



# OSAC

Organization of Scientific Area  
Committees for Forensic Science

## Physics/Pattern Interpretation Scientific Area Committee Update

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Melissa Gische, Chair  
September 30, 2020

Physics /  
Pattern  
Interpretation  
SAC Outgoing  
Members

THANK YOU!

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**David Baldwin, Ph.D., Executive Secretary**

**Ted Burkes**

**Paul Kish**

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**Glenn Langenburg, Ph.D.**

**Hal Stern, Ph.D., Statistics**

**Richard Lempert, Ph.D., Human Factors**

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**David A. Stoney, Ph.D.**

**John R. Vanderkolk**

**Todd Weller, Chair, Firearms and Toolmarks SC**

Physics /  
Pattern  
Interpretation  
SAC for OSAC  
2.0

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**Melissa Gische**, Chair

**Lesley Hammer**, Vice Chair

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**David Kanaris**, Chair, Footwear and Tire

**Gerald LaPorte**, Chair, Forensic Document  
Examination

**Holly Latham**, Chair, Bloodstain Pattern Analysis

**Erica Lawton**, Chair, Firearms and Toolmarks

**Henry Swofford**, Chair, Friction Ridge

# PSAC Subcommittees

- **BPA** – Bloodstain Pattern Analysis
- **FATM** – Firearms and Toolmarks
- **FDE** – Forensic Document Examination
- **FR** – Friction Ridge
- **FWT** – Footwear and Tire

# AAFS Standards Board (ASB)

Physics/Pattern Interpretation SAC subcommittees use the AAFS Standards Board (ASB) as the Standards Development Organization (SDO) for completed documents. The ASB has three types of documents.

- Standards (S)
- Best Practice Recommendations (BPR)
- Technical Reports (TR)

# PSAC Subcommittees

Submitted to ASB - 42

Published by ASB - 13

OSAC Registry - 1

# BPA Accomplishments

## **Added to OSAC Registry**

[ASB Technical Report 033, Terms and Definitions in Bloodstain Pattern Analysis, First Edition, 2017](#) (effective June 3, 2020)

## **Published by ASB**

1. [ANSI/ASB Standard 030, Standard for a Quality Assurance Program in Bloodstain Pattern Analysis, First Edition, 2019](#)
2. [ANSI/ASB Standard 031, Standard for Report Writing in Bloodstain Pattern Analysis, First Edition, 2020](#)
3. [ANSI/ASB Standard 032, Standards for a Bloodstain Pattern Analyst's Training Program, First Edition, 2020](#)
4. [ANSI/ASB Standard 072, Standard for the Validation of Procedures in Bloodstain Pattern Analysis, First Edition, 2019](#)

# BPA Accomplishments

## Submitted to ASB

1. Guidelines for Developing Standard Operating Procedures for Bloodstain Pattern Analysis
2. Guidelines for Proficiency Testing in Bloodstain Pattern Analysis

## Other

[Bloodstain Pattern Process Map](#) (December 2019) posted to OSAC BPA website



## BPA Priorities

### FY21 Priorities

- Methodology
- Certification
- Area of Origin
- Technical Review
- Classification
- Documentation
- Bloodstains on absorbent surfaces/clothing
- Research Needs

# FATM Accomplishments

## **Published by ASB**

[ANSI/ASB Best Practice Recommendation 068, Safe Handling of Firearms and Ammunition, First Edition, 2020](#)

## **Submitted to ASB**

1. [Standard for Barrel and Overall Length Measurements for Firearms](#)
2. [Standard for 3D Measurement Systems and Measurement Quality Control for Firearm and Toolmark Analysis](#)
3. [Standard for Topography Comparison Software for Firearm and Toolmark Analysis](#)
4. [Implementation of 3D Technologies in Forensic Laboratories for Firearm and Toolmark Analysis](#)
5. [Standard Test Method for the Examination and Testing of Firearms](#)
6. [Standard Method for the Examination and Documentation of Ammunition and Ammunition Components](#)

# FATM Accomplishments

## Submitted to ASB continued

7. [Range of Source Conclusions and Criteria in Toolmark Examinations](#)
8. [Minimum Education Requirements for Firearm and Toolmark Examiner Trainees](#)
9. [Best Practice Recommendation for Measuring Trigger Pull of a Firearm and Estimating its Uncertainty](#)
10. [Standard for Verification of Source Conclusions in Toolmark Examinations](#)

# FATM Priorities

## FY21 Priorities

- Toolmark Examination
- Minimum Requirements for an Examiner Training Program
- Training Manual
- Documentation of Comparisons
- Standard for 3D Virtual Comparison Microscopy for Firearm and Toolmark Analysis
- Reporting
- Distance Determination
- Process map

