

# WORKSHOP SUMMARY

Session ID	Day	Time	Presentation Type	Title	Availability	Cost
<del>W1</del>	<del>Monday</del>	<del>8:30 am - 4:30 pm</del>	<del>Full-Day Workshop</del>	<del>Transfer &amp; Persistence of Physical Evidence: Deciphering Implications</del>	<del>CANCELLED</del>	
W2	Monday	8:30 am - 5 pm	Full-Day Workshop	The National Institute of Standards and Technology (NIST) Forensic DNA Activities: Foundations, Research, and Standards	In-Person/Virtual	\$ 200.00
W3	Monday	8:30 am - 5 pm	Full-Day Workshop	Determining Sufficiency for the Identification of Gasoline	In-Person Only	\$ 225.00
W4	Monday	8:30 am - 5 pm	Full-Day Workshop	Application of Evaluative Reporting for Forensic Handwriting Examinations	In-Person Only	\$ 200.00
W5	Monday	8:30 am - 5 pm	Full-Day Workshop	Unseen Threats	In-Person/Virtual	\$ 200.00
W6	Monday	9 am - 5 pm	Full-Day Workshop	Impairment: A Look at Causes, Data, and Policies	In-Person/Virtual	\$ 200.00
W7	Monday AM	8 am - 12 pm	Half-Day Workshop	Histology for non-Pathologists	In-Person Only	\$ 100.00
W8	Monday AM	8:30 am - 12 pm	Half-Day Workshop	Subaerial Weathering of Bone	In-Person Only	\$ 100.00
W9	Monday AM	8:30 am - 12:15 pm	Half-Day Workshop	Forensic Science Standards Development and Implementation ...You want me to do what?	In-Person/Virtual	\$ 100.00
W10	Monday PM	1:00 pm - 4:30 pm	Half-Day Workshop	Inference from evidence in forensic science and pathology: Turning something that has been wrong into something right	In-Person/Virtual	\$ 100.00
W11	Monday PM	1 pm - 5 pm	Half-Day Workshop	Successful Strategies for the Accreditation of Crime Scene Units	Virtual Only	\$ 100.00
W12	Tuesday	8:30 am - 5 pm	Full-Day Workshop	Forensic Post Mortem Radiology: Crossing the border between radiology and pathology	Virtual Only	\$ 200.00
<del>W13</del>	<del>Tuesday</del>	<del>8:30 am - 5 pm</del>	<del>Full-Day Workshop</del>	<del>Forensic Techniques Applied in Military Investigations</del>	<del>CANCELLED</del>	
W14	Tuesday	8:30 am - 5 pm	Full-Day Workshop	Interdisciplinary approaches to age estimation	In-Person/Virtual	\$ 200.00
W15	Tuesday	8:30 am - 5 pm	Full-Day Workshop	Unlocking the Truth: The Impact of DNA Testing and Legal Strategies in Post-Conviction Cases	In-Person/Virtual	\$ 225.00
W16	Tuesday	8:30 am - 4 pm	Full-Day Workshop	Neurobiology and Toxicology of Aggression	In-Person/Virtual	\$ 200.00
W17	Tuesday	8:30 am - 5 pm	Full-Day Workshop	Forensic Examination and Evaluation of the Fine and Subtle Elements of Signatures and Handwriting	In-Person Only	\$ 200.00
W18	Tuesday AM	8:30 am - 11:30 am	Half-Day Workshop	Advanced Bloodstain Pattern Analysis Hands-on Workshop with Accompanying Principles of Bloodstain Patterns Lecture	In-Person Only	\$ 100.00
W19	Tuesday AM	8:30 am - 12:30 pm	Half-Day Workshop	Silent Disasters: Establishing and Operationalizing New Technologies for Missing Persons Programs	In-Person/Virtual	\$ 125.00
W20	Tuesday PM	1 pm - 5 pm	Half-Day Workshop	Novel Synthetic Opioids in a Post Fentanyl Analog Environment	In-Person/Virtual	\$ 100.00
W21	Tuesday PM	1 pm - 5 pm	Half-Day Workshop	The Forgotten Ones: Post-Traumatic Stress Disorder (PTSD) in First Responders	In-Person/Virtual	\$ 100.00

# MONDAY WORKSHOPS



## W1 Transfer and Persistence of Physical Evidence: Deciphering Implications

Monday, February 21

8:30 a.m. – 4:30 p.m.

**Learning Overview:** After attending this workshop, attendees will appreciate the various forms of physical evidence transfer and how they apply to a diverse range of traces (e.g., DNA, hairs, fibers, paint, gunshot residue, DNA, blood, ignitable liquids, and patterns), their implications in the assessment and interpretation of analytical results, and their impact on the possible reconstruction of events.

**Impact Statement:** This workshop will impact the forensic science community by increasing attendees' overall evidence awareness and their comprehension of how the concepts of transfer and persistence profoundly affect both the assessment and interpretation of physical evidence. Through a series of lectures and hands-on experiments, attendees will gain an appreciation of the nuances of transfer and persistence of various types of traces, as well as the interrelationships between them that support a holistic interpretation.

