

Session ID	Day	Time	Presentation Type	Title	Availability	Cost
W1	Monday	<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



# WORKSHOPS

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

## **W12 Forensic Postmortem Radiology: Crossing the Border Between Radiology and Pathology**

**Tuesday, February 22, 2022**

**8:30 a.m. – 5:00 p.m.**

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**Learning Overview:** After attending this workshop, attendees will: (1) have learned the basics of how to get started in the field of forensic radiology; (2) understand the current state of the art and levels of evidence in forensic radiology; (3) have learned about applications to assist forensic pathologists and practitioners in medical death investigation; and 4) will be aware of potential resources available to interested practitioners.

**Impact Statement:** This presentation will impact the forensic science community by providing attendees with expertise from around the world on the use of best practices and the evidence base of forensic postmortem radiology.

**Program Description:** This workshop will demonstrate how to start a program, give an overview of the current state of forensic imaging in the world, and inform attendees how future technologies may impact the field of forensics.

*Chair:*

**Summer J. Decker, PhD**

USF Health Morsani College of Medicine  
Tampa, FL

*Co-Chair:*

**Edward Mazuchowski II, MD, PhD**

Forensic Pathology Associates  
Health Network Laboratories  
Allentown, PA

*Presenters:*

**Natalie L. Adolphi, PhD**

University of New Mexico, Office of the Medical Examiner  
Albuquerque, NM

**Michael J. Thali, MD**

University of Zurich Institute of Forensic Medicine  
Zurich, Switzerland

**Fabrice Dedouit, MD, PhD**

University Hospital of Toulouse  
Toulouse, France

**Jeroen J.F. Kroll, MS**

Maastricht University Medical Center  
Maastricht, The Netherlands

**Lars C. Ebert, PhD**

University of Zurich, Institute of Forensic Medicine  
Zurich, Switzerland

**Christopher J. O'Donnell, MBBS**

Victoria Institute of Forensic Medicine  
Brandon Park, Victoria, Australia

**Jonathan M. Ford, PhD**

USF Health Morsani College of Medicine  
Tampa, FL

**Lars Oesterhelweg, MD**

Charite University Berlin, Institute of Forensic Medicine  
Berlin, Germany

**Hideki Hyodoh, MD, PhD**

Hokkaido University, Department of Forensic Medicine  
Sapporo, Japan

**Rick R. van Rijn, MD, PhD**

Netherlands Forensic Institute  
Amsterdam, The Netherlands

**Targeted Audience:** Anthropology, Criminalistics, Engineering & Applied Sciences, General, Jurisprudence, Pathology/Biology

**Knowledge Level Required:** Basic

**Expected Handout Length:** 20 pages

# WORKSHOPS



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

## **W12 Forensic Postmortem Radiology: Crossing the Border Between Radiology and Pathology**

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### **Program:**

- 8:30 a.m. – 9:00 a.m.      **Introductions, Background, and Historical Overview**  
*Michael J. Thali, MD*
- 9:00 a.m. – 9:30 a.m.      **Acquiring Postmortem CT Scans Tips and Tricks: A Technician’s Perspective**  
*Jeroen J.F. Kroll, MS*
- 9:30 a.m. – 10:00 a.m.      **The Development of a Forensic CT Service in a Medical Examiner Office**  
*Natalie L. Adolphi, PhD*
- 10:00 a.m. – 10:30 a.m.      **PMCT Status in Australia: An International Perspective**  
*Christopher J. O’Donnell, MBBS*
- 10:30 a.m. – 10:45 a.m.      **BREAK**
- 10:45 a.m. – 11:30 a.m.      **Directed PMCT Angiography and Evaluation of Resuscitative Medical Therapy**  
*Edward L. Mazuchowski, MD, PhD*
- 11:30 a.m. – 12:00 p.m.      **Forensic Postmortem CT in Children—Applications and Limitations**  
*Rick R. van Rijn, MD, PhD*
- 12:00 p.m. – 12:30 p.m.      **Interactive Cases 1**  
*Jeroen J.F. Kroll, MS; Rick R. van Rijn, MD, PhD*
- 12:30 p.m. – 1:30 p.m.      **BREAK**
- 1:30 p.m. – 2:00 p.m.      **PMCT in GSW and Fatal Penetrating Trauma**  
*Lars Oesterhelweg, MD*
- 2:00 p.m. – 2:30 p.m.      **Postmortem Cardiac Imaging**  
*Fabrice Dedouit, MD, PhD*
- 2:30 p.m. – 3:05 p.m.      **3D Visualization in Forensic Postmortem Radiology: Possibilities and Examples**  
*Summer J. Decker, PhD*
- 3:05 p.m. – 3:20 p.m.      **BREAK**
- 3:20 p.m. – 3:50 p.m.      **The Use of MRI in Forensic Postmortem Imaging**  
*Hideki Hyodoh, MD, PhD*
- 3:50 p.m. – 4:30 p.m.      **Emerging Technologies**  
*Jonathan M. Ford, PhD; Lars C. Ebert, PhD*
- 4:30 p.m. – 5:00 p.m.      **Interactive Cases 2**  
*Summer J. Decker, PhD; Lars C. Ebert, PhD*



