

# OSAC Registry

## FY 2021



The Organization of Scientific Area Committees (OSAC) for Forensic Science Registry is a repository of high-quality, technically sound published and proposed standards for forensic science. These written documents define minimum requirements, best practices, standard protocols, and other guidance to help ensure the results of forensic analysis are valid, reliable, and reproducible.

All the standards on the OSAC Registry have passed a rigorous technical and quality review by OSAC members, including forensic science practitioners, research scientists, statisticians, and legal experts.

The following **72** standards were effective on the OSAC Registry at the end of fiscal year 2021 (ending September 30, 2021).

### ANTHROPOLOGY

#### Published Standard (1)

- ANSI/ASB Best Practice Recommendation 089, *Best Practice Recommendation for Facial Approximation in Forensic Anthropology*, First Edition, 2020 (added September 7, 2021).

### BIOLOGY/DNA

#### Published Standards (8)

- ANSI/ASB Standard 023, *Standard for Training in Forensic DNA Isolation and Purification Methods*, First Edition, 2020 (added August 3, 2021).
- ANSI/ASB Standard 110, *Standards for Training in Forensic Serological Methods*, First Edition, 2020 (added August 3, 2021).
- ANSI/ASB Standard 115, *Standard for Training in Forensic Short Tandem Repeat Typing Methods using Amplification, DNA Separation, and Allele Detection*, First Edition, 2020 (added August 3, 2021).
- ANSI/ASB Standard 116, *Standard for Training in Forensic DNA Quantification Methods*, First Edition, 2020 (added August 3, 2021).
- ANSI/ASB Standard 018, *Standard for Validation of Probabilistic Genotyping Systems*, First Edition, 2020 (added May 4, 2021).
- ANSI/ASB Standard 022, *Standard for Forensic DNA Analysis Training Programs*, First Edition, 2019 (added September 1, 2020).
- ANSI/ASB Standard 020, *Standard for Validation Studies of DNA Mixture, and Development and Verification of a Laboratory's Mixture Interpretation Protocol*, First Edition, 2018 (added May 12, 2020).
- ANSI/ASB Standard 040, *Standard for Forensic DNA Interpretation and Comparison Protocols*, First Edition, 2019 (added May 12, 2020).

## OSAC Proposed Standards (2)

- OSAC 2020-S-0004, *Standard for Interpreting, Comparing and Reporting DNA Test Results Associated with Failed Controls and Contamination Events* (added June 1, 2021 and sent to ASB for further development and publication).
- OSAC 2020-N-0007, *Best Practice Recommendations for the Management and Use of Quality Assurance DNA Elimination Databases in Forensic DNA Analysis* (added April 6, 2021 and sent to ASB for further development and publication).

## BLOODSTAIN PATTERN ANALYSIS

### Published Standard (1)

- ASB Technical Report 033, *Terms and Definitions in Bloodstain Pattern Analysis*, First Edition, 2017 (added June 3, 2020).

## CRIME SCENE INVESTIGATION & RECONSTRUCTION

### OSAC Proposed Standards (2)

- OSAC 2021-N-0015, *Guiding Principles for Scene Investigation and Reconstruction* (added September 7, 2021 and sent to ASB for further development and publication).
- OSAC 2021-N-0016, *Standard for Initial Response at Scenes by Law Enforcement* (added September 7, 2021 and sent to ASB for further development and publication).

## DIGITAL EVIDENCE

### Published Standards (3)

- ASTM E2916-19e1 *Standard Terminology for Digital and Multimedia Evidence Examination* (added July 7, 2020).
- ASTM E3017-19 *Standard Practice for Examining Magnetic Card Readers* (added July 7, 2020).
- ASTM E3150-18 *Standard Guide for Forensic Audio Lab Setup and Maintenance* (added July 7, 2020).

## DOGS & SENSORS

### Published Standard (1)

- ASB Technical Report 025, *Crime Scene/Death Investigation – Dogs & Sensors – Terms and Definitions*, First Edition, 2017 (added October 1, 2019).

## FACIAL IDENTIFICATION

### Published Standards (3)

- ASTM E3115-17 *Standard Guide for Capturing Facial Images for Use with Facial Recognition Systems* (added October 1, 2019).
- ASTM E3148-18 *Standard Guide for Postmortem Facial Image Capture* (added October 1, 2019).
- ASTM E3149-18 *Standard Guide for Facial Image Comparison Feature List for Morphological Analysis* (added February 14, 2019).

