Iyer, Hariharan	National Institute of Standards and Technology	2017	<a href="mailto:hari@nist.gov">hari@nist.gov</a>
9	Kriel, Louis	Georgia Bureau of Investigation	2017	<a href="mailto:louis.kriel@gbi.ga.gov">louis.kriel@gbi.ga.gov</a>
10	Rees, Alison S.	Bureau of Alcohol, Tobacco, Firearms and Explosives	2017	<a href="mailto:alison.rees@atf.gov">alison.rees@atf.gov</a>
11	Roberts, Maria Antonia	Federal Bureau of Investigation Laboratory	2017	<a href="mailto:maria.roberts@ic.fbi.gov">maria.roberts@ic.fbi.gov</a>
12	Ruggiero, Maria C.	Los Angeles County Sheriff's Department	2019	<a href="mailto:mcruggie@lasd.org">mcruggie@lasd.org</a>
13	Schwarz, Matthew T.	Schwarz Forensic Enterprises, Inc.	2019	<a href="mailto:matt@schwarzforensic.com">matt@schwarzforensic.com</a>
14	Speckels, Carl	City of Phoenix Crime Laboratory	2017	<a href="mailto:carl.speckels@phoenix.gov">carl.speckels@phoenix.gov</a>
15	Tabassi, Elham	National Institute of Standards and Technology	2018	<a href="mailto:elham.tabassi@nist.gov">elham.tabassi@nist.gov</a>
16	Zinn, Lisa M.	Orange County Sheriff's Crime Laboratory	2019	<a href="mailto:lzinn@occl.ocgov.com">lzinn@occl.ocgov.com</a>
17	TBD			

# Discipline Description



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

# Summary of Priority Projects

Priority	OSAC Process	Working Title of Document
1	SDO	Guideline for the <b>Articulation</b> of the Decision-Making Process Leading to an Expert Opinion of Source Identification in Friction Ridge Examinations
2	SDO	Standard for <b>training</b> to competency to perform friction ridge examination
3	SDO	Standard for reporting qualitative source <b>conclusions</b>
4	SDO	Standard for the <b>examination</b> of friction ridge evidence
5	SDO	<b>Terminology</b> related to friction ridge examination



# Summary of Priority Projects

Priority	OSAC Process	Working Title of Document
6	SDO	Best practices for maximizing the use of <b>AFIS</b> and automated comparison workflows
7	SDO	ACE-V Process Map



# Standards/Guidelines Development Priority 1 Document

**Document Title:** Guideline for the Articulation of the Decision-Making Process Leading to an Expert Opinion of Source Identification in Friction Ridge Examinations

**Scope:** This document offers guidance for articulating the decision-making process leading to the source identification conclusion resulting from the examination of friction ridge evidence. This document takes into consideration the current status of professional practices, legal decisions, and scientific research. The scope of this document is limited to the process leading to a source identification conclusion and does not address or consider other possible conclusions, such as inconclusive or exclusion decisions.

**Objective/rationale:** This document explains the process leading to the expert opinion of source identification and provides guidance on articulating the process, the conclusion, and the limitations of that conclusion in testimony or discussion with relevant stakeholders.

**Issues/Concerns:** Distinguishing between content that belongs in this BP versus content that belongs in the Standard for Examination currently being drafted.

**Task Group Name:** Articulation

**Task Group Chair Name:** Heidi Eldridge

**Task Group Chair Contact Information:**

[heidi.eldridge@icloud.com](mailto:heidi.eldridge@icloud.com)

**Date of Last Task Group Meeting:** Draft submitted to ASB



# Standards/Guidelines Development Priority 1 Document

## Key Components of Standard:

- Discriminating and Persistent Nature of Friction Ridge Skin
- Transfer of Friction Ridge Features to Impressions
- Analysis of Impression to Detect Discriminating Features for Comparison
- Comparison of Features to Judge Correspondence
- Accumulated Correspondence Decreases Probability of Repetition in a Different Source
- Evaluation of the Observations Under Two Competing Propositions
- Source Identification Decision
- Communication of Findings





# Task Group/Subcommittee Action Plan

Planned Actions	OSAC Process Stage (e.g., SDO 100)	Assignee	Estimated Completion Date
Submitted to ASB	SDO-700	ASB	



# Standards/Guidelines Development Priority 2 Document

**Document Title:** Standard for training to competency to perform friction ridge examination

**Scope:** This document specifies the minimum requirements for training to competency to perform friction ridge examination. It includes a list of modules and topics that shall be included in an organization's training program. This document is not a training program and does not address best practice recommendations for how training should be administered nor does it address minimum criteria for successful evaluation, which will be addressed in other standards, technical reports, and/or best practice recommendations.