# WORKSHOPS

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**W13 Forensic Techniques Applied in Military Investigations**

**CANCELED**

# WORKSHOPS



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

## **W14 Interdisciplinary Approaches to Age Estimation**

**Tuesday, February 22, 2022**

**8:30 a.m. – 5:00 p.m.**

**Learning Overview:** After attending this workshop, attendees will have a heightened understanding of: (1) age-at-death assessments as well as age assessment of the living from the anthropological and odontological point-of-view; (2) application of alternative techniques, based on the biochemical fundamentals of aging, to improving age estimates; and (3) age assessment implications in humanitarian contexts.

**Impact Statement:** This workshop will impact the forensic science community through the presentation of interdisciplinary approaches toward improving age assessments, encouraging collaboration and innovation among different forensic specialties. This workshop will further highlight the importance of age estimation in various contexts, including humanitarian applications.

**Program Description:** This workshop will demonstrate how the awareness of the problems faced with regard to age assessment, out-of-the-box thinking, the application of new and interdisciplinary techniques, and promoting collaborations among different forensic specialties, such as anthropology, odontology, and criminalistics, are essential to improve age estimates, and as a result, the identification of the victim. Thus, this workshop will provide a step toward finding solutions to these challenges by improving the knowledge on the most state-of-the-art techniques available to forensic scientists.

*Chair:*

**Sarah Ellingham, PhD**

International Committee of the Red Cross  
Geneva, Switzerland

*Co-Chair:*

**Sara C. Zapico, PhD**

New Jersey Institute of Technology  
Newark, NJ

*Presenters:*

**Joe Adserias Garriga, PhD**

Mercyhurst University  
Erie, PA

**Victoria M. Dominguez, PhD**

Lehman College, City University of New York  
New York, NY

**Sakher AlQatani, PhD**

King Saud University  
Riyadh, Saudi Arabia

**Sara M. Getz, PhD**

University of Wisconsin–Platteville  
Platteville, WI

**Christian Crowder, PhD**

Dallas County Medical Examiner Office  
Dallas, TX

**Douglas H. Ubelaker, PhD**

Smithsonian Institute  
Washington, DC

**Targeted Audience:** Anthropology, General, Odontology, Pathology/Biology

**Knowledge Level Required:** Intermediate

**Expected Handout Length:** 100 pages



# WORKSHOPS

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

## **W14 Interdisciplinary Approaches to Age Estimation**

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**Program:**

8:30 a.m. – 8:45 a.m.	<b>Welcome and Introduction</b> <i>Sarah Ellingham, PhD; Sara C. Zapioc, PhD</i>
8:45 a.m. – 9:15 a.m.	<b>Why Is Establishing Age Important in Forensic Science?</b> <i>Joe Adserias Garriga, PhD</i>
9:15 a.m. – 10:00 a.m.	<b>Juvenile Age Assessment of a Living and the Dead Through Skeletal Methods</b> <i>Douglas H. Ubelaker, PhD</i>
10:00 a.m. – 10:45 a.m.	<b>Adult Age Estimation Through Skeletal Methods</b> <i>Sara M. Getz, PhD</i>
10:45 a.m. – 11:00 a.m.	<b>BREAK</b>
11:00 a.m. – 11:45 a.m.	<b>Juvenile Age Assessment of the Living and the Dead Through Dental Methods</b> <i>Sakher AlQatani, PhD</i>
11:45 a.m. – 12:30 p.m.	<b>Adult Age Assessment Through Dental Methods</b> <i>Joe Adserias Garriga, PhD</i>
12:30 p.m. – 1:30 p.m.	<b>BREAK</b>
1:30 p.m. – 2:00 p.m.	<b>Age Assessments by Histological Methods</b> <i>Christian Crowder, PhD; Victoria M. Dominquez, PhD</i>
2:00 p.m. – 2:45 p.m.	<b>Age Assessment by Molecular Techniques</b> <i>Sara C. Zapico, PhD</i>
2:45 p.m. – 3:15 p.m.	<b>The Relevance of Age Assessment From a Humanitarian Perspective</b> <i>Sarah Ellingham, PhD</i>
3:15 p.m. – 3:30 p.m.	<b>BREAK</b>
3:30 p.m. – 4:45 p.m.	<b>Practical Cases</b> <i>All Presenters</i>
4:45 p.m. – 5:00 p.m.	<b>Closing Remarks</b> <i>Sarah Ellingham, PhD; Sara C. Zapico, PhD</i>