**Program Description:** This workshop is intended for forensic scientists, investigators, attorneys, and those interested in expanding their interdisciplinary knowledge of the transfer and persistence of traces. By examining various cases and research studies, as well as conducting hands-on experimentation, attendees will develop a sense of the appropriate questions to be asked, as well as an understanding of their interpretive and holistic reconstructive significance.

*Chair:*

**Brooke W. Kammrath, PhD**  
Henry C. Lee Institute of Forensic Science  
West Haven, CT

*Co-Chair:*

**Elaine M. Pagliaro, JD**  
Henry C. Lee Institute of Forensic Science  
West Haven, CT

*Presenters:*

**Peter R. De Forest, DCrim**  
John Jay College of Criminal Justice  
Ardsley, NY

**Henry C. Lee, PhD**  
Henry C. Lee Institute of Forensic Science  
West Haven, CT

**Pauline E. Leary, PhD**  
Federal Resources  
Stevensville, MD

**David San Pietro, PhD**  
University of New Haven  
West Haven, CT

**Schedule:**

8:30 a.m. – 8:45 a.m.	<b>Introduction</b> <i>Brooke W. Kammrath, PhD; Elaine M. Pagliaro, JD</i>
8:45 a.m. – 9:15 a.m.	<b>Deciphering Transfer &amp; Persistence:</b> <i>Peter R. De Forest, DCrim</i>
9:15 a.m. – 9:45 a.m.	<b>Transfer &amp; Persistence of DNA—Current Knowledge and Implications</b> <i>David San Pietro, PhD</i>
9:45 a.m. – 10:00 a.m.	<b>DISCUSSION</b> <i>All Presenters</i>
10:00 a.m. – 10:30 a.m.	<b>BREAK</b>

10:30 a.m. – 11:00 a.m.	<b>Transfer &amp; Persistence of Fibers, Drugs, Ignitable Liquids, and More—Current Knowledge and Implications</b> <i>Brooke W. Kammrath, PhD</i>
11:00 a.m. – 12:00 p.m.	<b>Hands-On Transfer &amp; Persistence Activities: DNA, Fibers, and More</b> <i>Pauline E. Leary, PhD; Brooke W. Kammrath, PhD; Elaine M. Pagliaro, JD; David San Pietro, PhD</i>
12:00 p.m. – 1:00 p.m.	<b>BREAK</b>
1:00 p.m. – 2:30 p.m.	<b>Hands-On Transfer &amp; Persistence Activities: DNA, Fibers, and More</b> <i>Pauline E. Leary, PhD; Brooke W. Kammrath, PhD; Elaine M. Pagliaro, JD; David San Pietro, PhD</i>
2:30 a.m. – 3:00 p.m.	<b>Discussion of Transfer &amp; Persistence Activities</b>
3:00 p.m. – 3:30 p.m.	<b>BREAK</b>
3:30 p.m. – 4:00 p.m.	<b>Transfer &amp; Persistence: Legal Precedents and Implications</b> <i>Elaine M. Pagliaro, JD</i>
4:00 p.m. – 4:30 p.m.	<b>Transfer &amp; Persistence: Lessons Learned</b> <i>Henry C. Lee, PhD</i>

**CANCELED**

**Target Audience:** Criminalistics, General, Jurisprudence

**Knowledge Level Required:** Basic

**Expected Handout Length:** 100 pages

**Attendance Restriction:** 20

## W2 The National Institute of Standards and Technology (NIST) Forensic DNA Activities: Foundations, Research, and Standards

Monday, February 21

*Pre-Registration Required—\$200*

8:30 a.m. – 5:00 p.m.

---

**Learning Overview:** Presenters will review activities at NIST involving forensic DNA foundational studies, research, and standards.

**Impact Statement:** Presentations in this workshop will impact the forensic science community by contributing to an understanding of NIST activities in advancing knowledge and practice of forensic DNA through foundation studies, focused research, and development of documentary standards.

**Program Description:** Three sessions will focus on DNA mixture interpretation, DNA sequencing research, and DNA training materials that will benefit students, practitioners, and stakeholders. Participants will gain an understanding of principles involved in DNA analysis and interpretation, knowledge of core foundational literature supporting these principles, and information that can strengthen training programs for DNA analysts.

*Chair:*

**John M. Butler, PhD**

National Institute of Standards and Technology  
Special Programs Office  
Gaithersburg, MD

*Co-Chair:*

**John Paul Jones, MBA**

National Institute of Standards and Technology  
Special Programs Office  
Gaithersburg, MD

*Presenters:*

**Katherine B. Gettings, PhD**

National Institute of Standards and Technology  
Biomolecular Measurement Division  
Gaithersburg, MD

*Co-Chair:*

**Peter M. Vallone, PhD**

National Institute of Standards and Technology  
Biomolecular Measurement Division  
Gaithersburg, MD

**Sarah Riman, PhD**

National Institute of Standards and Technology  
Biomolecular Measurement Division  
Gaithersburg, MD

**Carolyn R. Steffen, MS**

National Institute of Standards and Technology  
Biomolecular Measurement Division  
Gaithersburg, MD