**Objective/rationale:** To provide a reference for trainers to establish a comprehensive training program designed to train individuals performing friction ridge analysis.

**Issues/Concerns:** High level standard not intended to provide instructional strategies or evaluation methods. Those will be included in a future Best Practice.

**Task Group Name:** Training

**Task Group Chair Name:** Carl Speckels

**Task Group Chair Contact Information:**

[carl.speckels@phoenix.gov](mailto:carl.speckels@phoenix.gov)

**Date of Last Task Group Meeting:** Dec 2016

# Standards/Guidelines Development Priority 2 Document

## Key Components of Standard:

- History
- Biology
- Introduction to Friction Ridge Impressions
- Fingerprint Classification
- Exemplars
- Latent Print Processing
- Comparison Methods
- Probability
- Human Factors
- Legal Issues



# Task Group/Subcommittee Action Plan

Planned Actions	OSAC Process Stage (e.g., SDO 100)	Assignee	Estimated Completion Date
TG completing first round of FRS comments	SDO-200	TG	Jan 2017
FRS review	SDO-300	FRS	Mar 2017
RCs and PSAC review	SDO-300	RCs and PSAC	Apr 2017



# Standards/Guidelines Development Priority 3 Document

**Document Title:** Standard for reporting qualitative source conclusions

**Scope:** This document specifies the standard framework for reporting qualitative source conclusions, which may be augmented by quantitative data, resulting from the examination of friction ridge evidence. This document does not address conclusions derived directly from validated probability models or quantitative processes. Furthermore, this document does not address how examinations are conducted, documented, or criteria for sufficient justification of specific conclusions in a case at hand, which will be addressed in other standards, technical reports and/or best practice recommendations.

**Objective/rationale:** To provide a framework for qualitative conclusions, which may be augmented by quantitative data.

**Issues/Concerns:** Language, must stay within framework of PSAC Conclusions

**Task Group Name:** Conclusions

**Task Group Chair Name:** TBD

**Task Group Chair Contact Information:**

**Date of Last Task Group Meeting:**

# Standards/Guidelines Development Priority 3 Document

## Key Components of Standard:

- Terms and Definitions
- Suitability Determinations
- Source Conclusions
  - Source Exclusion
  - Support for Different Sources
  - Inconclusive
  - Support for Common Source
  - Source Identification
- Inconclusive and Support for Source Decisions
  - Insufficient Known Impressions
  - Insufficient Unknown Impression
  - Insufficient Dissimilarities
  - Insufficient Correspondences



# Task Group/Subcommittee Action Plan

Planned Actions	OSAC Process Stage (e.g., SDO 100)	Assignee	Estimated Completion Date
TG completing first round of FRS comments	SDO-200	TG	Jan 2017
FRS review	SDO-300	FRS	Mar 2017
RCs and PSAC review	SDO-300	RCs and PSAC	Apr 2017





# Standards/Guidelines Development Priority 4 Document

**Document Title:** Standard for the examination of friction ridge evidence

**Scope:** This document specifies the minimum requirements for conducting friction ridge examinations. It includes the overarching examination framework as well as specific requirements for each component of the examination method. This document includes minimum requirements for how examinations shall be conducted, documented, and justified based on clearly demonstrable and articulable criteria.

**Objective/rationale:** To provide specific requirements for each component of the examination method.

**Issues/Concerns:** Does not address quality assurance

**Task Group Name:** Examination

**Task Group Chair Name:** Heidi Eldridge

**Task Group Chair Contact Information:**

[heidi.eldridge@icloud.com](mailto:heidi.eldridge@icloud.com)

**Date of Last Task Group Meeting:** Jan 2017





# Standards/Guidelines Development Priority 4 Document

## Key Components of Standard:

- Analysis
- Comparison
- Evaluation



# Task Group/Subcommittee Action Plan

Planned Actions	OSAC Process Stage (e.g., SDO 100)	Assignee	Estimated Completion Date
Draft document	SDO-200	TG	April 2017



# Standards/Guidelines Development Priority 5 Document

**Document Title:** Terminology related to friction ridge examination

**Scope:** This document provides a consolidated list of standardized terms and definitions related to friction ridge examination.