# WORKSHOPS

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

## **W15      Unlocking the Truth: The Impact of DNA Testing and Legal Strategies in Post-Conviction Cases**

**Tuesday, February 22, 2022**

**8:30 a.m. – 5:00 p.m.**

**Learning Overview:** Over the past 30 years, advancements in the field of forensic science have greatly impacted the criminal justice system. Advances in DNA testing and the development of new technology have led to an increase in exonerations of those wrongfully convicted.

**Impact Statement:** Attendees, armed with the knowledge of how best to efficiently and cost effectively process post-conviction cases, will be able to watch clips from a documentary to further inspire them to perform post-conviction DNA testing in their laboratories and form integrity units in their district attorney offices. This workshop will motivate those attending to realize that we can all participate in the quest for justice and, in the words of Dr. Rubin Carter, “to live in a world where truth matters and justice, however late, really happens, that world would be heaven for us all.”

**Program Description:** This workshop will explore the issues that are faced by those wrongfully convicted and will also explore how the use of modern DNA testing and legal strategies can be used to assist cases for review of innocence. This will be highlighted by examining the almost-30-year fight for justice of a wrongfully convicted man.

*Chair:*

**Lisa A. Mertz, MS**

Office of the Chief Medical Examiner  
New York, NY

*Co-Chair:*

**Andrew J. Schweighardt, PhD**

Office of the Chief Medical Examiner  
New York, NY

*Presenters:*

**Hillary Blout, JD**

For The People  
Oakland, CA

**David McCallum**

South Mineola, NY

**Krista A. Currie, MS**

Laurentian University  
Sudbury, Ontario, Canada

**Oscar Michelen, JD**

South Mineola, NY

**Ken Klonsky**

Innocence International  
Vancouver, British Columbia, Canada

**Janis C. Puracal, JD**

Forensic Justice Project  
Portland, OR

**Ray Klonsky**

Brooklyn, NY

**Jeff Reisig, JD**

Yolo County District Attorney’s Office  
Woodland, CA

**Targeted Audience:** Criminalistics, General, Jurisprudence

**Knowledge Level Required:** Basic

**Expected Handout Length:** 100 pages



# WORKSHOPS

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

## **W15 Unlocking the Truth: The Impact of DNA Testing and Legal Strategies in Post-Conviction Cases**

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**Program:**

8:30 a.m. – 8:45 a.m.	<b>Introduction to Workshop</b> <i>Lisa A. Mertz, MS; Krista Currie, MS; Andrew J. Schweighardt, PhD</i>
8:45 a.m. – 9:30 a.m.	<b>David's Story</b> <i>David McCallum</i>
9:30 a.m. – 9:45 a.m.	<b>David Meets Rubin Carter and Ken Klonsky</b> <i>David McCallum; Ken Klonsky</i>
9:45 a.m. – 10:00 a.m.	<b>Big Brother/Little Brother</b> <i>David McCallum; Ray Klonsky</i>
10:00 a.m. – 10:15 a.m.	<b>BREAK</b>
10:15 a.m. – 11:00 a.m.	<b>David's Case and the Fight for Justice</b> <i>Oscar Michelen, JD; Ken Klonsky; David McCallum</i>
11:00 a.m. – 11:30 a.m.	<b>Fight For Justice: David and Me</b> <i>Ray Klonsky; Ken Klonsky</i>
11:30 a.m. – 12:15 p.m.	<b>Innocence International and Continuing Dr. Carter's Legacy</b> <i>Ken Klonsky</i>
12:15 p.m. – 1:15 p.m.	<b>BREAK</b>
1:15 p.m. – 2:30 p.m.	<b>DNA Technology: Bridging the Gap to Justice</b> <i>Lisa A. Mertz, MS; Krista Currie, MS</i>
2:30 p.m. – 3:15 p.m.	<b>Wrongful Convictions and the Role of Forensics in Post-Conviction Litigation</b> <i>Janis C. Puracal, JD</i>
3:15 p.m. – 3:30 p.m.	<b>BREAK</b>
3:30 p.m. – 4:45 p.m.	<b>Prosecutor-Initiated Resentencing: The Science of Redemption</b> <i>Jeff Reisig, JD; Hillary Blout, JD</i>
4:45 p.m. – 5:00 p.m.	<b>QUESTIONS &amp; ANSWERS</b> <i>All Presenters</i>



# WORKSHOPS



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

## **W16 The Neurobiology and Toxicology of Aggression**

**Tuesday, February 22, 2022**

**8:30 a.m. – 5:15 p.m.**

**Learning Overview:** This workshop examines the nature and origin of aggression and the modulating effect of various drugs.