**Melissa K. Taylor, MA**

National Institute of Standards and Technology  
Special Programs Office  
Gaithersburg, MD

**Schedule:**

8:30 a.m. – 8:45 a.m.	<b>Introduction to Workshop and NIST Forensic Science Activities</b> <i>John Paul Jones, MBA</i>
8:45 a.m. – 10:00 a.m.	<b>Scientific Foundation Study on DNA Mixture Interpretation</b> <i>John M. Butler, PhD</i>
10:00 a.m. – 10:30 a.m.	<b>Examining Probabilistic Genotyping Systems</b> <i>Sarah Riman, PhD</i>
10:30 a.m. – 10:45 a.m.	<b>BREAK</b>

10:45 a.m. – 11:15 a.m.	<b>DNA Mixture Interpretation Standards on the OSAC Registry</b> <i>John Paul Jones, MBA</i>
11:15 a.m. – 12:00 p.m.	<b>DNA Process Map and Human Factors Working Group</b> <i>Melissa K. Taylor, MA</i>
12:00 p.m. – 1:00 p.m.	<b>BREAK</b>
1:00 p.m. – 1:30 p.m.	<b>DNA Sequencing Research Overview</b> <i>Peter M. Vallone, PhD</i>
1:30 a.m. – 2:15 p.m.	<b>STR Sequence Nomenclature Activities</b> <i>Katherine B. Gettings, PhD</i>
2:15 p.m. – 2:45 p.m.	<b>NIST DNA Standard Reference Materials</b> <i>Carolyn R. Steffen, MS</i>
2:45 p.m. – 3:00 p.m.	<b>BREAK</b>
3:00 p.m. – 3:30 p.m.	<b>DNA Training Standards on the OSAC Registry and Educational Materials</b> <i>John Paul Jones, MBA</i>
3:30 p.m. – 3:45 p.m.	<b>STRBase Updates</b> <i>Peter M. Vallone, PhD</i>
3:45 p.m. – 4:15 p.m.	<b>DNA Most Valuable Publications List</b> <i>John M. Butler, PhD</i>
4:15 p.m. – 4:45 p.m.	<b>QUESTIONS &amp; ANSWERS</b> <i>All Presenters</i>
4:45 p.m. – 5:00 p.m.	<b>Wrap-Up and Workshop Conclusions</b> <i>John M. Butler, PhD</i>

**Target Audience:** Criminalistics, Jurisprudence

**Knowledge Level Required:** Intermediate

**Expected Handout Length:** 150 pages

## W3 Determining Sufficiency for the Identification of Gasoline

Monday, February 21

*Pre-Registration Required—\$225 (in person only)*

8:30 a.m. – 5:00 p.m.

**Learning Overview:** Attendees can expect an overview of the current gasoline identification limitations as well as an introduction to key diagnostic features of gasoline used in a statistical framework to enhance interpretation and identification.

**Impact Statement:** This workshop will detail chromatographic peak ratios with varied support for the identification of gasoline as well as a method to graphically demonstrate the overall statistical support for gasoline in the sample.

**Program Overview:** The information to be presented provides instructions to build a sufficiency graph with decision lines to demonstrate the sufficiency of the data for the identification of gasoline to further strengthen the data interpretation process and provide transparent documentation. The objective of this information is to make the fire debris analysis process more standard, objective, and transparent by establishing a validated method with quantitative measures that include the implementation of documentation methodology and verification.

*Chair:*

**Brenda B. Christy, MS**

Virginia Department of Forensic Science  
Norfolk, VA

*Co-Chair:*

**Reta M. Newman, MA**

Pinellas County Forensic Laboratory  
Largo, FL

*Presenter:*

**Kelsey R. Winters, MSFS**

Virginia Department of Forensic Science  
Norfolk, VA

**Larry Tang, PhD**

National Center for Forensic Science  
University of Central Florida  
Orlando, FL

### Schedule:

8:30 a.m. – 8:45 a.m.	<b>Introduction</b> <i>Brenda B. Christy, MS</i>
8:45 a.m. – 9:45 a.m.	<b>Defining Gasoline</b> <i>Reta M. Newman, MA</i>
9:45 a.m. – 10:00 a.m.	<b>BREAK</b>
10:00 a.m. – 11:45 a.m.	<b>Project Design and Overview</b> <i>Brenda B. Christy, MS; Larry Tang, PhD</i>
11:45 a.m. – 12:45 p.m.	<b>BREAK</b>
12:45 p.m. – 1:45 p.m.	<b>Data Extraction and Calculations</b> <i>Kelsey R. Winters, MSFS</i>
1:45 p.m. – 2:45 p.m.	<b>Case-Like Example</b> <i>Brenda B. Christy, MS</i>
2:45 a.m. – 3:00 p.m.	<b>BREAK</b>
3:00 p.m. – 4:45 p.m.	<b>Practical Exercise—Complex Sample</b> <i>Brenda B. Christy, MS</i>
4:45 p.m. – 5:00 p.m.	<b>Summary</b> <i>Reta M. Newman, MA</i>

**Target Audience:** Criminalistics

**Knowledge Level Required:** Intermediate

**Expected Handout Length:** 100 pages

## W4 The Application of Evaluative Reporting for Forensic Handwriting Examinations

Monday, February 21

*Pre-Registration Required—\$200 (in person only)*

8:30 a.m. – 5:00 p.m.