# FDE Accomplishments

## **Published by ASB**

1. [ANSI/ASB Standard 044, Standard for Examination of Documents for Indentations, First Edition, 2019](#)
2. [ANSI/ASB Standard 117, Standard for Examination of Stamping Devices and Stamp Impressions, First Edition, 2020](#)

## **Submitted to ASB**

1. ASB STD 011: Scope of Expertise in Forensic Document Examination
2. ASB STD 035: Standard for the Examination of Documents for Alterations
3. ASB TR 071: Forensic Document Examination Terms and Definitions
4. ASB STD 117: Standard for the Examination of Stamp Impressions and Stamping Devices

## FDE Priorities

### FY21 Priorities

- Minimum Training Requirements for Forensic Document Examiners
- Standard for the Examination of Handwritten Items
- Standard for the Preservation and Examination of Charred Documents
- Standard for the Preservation and Examination of Water Soaked Documents
- Standard for Reporting Examination Results (Conclusions)
- Standard for the Examination of Documents Produced with Toner Technology
- Standard for the Examination of Documents Produced with Inkjet Technology
- Standard for the Non-destructive Examination of Paper
- Standard for the test Methods for Writing Ink Comparison
- Standard Guide for the Examination of Financial, Identification, and Other Authorized Documents
- Comprehensive Training Program for Forensic Document Examiners (currently a 54 page document)

FR  
Accomplishments

**Submitted to ASB**

1. [Best Practice Recommendation for Articulating a Source Identification in Friction Ridge Examination](#)
2. [Standard for Friction Ridge Examination Conclusions](#)
3. [Standard for Friction Ridge Examination Training Program](#)
4. [Best Practice Recommendations for Technical Review in Friction Ridge Identification](#)
5. [Best Practice Recommendations for the Resolution of Conflicts in the Course of Friction Ridge Examination](#)
6. [Best Practice Recommendations for the Verification Component in Friction Ridge Examination](#)
7. [Standard for Reporting Results from Friction Ridge Examinations](#)
8. [Standard for Consultation During Friction Ridge Examination](#)

## FR Priorities

### FY21 Priorities

- Standard for Friction Ridge Examination
- Best Practice Recommendation for Analysis
- Best Practice Recommendation for Comparison & Evaluation
- Standard for Proficiency Testing
- Best Practice Recommendation for Testimony Monitoring
- Best Practice Recommendation for Limited Examinations
- Standard for Feature Selection
- Re-evaluation of the Friction Ridge Process Map
- Re-evaluation of Friction Ridge Research Needs

### Strategy

- Examination methodology
- Quality assurance practices (e.g., proficiency testing, testimony monitoring, etc.)
- Operational throughput (e.g., Limited Examinations) and peripheral tasks (e.g., evidence handling, method validation, personnel selection, digital processing, etc.)



## FWT Accomplishments

### **Published by ASB**

1. [ANSI/ASB Best Practice Recommendation 021, \*Best Practices for the Preparation of Test Impressions from Footwear and Tires\*, First Edition, 2019](#)
2. [ANSI/ASB Best Practice Recommendation 049, \*Best Practice Recommendation for Lifting of Footwear and Tire Impressions\*, First Edition, 2020](#)
3. [ANSI/ASB Standard 095, \*Standard for Minimum Qualifications and Training for a Footwear/Tire Forensic Science Service Provider\*, First Edition, 2020](#)
4. [ASB Technical Report 097, \*Terminology Used for Forensic Footwear and Tire Evidence\*, First Edition, 2019](#)
5. [ANSI/ASB Standard 099, \*Standard for Footwear/Tire Examination Proficiency Testing Program\*, First Edition, 2020](#)

# FWT Accomplishments

## Submitted to ASB

1. Best Practice Recommendation for Documentation and Photography Documentation of Footwear and Tire Evidence
2. Scope of work for a Footwear and Tire Examiner Technical Report
3. Best Practice Recommendation for the Detection of Footwear and Tire Impression Evidence
4. Best Practice Recommendation for Casting of Footwear and Tire Impression Evidence
5. Standard for Examination and Documentation of Footwear and Tire Impression Evidence

## FWT Priorities

### FY21 Priorities

- Submitting approved ANSI/ASB documents for OSAC Registry consideration
- Best Practice Recommendation for Articulation, Interpretation, and Conclusions in Footwear and Tire Report Writing and Testimony
- Intelligence document
- Process map
- Outreach on value of FWT evidence

The logo graphic consists of several concentric, overlapping arcs in shades of purple, blue, green, and yellow, resembling a stylized globe or a signal wave. The arcs are positioned to the left of the main text.

# OSAC

Organization of Scientific Area  
Committees for Forensic Science

Thank you

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<https://www.nist.gov/topics/organization-scientific-area-committees-forensic-science>