**Impact Statement:** This presentation will demonstrate how impulsive and premeditated aggression in humans is understood from neurocircuitry and neuroimaging studies, Central Nervous System (CNS) neurotransmitter involvement, and electrophysiology including the P3, an Event-Related Potential (ERP) component elicited in the process of decision making that varies from person to person.

**Program Description:** The unpredictable nature of alcohol-mediated aggression will be highlighted by the case of a young man who murdered a man he did not know in a local park in front of witnesses and later professed to have no recollection of the events and suffered a total alcoholic blackout.

*Chair:*

**Alan R. Felthous, MD**

Saint Louis University School of Medicine  
St. Louis, MO

*Presenters:*

**Scott Akridge, MD**

Saint Louis University School of Medicine  
St. Louis, MO

**Joe Bou Nassif, MD**

Saint Louis University School of Medicine  
St. Louis, MO

**Felice F. Carabellese, MD**

University of Bari  
Bari, Italy

**Dean M. DeCrisce, MD**

Coast to Coast Forensic Associates  
Division of Behavioral Health Sciences  
Elizabeth, NJ

**Alexandre Dumais, MD**

Institut Universitaire en Santé Mentale de Montréal  
Montreal, Quebec, Canada

**Marissa Hirsch, MD**

Saint Louis University School of Medicine  
St. Louis, MO

**Rebecca J. Houston, PhD**

Department of Psychology  
Rochester, NY

*Co-Chair:*

**Marilyn A. Huestis, PhD**

Huestis & Smith Toxicology, LLC  
Severna Park, MD

**Daniel S. Isenschmid, PhD**

NMS Labs  
Horsham, PA

**Graham R. Jones, PhD**

Edmonton, Alberta, Canada

**Dayong Lee, PhD**

Houston Forensic Science Center  
Houston, TX

**Barry K. Logan, PhD**

NMS Labs  
Horsham, PA

**Katherine McArthur, MD**

Saint Louis University School of Medicine  
St. Louis, MO

**Michael L. Smith, PhD**

Huestis & Smith Toxicology, LLC  
Severna Park, MD

**Targeted Audience:** Psychiatry & Behavioral Science, Toxicology

**Knowledge Level Required:** Basic

**Expected Handout Length:** 100 pages



# WORKSHOPS

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

## **W16 The Neurobiology and Toxicology of Aggression**

**Program:**

8:30 a.m. – 8:35 a.m.	<b>Housekeeping Announcements</b> <i>Alan R. Felthous, MD; Marilyn A. Huestis, PhD</i>
8:35 a.m. – 8:50 a.m.	<b>Overview of Neurobiology and Aggression</b> <i>Alan R. Felthous, MD</i>
8:50 a.m. – 9:05 a.m.	<b>Overview of Toxicology and Aggression</b> <i>Marilyn A. Huestis, PhD</i>
9:05 a.m. – 9:30 a.m.	<b>The Neurocircuitry of Impulsive Aggression</b> <i>Joe Bou Nassif, MD</i>
9:30 a.m. – 10:00 a.m.	<b>The Electrophysiology of Human Aggression</b> <i>Rebecca J. Houston, PhD</i>
10:00 a.m. – 10:25 a.m.	<b>Cocaine and Aggression</b> <i>Katherine McArthur, MD</i>
10:25 a.m. – 10:45 a.m.	<b>The Role of Cocaine in Violent Deaths</b> <i>Daniel S. Isenschmid, PhD</i>
10:45 a.m. – 11:00 a.m.	<b>BREAK</b>
11:00 a.m. – 11:25 a.m.	<b>Phencyclidine and Aggression</b> <i>Dean M. DeCrisce, MD</i>
11:25 a.m. – 11:45 a.m.	<b>Phencyclidine Toxicology and Aggression</b> <i>Michael L. Smith, PhD</i>
11:45 a.m. – 12:10 p.m.	<b>Cannabinoids, Schizophrenia, and Aggression</b> <i>Alexandre Dumais, MD</i>
12:10 p.m. – 12:30 p.m.	<b>Cannabinoids, Toxicology, and Aggression</b> <i>Marilyn A. Huestis, PhD</i>
12:30 p.m. – 1:30 p.m.	<b>BREAK</b>
1:30 a.m. – 1:55 p.m.	<b>Methamphetamine and Aggression</b> <i>Marissa Hirsch, MD</i>
1:55 p.m. – 2:15 p.m.	<b>Methamphetamine Toxicology and Aggression</b> <i>Barry K. Logan, PhD</i>