**Learning Overview:** Attendees will learn how to apply Evaluative Reporting for evidence interpretation and conclusions. Handwriting comparisons will be used as examples. There will be a short lecture, followed by a demonstration using a mock case. The majority of the class will be hands-on group practice and feedback.

**Impact Statement:** This presentation will impact the forensic science community by describing modifications to the current interpretation method and reporting conventions that can help elucidate the evaluation process and advance forensic document examination as a science.

**Program Description:** Attendees will receive mock cases to examine, but not evaluate, prior to the workshop. The workshop will begin with an introduction of the key principles of the approach and general theory, followed by a demonstration of the method using one of the mock cases. For the remaining cases, attendees will break into groups and evaluate evidence using the approach. After each breakout session, attendees will reconvene for discussion with the instructors.

*Chair:*

**Tobin A. Tanaka, BSc**

Government of Canada, Canada Border Services Agency  
Ottawa, Ontario, Canada

*Co-Chair:*

**Miriam S. Angel, MS**

Los Angeles Police Department  
Los Angeles, CA

**Schedule:**

8:30 a.m. – 9:30 a.m.	<b>Introduction and Key Concepts</b> <i>Tobin A. Tanaka, BSc</i>
9:30 a.m. – 10:00 a.m.	<b>Demonstration of Sample Case</b> <i>Miriam S. Angel, MS</i>
10:00 a.m. – 10:15 a.m.	<b>BREAK</b>
10:15 a.m. – 11:00 a.m.	<b>Group Breakouts for Problem 1</b> <i>Attendees</i>
11:00 a.m. – 12:00 p.m.	<b>Class Discussion of Problem 1</b> <i>Tobin A. Tanaka, BSc</i>
12:00 p.m. – 1:00 p.m.	<b>BREAK</b>
1:00 p.m. – 2:00 p.m.	<b>Group Breakouts for Problem 2</b> <i>Attendees</i>
2:00 p.m. – 3:00 p.m.	<b>Class Discussion of Problem 2</b> <i>Miriam S. Angel, MS</i>
3:00 p.m. – 3:15 p.m.	<b>BREAK</b>
3:15 p.m. – 4:00 p.m.	<b>Group Breakouts for Problem 3</b> <i>Attendees</i>
4:00 p.m. – 4:45 p.m.	<b>Class Discussion of Problem 3</b> <i>Tobin A. Tanaka, BSc</i>
4:45 p.m. – 5:00 p.m.	<b>QUESTIONS &amp; ANSWERS</b> <i>Miriam S. Angel, MS</i>

**Target Audience:** Questioned Documents

**Knowledge Level Required:** Basic

**Expected Handout Length:** 30 pages

**Learning Overview:** Attendees will gain a better understanding of public threats in respect to emerging drugs that are not often discussed (e.g., electronic cigarettes and their role in drug use, the effect of polydrug overdoses in toxicology and emergency rooms, online resources and how they can be used to predict future emerging drugs, fentanyl supervised consumption sites, and drug concealment techniques). Attendees will also gain awareness of innovative techniques used to address challenges in these areas (e.g., Direct Analysis in Real-Time Mass Spectrometry [DART<sup>®</sup>-MS] for the rapid screening of the chemicals in electronic cigarettes, and real time fatal overdose surveillance).

**Impact Statement:** Attendees will become aware that drug-related deaths continue to significantly impact communities. There are topics that influence the illicit drug landscape in these communities and are not frequently discussed.

**Program Description:** This workshop will bring visibility and clarity to topics that emphasize emerging drug threats. Electronic cigarettes and vaping, polydrug overdose deaths, online sites, concealment drug techniques, and fentanyl supervised consumption sites are among those topics that generate challenges for the forensic community. By increasing discussion and attention in these areas, the forensic community can become better equipped in developing processes in their laboratories that will assist them in handling emerging drugs more effectively.