### OSAC Proposed Standard (1)

- OSAC 2020-S-0002, *Physical Stability of Facial Features of Adults* (added June 1, 2021 and sent to ASTM for further development and publication).
  - This is an annex to the published standard, ASTM E3149-18 *Standard Guide for Facial Image Comparison Feature List for Morphological Analysis*, listed above.

## FIRE & EXPLOSION INVESTIGATION

### Published Standards (2)

- NFPA 921:2017 *Guide for Fire and Explosion Investigations* (effective November 1, 2017).
- NFPA 1033:2014 *Standard for Professional Qualifications for Fire Investigator* (effective December 22, 2016).

## FIRE DEBRIS

### Published Standards (6)

- ASTM E3245-20e1 *Standard Guide for Systematic Approach to the Extraction, Analysis, and Classification of Ignitable Liquids and Ignitable Liquid Residues in Fire Debris Samples* (added May 4, 2021).
- ASTM E3197-20 *Standard Terminology Relating to Examination of Fire Debris* (added April 6, 2021).
- ASTM E1388-17 *Standard Practice for Static Headspace Sampling of Vapors from Fire Debris Samples* (added December 1, 2020).
- ASTM E1412-19 *Standard Practice for Separation of Ignitable Liquid Residues from Fire Debris Samples by Passive Headspace Concentration with Activated Charcoal* (added December 1, 2020).
- ASTM E1413-19 *Standard Practice for Separation of Ignitable Liquid Residues from Fire Debris Samples by Dynamic Headspace Concentration onto an Adsorbent Tube* (added December 1, 2020).
- ASTM E3189-19 *Standard Practice for Separation of Ignitable Liquid Residues from Fire Debris Samples by Static Headspace Concentration onto an Adsorbent Tube* (added December 1, 2020).

## FIREARMS & TOOLMARKS

### Published Standard (1)

- ANSI/ASB Best Practice Recommendation 068, *Safe Handling of Firearms and Ammunition*, First Edition, 2020 (added April 6, 2021).

## FOOTWEAR & TIRE

### Published Standards (2)

- ANSI/ASB Best Practice Recommendation 049, *Best Practice Recommendation for Lifting of Footwear and Tire Impressions*, First Edition, 2020 (added September 7, 2021).
- ANSI/ASB Best Practice Recommendation 021, *Best Practices for the Preparation of Test Impressions from Footwear and Tires*, First Edition, 2019 (added May 4, 2021).

## GUNSHOT RESIDUE ANALYSIS

### Published Standard (1)

- ASTM E1588-20 *Standard Practice for Gunshot Residue Analysis by Scanning Electron Microscopy/Energy Dispersive X-Ray Spectrometry* (added September 7, 2021).

## MEDICOLEGAL DEATH INVESTIGATION

### Published Standards (3)

- ANSI/ASB Best Practice Recommendation 009, *Best Practice Recommendations for the Examination of Human Remains by Forensic Pathologists in the Disaster Victim Identification Context*, First Edition, 2019 (added September 7, 2021).
- ANSI/ASB Best Practice Recommendation 007, *Postmortem Impression Submission Strategy for Comprehensive Searches of Essential Automated Fingerprint Identification System Databases*, First Edition, 2018 (added September 5, 2019).
- ANSI/ASB Best Practice Recommendation 010, *Forensic Anthropology in Disaster Victim Identification: Best Practice Recommendations for the Medicolegal Authority*, First Edition, 2018 (added September 5, 2019).

### OSAC Proposed Standards (2)

- OSAC 2021-N-0007, *Media Communications Following a Mass Fatality Incident: Best Practice Recommendations for the Medicolegal Authority* (added August 3, 2021).
- OSAC 2021-N-0008, *Victim Accounting: Best Practice Recommendations for Medicolegal Authorities in Mass Fatality Management* (added August 3, 2021).

## ODONTOLOGY

### Published Standards (2)

- ADA 1088-2017D *Human Identification by Comparative Dental Analysis* (effective March 7, 2019).
- ANSI/ADA 1058-2010D *Forensic Dental Data Set* (effective February 14, 2019).

## SEIZED DRUGS

### Published Standards (6)

- ASTM E1968-19 *Standard Practice for Microcrystal Testing in Forensic Analysis of Cocaine* (added July 6, 2021).
- ASTM E1969-19 *Standard Practice for Microcrystal Testing in Forensic Analysis for Methamphetamine and Amphetamine* (added July 6, 2021).
- ASTM E2125-19 *Standard Practice for Microcrystal Testing in Forensic Analysis for Phencyclidine and its Analogues* (added July 6, 2021).
- ASTM E2882-19 *Standard Guide for Analysis of Clandestine Drug Laboratory Evidence* (added July 6, 2021).
- ASTM E2329-17 *Standard Practice for Identification of Seized Drugs* (added August 7, 2018).
- ASTM E2548-16 *Standard Guide for Sampling Seized Drugs for Qualitative and Quantitative Analysis* (added June 1, 2021). NOTE: This version replaced ASTM E2548-11e1 that was previously on the Registry.