2:15 p.m. – 2:40 p.m.	<b>Alcohol and Aggression</b> <i>Felice F. Carabellese, MD</i>
2:40 p.m. – 3:00 p.m.	<b>Alcohol Toxicology and Aggression</b> <i>Graham R. Jones, PhD</i>
3:00 p.m. – 3:20 p.m.	<b>BREAK</b>
3:20 p.m. – 3:45 p.m.	<b>Anti-Impulsive Aggressive Agents</b> <i>Alan R. Felthous, MD</i>
3:45 p.m. – 4:05 p.m.	<b>Toxicology and Aggression</b> <i>Dayong Lee, PhD</i>
4:05 p.m. – 4:30 p.m.	<b>Paradoxical Aggression and Pharmacotherapeutic Agents</b> <i>Scott Akridge, MD</i>
4:30 p.m. – 4:45 p.m.	<b>Toxicology and Paradoxical Aggression</b> <i>Dayong Lee, PhD</i>
4:45 p.m. – 5:15 p.m.	<b>QUESTIONS &amp; ANSWERS</b>

# WORKSHOPS



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

## **W17 Forensic Examination and Evaluation of the Fine and Subtle Elements of Signatures and Handwriting**

**Tuesday, February 22, 2022**

**8:30 a.m. – 5:00 p.m.**

**Learning Overview:** This workshop will increase forensic document examiners' knowledge regarding the fine and subtle elements of signatures.

**Impact Statement:** This workshop will impact forensic document examiners by increasing the accuracy and reliability of their opinions in signature and handwriting examinations.

**Program Description:** This workshop will begin with a lecture session reviewing the research data regarding genuine, disguised (auto simulated), and simulated signatures. Attendees will then be given practical problems to the hands-on session. Attendees will be asked to present their results (in groups), and give reasons for their opinions. The workshop presenters will then go into the fine and subtle details of the signatures in the problems to illustrate and explain how these details can be observed and evaluated.

*Chair:*

**Linton A. Mohammed, PhD**  
Forensic Science Consultants, Inc.  
Poway, CA

*Co-Chair:*

**Karen J. Nobles, MFS**  
Forensic Document Services, LLC  
Pensacola, FL

*Presenters:*

**Brett M.D. Bishop, BS**  
Washington State Police Crime Laboratory  
Spokane, WA

**Lloyd W. Cunningham**  
Alamo, CA

### **Program:**

8:30 a.m. – 9:00 a.m.	<b>Introduction/Review of Error Rates</b> <i>Linton A. Mohammed, PhD</i>
9:00 a.m. – 10:00 a.m.	<b>Fine and Subtle Elements of Signatures I</b> <i>Lloyd W. Cunningham</i>
10:00 a.m. – 10:20 a.m.	<b>BREAK</b>
10:20 a.m. – 12:00 p.m.	<b>Fine and Subtle Elements of Signatures II</b> <i>Lloyd W. Cunningham</i>
12:00 p.m. – 1:00 p.m.	<b>BREAK</b>
1:00 p.m. – 3:00 p.m.	<b>Hands-On Exercises</b> <i>Lloyd W. Cunningham</i>
3:00 p.m. – 3:15 p.m.	<b>BREAK</b>
3:15 p.m. – 3:45 p.m.	<b>Group Presentation of Results</b> <i>Linton A. Mohammed, PhD</i>
3:45 p.m. – 4:30 p.m.	<b>A Case of Subtlety</b> <i>Brett M.D. Bishop, BS</i>
4:30 p.m. – 5:00 p.m.	<b>Moot Court/Questions and Answers</b> <i>Lloyd W. Cunningham</i>

**Targeted Audience:** Questioned Documents

**Knowledge Level Required:** Basic

**Expected Handout Length:** 50 pages

All times are in the U.S. Pacific Time Zone



# WORKSHOPS

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

## **W18 An Advanced Bloodstain Pattern Analysis Hands-On Workshop With an Accompanying Principles of Bloodstain Patterns Lecture**

**Tuesday, February 22, 2022**

**8:30 a.m. – 11:30 a.m.**

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**Learning Overview:** After attending this workshop, attendees will have an increased understanding of bloodstain patterns, their relevance to crime scene reconstruction, the determination of events that occurred, and potential charges that could be issued.