*Chair:*

**Agnes D. Winokur, MS**  
DEA Southeast Laboratory  
Miami, FL

*Co-Chair:*

**Erin M. Worrell, BSc**  
Medical Examiner's Office  
Denver, CO

*Presenters:*

**Kim N. Aldy, DO, MS, MBA**  
University of Texas  
Dallas, TX

**Richard R. Laing, MS**  
Health Canada  
Burnaby, British Columbia, Canada

**Jason R. Bory, MS**  
United States Customs and Border Protection  
Newark, NJ

**Michelle R. Peace, PhD**  
Virginia Commonwealth University  
Richmond, CA

**Katie S. Heidere, MSW**  
King County Public Health  
Seattle, WA

**Victor W. Weedn, MD, JD**  
Maryland Office of the Chief Medical Examiner  
Baltimore, MD

**Shannon T. Krauss, PhD**  
RTI International  
Research Triangle Park, NC

**Mary Elizabeth Zaney, BS**  
Miami-Dade Medical Examiner Department  
Miami, FL

**Alex J. Krotulski, PhD**  
Center for Forensic Science Research & Education  
Willow Grove, PA

**Schedule:**

8:30 a.m. – 8:50 a.m.	<b>Introduction</b> <i>Agnes D. Winokur, MS</i>
8:50 a.m. – 10:00 a.m.	<b>Electronic Cigarettes: A Tangle of Regulation, Public Health, and Public Safety Issues</b> <i>Michelle R. Peace, PhD</i>
10:00 a.m. – 10:10 a.m.	<b>BREAK</b>
10:10 a.m. – 11:00 a.m.	<b>Electronic Cigarettes: A Tangle of Regulation, Public Health, and Public Safety Issues (continued)</b> <i>Michelle R. Peace, PhD</i>



11:00 a.m. – 11:30 a.m.	<b>Confined DART®-MS for Rapid Chemical Analysis of Electronic Cigarette Aerosols and Spiked Drugs</b> <i>Shannon T. Krauss, PhD</i>
11:30 a.m. – 12:00 p.m.	<b>Looming Legality: Expiration of Class Wide Fentanyl Scheduling</b> <i>Victor W. Weedn, MD, JD</i>
12:00 p.m. – 1:00 p.m.	<b>BREAK</b>
1:00 p.m. – 1:30 p.m.	<b>Things Aren't What They Seem—Interesting Case Studies From the Miami-Dade County Medical Examiner Department</b> <i>Mary Elizabeth Zaney, BS</i>
1:30 p.m. – 2:00 p.m.	<b>OD in the ED: Nothing Is What It Seems</b> <i>Kim N. Aldy, DO, MS, MBA</i>
2:00 p.m. – 3:00 p.m.	<b>Real-Time Fatal Drug Overdose Surveillance in Washington State</b> <i>Katie S. Heidere, MSW</i>
3:00 p.m. – 3:10 p.m.	<b>BREAK</b>
3:10 p.m. – 3:45 p.m.	<b>Narcotic Concealment Methods in U.S. Customs and Border Protection Air, Land, Marine, and Cargo Environments</b> <i>Jason R. Bory, MS</i>
3:45 p.m. – 4:20 p.m.	<b>Monitoring Online Resources for Predicting Drug Threats</b> <i>Alex J. Krotulski, PhD</i>
4:20 p.m. – 5:00 p.m.	<b>Qualitative and Quantitative Characterization of Complex Samples Containing Fentanyl and Benzodiazepines From Supervised Consumption Sites</b> <i>Richard R. Laing, MS</i>

**Target Audience:** Criminalistics, General, Pathology/Biology, Toxicology

**Knowledge Level Required:** Intermediate

**Expected Handout Length:** 80 pages

## W6 Impairment: A Look at Causes, Data, and Policies

Monday, February 21

*Pre-Registration Required—\$200*

9:00 a.m. – 5:00 p.m.

---

**Learning Overview:** Attendees of this workshop will gain: (1) expertise in the role of drug recognition experts and their role in impairment investigations; (2) detailed knowledge of the role of fatigue in transportation accidents and an understanding of the factors impacting fatigue; (3) in-depth knowledge of the most recent recommendations for the toxicological investigation of drug-impaired driving and motor vehicle fatalities; (4) an appreciation of the roles of alcohol and cannabinoids in driving impairment and various strategies to control their use within the population; (5) an awareness of the tools available, roadside screening of oral fluid samples, and the policies regarding these samples; and (6) a detailed overview of the Academy Standards Board (ASB) Standards and the role they play in impairment investigations from testing in the laboratory all the way through to courtroom testimony.

**Impact Statement:** This workshop will impact the forensic science community by providing a detailed overview of recent policy changes and current developments within impairment testing.

**Program Description:** The workshop brings together experts from the National Safety Council and the National Transportation Safety Board, as well as representatives from the ASB and the Organization of Scientific Area Committees (OSAC) Standards boards to present data for the first time.

*Chair:*

**Karen S. Scott, PhD**  
Arcadia University  
Glenside, PA

*Co-Chair:*

**Sabra R. Botch-Jones, MS**  
Boston University School of Medicine  
Boston, MA

*Presenters:*

**Amanda L. D’Orazio, MSFS**  
NMS Labs  
Horsham, PA

**Mark A. LeBeau, PhD**  
FBI Laboratory  
Quantico, VA

**Curt E. Harper, PhD**  
Alabama Department of Forensic Sciences  
Hoover, AL

**Amanda L.A. Mohr, MS**  
Center for Forensic Science Research & Education  
Willow Grove, PA

**Marilyn A. Huestis, PhD**  
Huestis & Smith Toxicology, LLC  
Severna Park, MD

**Jana M. Price, PhD**  
National Transportation Safety Board  
Washington, DC

**Joseph Jones, MS**  
North Louisiana Criminalistics Laboratory  
Shreveport, LA

**Michael J. Whitekus, PhD**  
Robson Forensic, Inc.  
Lancaster, PA

**Schedule:**

9:00 a.m. – 9:05 a.m.	<b>Introduction</b> <i>Karen S. Scott, PhD; Sabra R. Botch-Jones, MS</i>
9:05 a.m. – 9:45 a.m.	<b>The Role Drug Recognition Experts and Roadside Evaluations Play in Impairment Investigations</b> <i>Joseph Jones, MS</i>
9:45 a.m. – 10:30 a.m.	<b>Fatigue-Related Impairment and Transportation Safety</b> <i>Jana M. Price, PhD</i>
10:30 a.m. – 11:00 a.m.	<b>Recommendations for Toxicological Investigation of Drug-Impaired Driving and Motor Vehicle Fatalities—2021 Update</b> <i>Amanda L. D’Orazio, MSFS</i>