## TOXICOLOGY

### Published Standards (4)

- ANSI/ASB Standard 053, *Standard for Report Content in Forensic Toxicology, First Edition*, 2020 (added March 2, 2021).
- ANSI/ASB Standard 036, *Standard Practices for Method Validation in Forensic Toxicology, First Edition*, 2019 (effective July 7, 2020).
- ANSI/ASB Best Practice Recommendation 037, *Guidelines for Opinions and Testimony in Forensic Toxicology, First Edition*, 2019 (effective November 5, 2019).
- ANSI/ASB Standard 017, *Standard Practices for Measurement Traceability in Forensic Toxicology, First Edition*, 2018 (effective June 18, 2019).

## TRACE EVIDENCE

### Published Standards (10)

- ASTM E3272-21 *Standard Guide for Collection of Soils and Other Geological Evidence for Criminal Forensic Applications* (added September 7, 2021).
- ASTM E3233-20 *Standard Practice for Forensic Tape Analysis Training Program* (added November 3, 2020).
- ASTM E3234-20 *Standard Practice for Forensic Paint Analysis Training Program* (added November 3, 2020).
- ASTM E1967-19 *Standard Test Method for the Automated Determination of Refractive Index of Glass Samples Using the Oil Immersion Method and a Phase Contrast Microscope* (added July 7, 2020).
- ASTM E2330-19 *Standard Test Method for Determination of Concentrations of Elements in Glass Samples Using Inductively Coupled Plasma Mass Spectrometry (ICP-MS) for Forensic Comparisons* (added July 7, 2020).
- ASTM E3085-17 *Standard Guide for Fourier Transform Infrared Spectroscopy in Forensic Tape Examinations* (added September 11, 2018).
- ASTM E1610-18 *Standard Guide for Forensic Paint Analysis and Comparison* (added June 26, 2018).
- ASTM E2937-18 *Standard Guide for Using Infrared Spectroscopy in Forensic Paint Examinations* (added June 26, 2018).
- ASTM E2927-16e1 *Standard Test Method for Determination of Trace Elements in Soda-Lime Glass Samples Using Laser Ablation Inductively Coupled Plasma Mass Spectrometry for Forensic Comparisons* (added June 5, 2018).
- ASTM E2926-17 *Standard Test Method for Forensic Comparison of Glass Using Micro X-ray Fluorescence ( $\mu$ -XRF) Spectrometry* (added July 31, 2017).

## WILDLIFE FORENSICS

### Published Standards (4)

- ANSI/ASB Standard 019, *Wildlife Forensics General Standards, First Edition*, 2019 (added March 2, 2021).
- ANSI/ASB Standard 029, *Report Writing in Wildlife Forensics: Morphology and Genetics, First Edition*, 2019 (added March 2, 2021)
- ANSI/ASB Standard 028, *Wildlife Forensics Morphology Standards, First Edition*, 2019 (effective June 3, 2020).
- ANSI/ASB Standard 047, *Wildlife Forensics Validation Standard – Validating New Primers for Sequencing, First Edition*, 2019 (effective June 3, 2020).



### OSAC Proposed Standard (1)

- OSAC 2021-N-0001, *Wildlife Forensics Method-Collection of Known DNA Samples from Domestic Mammals* (added April 6, 2021 and sent to ASB for further development and publication).

## INTERDISCIPLINARY

### Published Standards (6)

- ANSI/NIST ITL-1: 2011 (Update 2015) *Data Format for the Interchange of Fingerprint, Facial & Other Biometric Information* (added November 3, 2020).
- ISO 21043-2 Forensic Sciences - *Part 2: Recognition, recording, collecting transport and storage of items* (added December 3, 2019).
- ASTM E2917-19a *Standard Practice for Forensic Science Practitioner Training, Continuing Education, and Professional Development Programs* (added November 5, 2019).
- ISO/IEC 17025:2017 *General Requirements for the Competence of Testing and Calibration Laboratories* (added June 18, 2019).
- ISO/IEC 17020:2012 *Conformity Assessment—Requirements for the Operation of Various Types of Bodies Performing Inspection* (added April 18, 2017).
- ISO/IEC 17025:2005 *General Requirements for the Competence of Testing and Calibration Laboratories* (added September 27, 2016).