**Impact Statement:** This workshop and the accompanying lecture will expand the understanding of lab and scene personnel who have not have previous bloodstain pattern analysis classes.

**Program Description:** This workshop is a hands-on opportunity for attendees to become involved in re-enactments of multiple, fresh, bloody crime scenes without the worry of contaminating themselves or their clothing. Attendees will experience the “real thing,” be required to collect data, evaluate the scenes and statements of witnesses, determine the action resulting in the blood-letting events, determine potential classification of events, and conclude how these finding relate to subsequent criminal charges. This opportunity is closely followed by the Bloodstain Pattern analysis lecture, which, by its conclusion, will reveal the actions and events studied in the session workshop.

*Chair:*

**Lawrence L. Renner, MA**

Santa Fe Police Department (Retired)

Santa Fe, NM

**Program:**

8:30 a.m. – 10:00 a.m.

**Hands-On Bloodstain Scene Experience**

*Lawrence L. Renner, MA*

10:00 a.m. – 11:30 a.m.

**Bloodstain Pattern Analysis Lecture**

*Lawrence L. Renner, MA*

**Targeted Audience:** General; Jurisprudence; Psychiatry & Behavioral Science

**Knowledge Level Required:** Intermediate (some knowledge of subject presented)

**Expected Handout Length:** 1 page



# WORKSHOPS

*Pre-Registration Required—\$125 (in person and virtual)*

## **W19      Silent Disasters: Establishing and Operationalizing New Technologies for Missing Persons Programs**

**Tuesday, February 22, 2022**

**8:30 a.m. – 12:30 p.m.**

**Learning Overview:** After attending this presentation, attendees will be more familiar with the established and emerging science, law, and ethics surrounding the use of emergent DNA technologies to bring justice and closure in the wake of genocide, armed conflict, and other humanitarian crises. This includes, but is not limited to, mitochondrial DNA, autosomal Single Nucleotide Polymorphisms (SNPs), and other non-traditional markers.

**Impact Statement:** This workshop will showcase innovative strategies and governance considerations for implementing missing persons programs and inform laboratories and organizations to scale these programs effectively.

**Program Description:** This workshop explores the intersection of science, criminal justice, and peace building. Experts from academia, policy specialists, forensic practitioners, social and forensic anthropologists, and genetic genealogy data analysts will review established and emerging methods to reconnect victims to families to provide attendees with a blueprint to operationalize an end-to-end small-scale, large-scale, or national program for the identification of unidentified human remains.

*Chair:*

**Frederick R. Bieber, PhD**  
Harvard Medical School  
Boston, MA

*Co-Chair*

**Swathi A. Kumar, PhD**  
Verogen  
San Diego, CA

*Presenters:*

**Bruce Budowle, PhD**  
University of Texas Health Science Center  
Fort Worth, TX

**Chelsey Juarez, PhD**  
Fresno State University  
Fresno, CA

**Mayra Eduardoff, PhD**  
International Commission on Missing Persons  
The Hauge, Netherlands

**Charla Marshall, PhD**  
AFMES-AFDIL  
Dover Air Force Base, DE

**Colleen Fitzpatrick, PhD**  
Identifinders International  
Fountain Valley, CA

**Targeted Audience:** Anthropology, Criminalistics, General, Jurisprudence, Pathology/Biology

**Knowledge Level Required:** Basic

**Expected Handout Length:** 150 pages



# WORKSHOPS

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*Pre-Registration Required—\$125 (in person and virtual)*