11:00 a.m. – 11:15 a.m.	<b>BREAK</b>
11:15 a.m. – 12:15 p.m.	<b>How Should We Best Document Cannabis Driving Impairment and Improve Future Cannabis Policy?</b> <i>Marilyn A. Huestis, PhD</i>
12:15 p.m. – 1:30 p.m.	<b>BREAK</b>
1:30 p.m. – 2:15 p.m.	<b>The Combined Effect of Alcohol and THC on Driving Impairment</b> <i>Michael J. Whitekus, PhD</i>
2:15 p.m. – 3:00 p.m.	<b>Oral Fluid and Drugged Driving Investigations on Impairment</b> <i>Amanda L.A. Mohr, MS</i>
3:00 p.m. – 3:15 p.m.	<b>BREAK</b>
3:15 p.m. – 4:00 p.m.	<b>Drugs and Driving: Polydrug Use and Prevalence of Drugs at Different Ethanol Concentrations and the Impact of Stop Testing Limits</b> <i>Curt E. Harper, PhD</i>
4:00 p.m. – 4:45 p.m.	<b>ASB Standards and the Role They Play in Impairment Investigations—From Testing to Testimony</b> <i>Mark A. LeBeau, PhD</i>
4:45 p.m. – 5:00 p.m.	<b>Panel Discussion</b> <i>All Presenters</i>

**Target Audience:** Criminalistics, General, Jurisprudence, Pathology/Biology, Toxicology

**Knowledge Level Required:** Basic

**Expected Handout Length:** 100 pages

## W7 Histology for Non-Pathologists

Monday, February 21

*Pre-Registration Required—\$100 (in person only)*

8:00 a.m. – 12:00 p.m.

**Learning Overview:** Attendees will learn the basics of histology as well as receive an introduction to the histologic interpretation of infection and trauma, including trauma to the brain and spinal cord.

**Impact Statement:** This presentation will impact the forensic science community by providing non-pathologists with an understanding of the process of histology interpretation and, in particular, its relevance to their forensic specialty.

**Program Description:** During their anatomic pathology training, forensic pathologists learn the art of histopathology, which involves looking at small sections of tissues under the microscope for identification and interpretation. The results of this examination can be used to determine the cause and manner of death, extent and type of disease process, and nature of identified abnormalities. Although extensive training is provided to pathologists on this topic, little to none is given to other forensic practitioners, even those whose work can be affected by the results of these examinations.

*Chair:*

**Katherine F. Maloney, MD**  
Erie County Medical Examiner Office  
Buffalo, NY

*Co-Chair:*

**Milad Webb, MD, PhD**  
Hillsborough County Medical Examiner Office  
Tampa, FL

*Presenters:*

**Kelly G. Devers, MD**  
Hillsborough County Medical Examiner Office  
Tampa, FL

**Ashley R. Perkins, DO**  
Hillsborough County Medical Examiner Office  
Tampa, FL

**Teresa Nguyen, MD**  
Wayne County Medical Examiner Office  
Detroit, MI

**Omar Rayes, MA**  
Wayne County Medical Examiner Office  
Detroit, MI

**Schedule:**

8:00 a.m. – 8:10 a.m.	<b>Opening Remarks and Introduction</b> <i>Katherine F. Maloney, MD</i>
8:10 a.m. – 8:45 a.m.	<b>Histology Basics</b> <i>Katherine F. Maloney, MD</i>
8:45 a.m. – 9:30 a.m.	<b>Infectious Disease</b> <i>Ashley R. Perkins, DO</i>
9:30 a.m. – 9:45 a.m.	<b>BREAK</b>
9:45 a.m. – 10:45 a.m.	<b>Trauma</b> <i>Milad Webb, MD, PhD</i>
10:45 a.m. – 11:45 a.m.	<b>Neurotrauma</b> <i>Kelly G. Devers, MD</i>
11:45 a.m. – 12:00 p.m.	<b>Closing Remarks &amp; Questions</b> <i>Katherine F. Maloney, MD</i>

**Target Audience:** General, Jurisprudence, Pathology/Biology

**Knowledge Level Required:** Basic

**Expected Handout Length:** 120 pages

## W8 Subaerial Weathering of Bone

Monday, February 21

*Pre-Registration Required—\$100 (in person only)*

8:30 a.m. – 12:00 p.m.