**Objective/rationale:** See Scope

**Issues/Concerns:** Terms are used differently across disciplines

**Task Group Name:** Terminology

**Task Group Chair Name:** Toni Roberts

**Task Group Chair Contact Information:**

[maria.roberts@ic.fbi.gov](mailto:maria.roberts@ic.fbi.gov)

**Date of Last Task Group Meeting:** Jan 2017

Priority 5: Terminology related to friction ridge examination



# Task Group/Subcommittee Action Plan

Planned Actions	OSAC Process Stage (e.g., SDO 100)	Assignee	Estimated Completion Date
Continue working with PSAC Terminology TG		TG	



# Standards/Guidelines Development Priority 6 Document

**Document Title:** Best practices for maximizing the use of AFIS and automated comparison workflows

**Scope:** TBD

**Objective/rationale:** To provide guidance to increase efficiency, quality assurance, and other capabilities.

**Issues/Concerns:** None yet

**Task Group Name:** AFIS

**Task Group Chair Name:** Ed German

**Task Group Chair Contact Information:** [ed.german@sheriff-macon-il.us](mailto:ed.german@sheriff-macon-il.us)

**Date of Last Task Group Meeting:**

Priority 6: Best practices for maximizing the use of AFIS and automated comparison workflows



# Task Group/Subcommittee Action Plan

Planned Actions	OSAC Process Stage (e.g., SDO 100)	Assignee	Estimated Completion Date
Draft document	SDO-200	TG	



# Standards/Guidelines Development Priority 7 Document

**Document Title:** ACE-V Process Map

**Scope:** This standard provides a framework to develop discipline specific standards for the method of ACE-V. The method is a series of steps resulting in conclusions, including source conclusions. The conclusions reached at the end of the ACE-V method shall be expressed according to the standard: *OSAC Physics/Pattern SAC — Standard for expressing source conclusions.*

**Objective/rationale:** To provide direction, requirements and consistent terminology for forensic disciplines that need to develop a discipline specific method for ACE-V

**Issues/Concerns:** Trying to find common ground across multiple disciplines from at least three different SACs

**Task Group Name:** ACE-V Process Map

**Task Group Chair Name:** Louis Kriel

**Task Group Chair Contact Information:**

[louis.kriel@gbi.ga.gov](mailto:louis.kriel@gbi.ga.gov)

**Date of Last Task Group Meeting:** Jan 2017

# Standards/Guidelines Development Priority 7 Document

## Key Components of Standard:

- Method Map
- Method Description
- Technical Requirements
- Test Methods and Method Validation





# Task Group/Subcommittee Action Plan

Planned Actions	OSAC Process Stage (e.g., SDO 100)	Assignee	Estimated Completion Date
Submit to relevant SCs, SACs, and RCs for review and comment	SDO-300 or SDO-400	Relevant SCs, SACs, and RCs	April 2017



# Summary of Priority Projects

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1	SDO	Guideline for the <b>Articulation</b> of the Decision-Making Process Leading to an Expert Opinion of Source Identification in Friction Ridge Examinations
2	SDO	Standard for <b>training</b> to competency to perform friction ridge examination
3	SDO	Standard for reporting qualitative source <b>conclusions</b>
4	SDO	Standard for the <b>examination</b> of friction ridge evidence
5	SDO	<b>Terminology</b> related to friction ridge examination



# Summary of Priority Projects

Priority	OSAC Process	Working Title of Document
6	SDO	Best practices for maximizing the use of <b>AFIS</b> and automated comparison workflows
7	SDO	ACE-V Process Map

# Research & Development Needs Identified

- <https://www.nist.gov/topics/forensic-science/osac-research-development-needs>
- Friction Ridge:
  - 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

# Additional Items of Interest

- <https://www.nist.gov/topics/forensic-science/friction-ridge-subcommittee>
  - Responses to PCAST
  - Discipline-Specific Baseline Documents (i.e. legacy SWGFAST documents)
- <https://www.regulations.gov/document?D=DOJ-OLP-2016-0014-0010>
  - FRS Response to DOJ FSDR
- <https://www.regulations.gov/document?D=DOJ-OLP-2016-0012-0066>
  - FRS Response to DOJ ULTR