## **W19 Silent Disasters: Establishing and Operationalizing New Technologies for Missing Persons Programs**

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**Program:**

8:30 a.m. – 8:40 a.m.	<b>Welcome and Introductions</b> <i>Frederick R. Bieber, PhD</i>
8:40 a.m. – 9:05 a.m.	<b>Lessons Learned From the Field: Metrics and Success Criteria for Missing Persons Programs</b> <i>Mayra Eduardoff, PhD</i>
9:05 a.m. – 9:30 a.m.	<b>Identifying Unknown Soldiers With Novel DNA Sequencing Applications</b> <i>Charla Marshall, PhD</i>
9:30 a.m. – 9:55 a.m.	<b>A Place to Begin: Using Isotopes From Hair, Teeth, and Bone to Assist With the Identification of the Deceased and Unidentified from the U.S.-Mexico Border and Beyond</b> <i>Chelsey Juarez, PhD</i>
9:55 a.m. – 10:20 a.m.	<b>Whose Loved One is This? The Role of Forensic Genetic Genealogy in Resolving Missing Person's Cases</b> <i>Colleen Fitzpatrick, PhD</i>
10:20 a.m. – 10:25 a.m.	<b>QUESTIONS &amp; ANSWERS</b>
10:25 a.m. – 10:35 a.m.	<b>BREAK</b>
10:35 a.m. – 11:00 a.m.	<b>Building a Missing Persons Database at National and Local Scales</b> <i>Bruce Budowle, PhD</i>
11:00 a.m. – 11:25 a.m.	<b>Managing Expectations: Engaging With Local Populations to Build a Successful Program</b> <i>Frederick R. Bieber, PhD</i>
11:25 a.m. – 11:50 a.m.	<b>Data Sovereignty and Governance: Taking a Privacy-First Approach to Human Identification</b> <i>Swathi A. Kumar, PhD</i>
11:50 a.m. – 12:30 p.m.	<b>Future-Casting: Reimagining Missing Persons Programs</b> <i>All Presenters</i>

# WORKSHOPS



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

## **W20 Novel Synthetic Opioids (NSO) in a Post-Fentanyl Analog Environment**

**Tuesday, February 22, 2022**

**1:00 p.m. – 5:00 p.m.**

**Learning Overview:** After attending this workshop, participants will have a better understanding of how core-structure scheduling for fentanyl analogs and related drug policy actions have shifted the NSO landscape, what the new drugs on the markets are, and what challenges they pose to the scientific community.

**Impact Statement:** The presentations in this workshop will impact the forensic science community by providing an update covering the latest generation of NSO, providing comprehensive pharmacological and analytical characterization, drug chemistry and toxicology workflows, and case histories.

**Program Description:** A new generation of NSO emerged after domestic class-wide scheduling of fentanyl-related substances in February of 2018 by the United States Drug Enforcement Administration followed by Chinese legislation that controlled two popular fentanyl precursor chemicals, NPP and 4-ANPP. These actions saw fentanyl analog positivity decreased for the most part; however, there was a subsequent shift to new varieties of opioid receptor agonists. This workshop will begin with a timeline of events, NSO trends, and an introduction of the tools and workflows that have proven effective in the quick identification of these new substances. Further, these novel opioids will be characterized, including discussions about development of standardized nomenclature and naming conventions, in vitro and in vivo studies, and postmortem cases that showcase the impacts posed by these substances.