---

**Learning Overview:** Participants in this workshop will learn about the taphonomic processes causing subaerial weathering of bone and how to score weathering stages following the standard 0-5 scale from Behrensmeyer.<sup>1</sup> Participants also will learn about estimation of the Postmortem Interval (PMI) from the weathering stage and the other types of taphonomic alterations that commonly co-occur with surface exposure and how to tell the effects of subaerial weathering (cracking, delamination, and bleaching) from other causes that may produce similar effects.

**Impact Statement:** This workshop will impact forensic practice by teaching standard scoring procedures for subaerially weathered bone and the procedures for estimating PMI based on those scores. This workshop will encourage participants to gather additional taphonomic data to improve greater understanding of subaerial weathering and its regional variation.

**Program Description:** Participants will be encouraged to record taphonomic changes as an integrated part of forensic casework that can provide investigators with crucial information, including PMI, depositional environment, and post-depositional circumstances. This workshop includes hands-on presentations of taphonomic examples and will supply certificates of successful attendance/completion of taphonomic training to attendees who successfully complete the training exercise.

### *Chair:*

**James T. Pokines, PhD**

Boston University School of Medicine

Massachusetts Office of the Chief Medical Examiner

Jamaica Plain, MA

### **Schedule:**

8:30 a.m. – 10:00 a.m.	<b>Subaerial Bone Weathering</b> <i>James T. Pokines, PhD</i>
10:00 a.m. – 10:30 a.m.	<b>BREAK</b>
10:30 a.m. – 11:30 a.m.	<b>Bone Weathering Examples</b> <i>James T. Pokines, PhD</i>
11:30 a.m. – 12:00 p.m.	<b>DISCUSSION</b> <i>James T. Pokines, PhD</i>

**Target Audience:** Anthropology

**Knowledge Level Required:** Intermediate

**Expected Handout Length:** 30 pages

**Attendance Restriction:** 30

## W9 Forensic Science Standards Development and Implementation ... You Want Me to Do What?

Monday, February 21

*Pre-Registration Required—\$100*

8:30 a.m. – 12:15 p.m.

**Learning Overview:** The goal of this workshop is to discuss the development process of forensic science standards, how these standards are implemented in crime laboratories, and how they are viewed by the legal profession.

**Impact Statement:** This presentation will impact the forensic science community by enabling attendees to understand: (1) the process through which standards are developed and published; (2) issues with implementation of standards in crime laboratories; and (3) how the legal profession views and assesses the role of standards in court proceedings.

**Program Description:** This workshop will provide answers to questions about standards that are asked frequently by the forensic science community and will provide information that will be helpful to laboratories that plan to, or will soon be, adopting Academy Standards Board (ASB) Standards, Best Practice Recommendations, and Technical Notes.

*Chair:*

**Linton A. Mohammed, PhD**

Forensic Science Consultants, Inc.  
Poway, CA

*Co-Chair:*

**Pamela A.W. King, JD**

Minnesota Judicial Branch  
Rochester, MN

*Presenters:*

**Teresa L. Ambrosius, BA**

American Academy of Forensic Sciences  
Colorado Springs, CO

**Mark T. Goff, BA**

MSP Lansing Laboratory  
Lansing, MI

**Kris Cano, MA**

Scottsdale Police Department  
Scottsdale, AZ

**Mary C. McKiel, PhD**

American Academy of Forensic Sciences  
Colorado Springs, CO

**Jennifer P. Floyd, BS**

Arkansas State Crime Laboratory Little  
Rock, AR

**Linda U. Wilson, MS**

American Academy of Forensic Sciences  
Colorado Springs, CO

**Schedule:**

8:30 a.m. – 8:35 a.m.

**Introduction**

*Linton A. Mohammed, PhD*

8:35 a.m. – 8:55 a.m.

**A World of Standards**

*Mary C. McKiel, PhD*

8:55 a.m. – 9:15 a.m.

**History and Progress of ASB**

*Teresa L. Ambrosius, BA*

9:15 a.m. – 9:35 a.m.

**Procedures for Consensus Bodies and Working Groups**

*Linda U. Wilson, MS*

9:35 a.m. – 10:05 a.m.

**The Business Side of Standards**

*Kris Cano, MA*

10:05 a.m. – 10:20 a.m.

**BREAK**

10:20 a.m. – 10:50 a.m.

**QD Standards: What's New, What's Coming, and What's Going on Here?**

*Mark T. Goff, BA*

10:50 a.m. – 11:20 a.m.

**The Buy-In Challenge**

*Jennifer P. Floyd, BS*

11:20 a.m. – 12:00 p.m.

**The View From the Bench**

*Pamela A.W. King, JD*

12:00 p.m. – 12:15 p.m.

**QUESTIONS & ANSWERS**

*All Presenters*

**Target Audience:** All Sections

**Knowledge Level Required:** Basic

**Expected Handout Length:** 50 pages

# W10 Inference From Evidence in Forensic Science and Pathology: Turning Something That Has Been Wrong Into Something Right

Monday, February 21

*Pre-Registration Required—\$100*

1:00 p.m. – 5:00 p.m.