*Chair:*

**Donna M. Papsun, MS**  
NMS Labs  
Horsham, PA

*Co-Chair:*

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

*Presenters:*

**Michael R. Baumann, PhD**  
IRP, NDA, NIH  
Baltimore, MD

**M.J. Menendez, JD**  
NMS Labs  
Horsham, PA

**Lynda Biedrzycki, MD**

Waukesha County Medical Examiner Office  
Waukesha, WI

**Reta M. Newman, MA**

Pinellas County Forensic Laboratory  
Largo, FL

**Donna M. Iula, PhD**

Cayman Chemical Company  
Ann Arbor, MI

**Robyn N. Parks, MD**

County of Los Angeles  
Department of Medical Examiner-Coroner  
Los Angeles, CA

**Barry K. Logan, PhD**

NMS Labs  
Horsham, PA

**Targeted Audience:** Anthropology, Criminalistics, Pathology/Biology, Toxicology

**Knowledge Level Required:** Intermediate

**Expected Handout Length:** 150 pages



# WORKSHOPS

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

## **W20 Novel Synthetic Opioids (NSO) in a Post-Fentanyl Analog Environment**

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**Program:**

1:00 p.m. – 1:20 p.m.	<b>NSO: Introduction, Trends, and Updates</b> <i>Donna M. Papsun, MS</i>
1:20 p.m. – 1:40 p.m.	<b>Drug Chemistry Workflows and Detection</b> <i>Reta M. Newman, MA</i>
1:40 p.m. – 2:00 p.m.	<b>Nomenclature of Fentanyl Analogs, Nitazenes, and AP-Series NSOs</b> <i>Donna M. Iula, PhD</i>
2:00 p.m. – 2:20 p.m.	<b>In Vitro and In Vivo Animals Models for Establishing Receptor Binding and Functional Effect of Nitazene Compounds</b> <i>Michael H. Baumann, PhD</i>
2:20 p.m. – 2:40 p.m.	<b>NSOs in Postmortem Casework—The West Coast Experience</b> <i>Robyn N. Parks, MD</i>
2:40 p.m. – 3:00 p.m.	<b>Outbreak Investigations Involving Nitazenes and AP-Series NSOs</b> <i>Barry K. Logan, PhD</i>
3:00 p.m. – 3:30 p.m.	<b>BREAK</b>
3:30 a.m. – 3:50 p.m.	<b>Challenges in Identification and Certification of NSOs in Death Investigations—The Midwest Experience</b> <i>Lynda Biedrzyski, MD</i>
3:50 a.m. – 4:10 p.m.	<b>Impacts of an Early Warning System—The Tale of NPS Discovery</b> <i>Alex J. Krotulski, PhD</i>
4:10 p.m. – 4:30 p.m.	<b>Pros and Cons to Core Structure Scheduling and Effectiveness of Controls</b> <i>M.J. Menendez, JD</i>
4:30 p.m. – 5:00 p.m.	<b>Panel Discussion</b> <i>All Presenters</i>



# WORKSHOPS



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

## **W21 The Forgotten Ones: Post-Traumatic Stress Disorder (PTSD) in First Responders**

**Tuesday, February 22, 2022**

**1:00 p.m. – 5:00 p.m.**

**Learning Overview:** The goal of this presentation is to discuss various experiences of first responders from Emergency Medical Services (EMS), police, crime scene investigators, physicians, and others, in addition to different agency and regional responses to PTSD and processing of PTSD and grief. Symptoms experienced in these groups and how chronic exposure to trauma and vicarious trauma affect responders' mental health will be identified. This workshop will include small group discussion and larger collaboration of ways to prevent and recognize PTSD in one's home agency.

**Impact Statement:** This presentation will impact the forensic sciences community by addressing a serious aspect of mental health and responder well-being by discussing vicarious trauma, ways to recognize symptoms, and resources available for treatment.

**Program Description:** This workshop is designed to help the forensic sciences community understand the serious implications of the current mental health crisis affecting first responders. Understanding how PTSD is affecting first responders may also help address the need to research the forensic science community's potential risk. The forensic science community is not immune to the effects of PTSD and should also investigate how PTSD could be affecting the members of the forensic science community.

*Chair:*

**Jessica L. Morel, DO**  
Forensic Psychiatrist  
Fayetteville, NC

*Co-Chair:*

**Kathryn C. Seigfried-Spellar, PhD**  
Purdue University  
West Lafayette, IN

*Presenters:*

**Kyle T. Krebs, MA**  
Firefighter  
Gilbert, AZ

**Megan N. Stacy, BS**  
Officer  
Gretna, LA

**Allison N. Gaines, MS**  
Cobb County Medical Examiner's Office  
Marietta, GA

**Giuseppe Troccoli, MD**  
Mental Health Services  
Bari, Italy

**Vivian C. Shnaidman, MD**  
Jersey Forensic Consulting, LLC  
Princeton, NJ

**Targeted Audience:** Anthropology, Criminalistics, Digital & Multimedia Sciences, Engineering & Applied Sciences, General, Jurisprudence, Pathology/Biology, Psychiatry & Behavioral Science, Questioned Documents, Toxicology

**Knowledge Level Required:** Basic

**Expected Handout Length:** 40 pages



# WORKSHOPS

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

## **W21 The Forgotten Ones: Post-Traumatic Stress Disorder (PTSD) in First Responders**

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**Program:**

1:00 p.m. – 1:25 p.m.	<b>Defining PTSD/Introduction</b> <i>Jessica Morel, DO</i>
1:25 p.m. – 1:50 p.m.	<b>Compassion Fatigue and Burn Out</b> <i>Kyle T. Krebs, MA</i>
1:50 p.m. – 2:15 p.m.	<b>Trauma in Police and EMS</b> <i>Megan N. Stacy, MS</i>
2:15 p.m. – 2:30 p.m.	<b>BREAK</b>
2:30 p.m. – 2:55 p.m.	<b>What About the Last Responders?</b> <i>Allison N. Gaines, MS</i>
2:55 p.m. – 3:20 p.m.	<b>Vicarious Trauma in Digital Media</b> <i>Kathryn Siegfried-Spellar, PhD</i>
3:20 p.m. – 3:45 p.m.	<b>Case Study of PTSD/Conversion Disorder</b> <i>Vivian C. Shnaidman, MD</i>
3:45 p.m. – 4:15 p.m.	<b>Breakout Session in Small Groups</b>
4:15 a.m. – 5:00 p.m.	<b>Group Discussion of Experiences</b>