---

**Learning Overview:** After attending this workshop, attendees will learn which forms of inference—the reasoning involved in drawing conclusions from evidence—are highly reliable for truth and which forms are highly unreliable. Attendees will also learn how to apply proper inference to their forensic casework.

**Impact Statement:** This workshop will impact the forensic science community by revealing how demonstrably incorrect ways of inferring from evidence have led to numerous injustices from false accusations and incarcerations. This workshop will also disclose a reliable way to infer that is both scientifically and logically valid.

**Program Description:** This workshop will question if there a way for forensic scientists and pathologists to truthfully offer opinions from the witness stand made “to a reasonable degree of medical/scientific certainty.” Is there a way to put the “science” back into forensic science and pathology? Is there a way for forensic pathologists and scientists to offer opinions that are reliably truthful and helpful to triers of fact in a courtroom?

*Chair:*

**Thomas W. Young, MD**  
Heartland Forensic Pathology, LLC  
Kansas City, MO

*Co-Chair:*

**Ljubisa J. Dragovic, MD**  
Oakland County Medical Examiner Office  
Pontiac, MI

## Schedule:

1:00 p.m. – 1:35 p.m.	<b>Welcome and Introduction</b> <i>Thomas W. Young, MD</i>
1:35 p.m. – 2:20 p.m.	<b>The Inferential Test (IT)</b> <i>Thomas W. Young, MD</i>
2:20 p.m. – 3:05 p.m.	<b>Applications of the IT: Forensic Science</b> <i>Thomas W. Young, MD</i>
3:05 p.m. – 3:25 p.m.	<b>BREAK</b>
3:25 p.m. – 4:15 p.m.	<b>Applications of the IT: Forensic Pathology</b> <i>Ljubisa J. Dragovic, MD</i>
4:15 p.m. – 5:00 p.m.	<b>DISCUSSION</b> <i>Thomas W. Young, MD; Ljubisa J. Dragovic, MD</i>

**Target Audience:** General, Jurisprudence, Pathology/Biology

**Knowledge Level Required:** Basic

**Expected Handout Length:** 36 pages

## W11 Successful Strategies for the Accreditation of Crime Scene Units

Monday, February 21

*Pre-Registration Required—\$100 (virtual only)*

1:00 p.m. – 5:00 p.m.

**Learning Overview:** Attendees will learn about the planning process for the accreditation of crime scene processes.

**Impact Statement:** In 2009, the National Academies of Sciences (NAS) issues their landmark Report, *Strengthening Forensic Science in the United States: A Path Forward*. The Report recommended the accreditation of forensic laboratories and rightfully identified crime scene investigation as part of the forensic science community. However, since the publication of the Report, the accreditation of crime scene units globally has not kept pace with other disciplines. This presentation aims to reduce the perceived barriers that may stop an agency from pursuing accreditation of crime scene investigation processes, resulting in an increasing number of accreditations in this area, and thus improving the quality of forensic science at a systemic level.

**Program Description:** The presentation will cover unique challenges to accreditation of these activities and how specific International Organization for Standardization (ISO) standards can be satisfied in a crime scene context. Attendees will hear lessons learned from agencies with accredited crime scene units as well as the benefits that have been realized.

*Chair:*

**Mark D. Mogle, BS**

United States Department of Justice—ICITAP  
Washington, DC

*Co-Chair:*

**Abraham Aysa Bravo, JD**

Pacific Architects and Engineers, LLC  
Panama City, Panama

*Presenters:*

**Alejandro Madrigal Reyes, BS**

Pacific Architects and Engineers, LLC  
Weslaco, TX

**Domingo Villarreal**

Houston Forensic Science Center (Retired)  
Houston, TX

### Schedule:

1:00 p.m. – 1:15 p.m.	<b>Introduction</b> <i>Mark D. Mogle, BS</i>
1:15 p.m. – 1:45 p.m.	<b>Accreditation Scope—Identify the Challenges</b> <i>Abraham Aysa Bravo, JD</i>
1:45 p.m. – 2:15 p.m.	<b>Selecting the Right Standard</b> <i>Domingo Villarreal</i>
2:15 p.m. – 2:30 p.m.	<b>Accreditation Plan Requirements</b> <i>Alejandro Madrigal Reyes, BS</i>
2:30 p.m. – 2:45 p.m.	<b>Planning and Scheduling</b> <i>Abraham Aysa Bravo, JD</i>
2:45 p.m. – 3:00 p.m.	<b>BREAK</b>
3:00 p.m. – 3:30 p.m.	<b>The Importance of Process Mapping</b> <i>Abraham Aysa Bravo, JD</i>
3:30 p.m. – 4:00 p.m.	<b>QA System Implementation</b> <i>Alejandro Madrigal Reyes, BS</i>
4:00 p.m. – 4:30 p.m.	<b>Overcoming Perceived Roadblocks</b> <i>Domingo Villarreal</i>
4:30 p.m. – 5:00 p.m.	<b>Preparing for Your Final Assessment</b> <i>Alejandro Madrigal Reyes, BS</i>

**Target Audience:** Criminalistics, General

**Knowledge Level Required:** Basic

**Expected Handout Length:** 25 pages