

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

Tuesday, February 22

8:30 a.m. – 5:00 p.m.

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 L. Mazuchowski, MD, PhD

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 Osterhelweg, 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

Schedule:

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 <i>Edward L. Mazuchowski, MD, PhD</i>
11:30 a.m. – 12:00 p.m.	Forensic Postmortem CT in Children—Applications and Limitations <i>Rick R. van Rijn, MD, PhD</i>
12:00 p.m. – 12:30 p.m.	Interactive Cases 1 <i>Jeroen J.F. Kröll, MS; Rick R. van Rijn, MD, PhD</i>
12:30 p.m. – 1:30 p.m.	BREAK
1:30 p.m. – 2:00 p.m.	PMCT in GSW and Fatal Penetrating Trauma <i>Lars Osterhelweg, MD</i>
2:00 p.m. – 2:30 p.m.	Postmortem Cardiac Imaging <i>Fabrice Dedouit, MD, PhD</i>
2:30 p.m. – 3:05 p.m.	3D Visualization in Forensic Postmortem Radiology: Possibilities and Examples <i>Summer J. Decker, PhD</i>
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 <i>Hideki Hyodoh, MD, PhD</i>
3:50 p.m. – 4:30 p.m.	Emerging Technologies <i>Jonathan M. Ford, PhD; Lars C. Ebert, PhD</i>
4:30 p.m. – 5:00 p.m.	Interactive Cases 2 <i>Summer J. Decker, PhD; Lars C. Ebert, PhD</i>

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

Knowledge Level Required: Basic

Expected Handout Length: 100 pages

Attendance Restriction: 20

W13 Forensic Techniques Applied in Military Investigations

Tuesday, February 22

8:30 a.m. – 5:00 p.m.

Learning Overview: Attendees will better understand several aspects of criminal and death investigations at a basic level, including the utility of infrared photography, autopsy support to investigations, 3D imaging for scene processing, narrowing time of death through forensic entomology, behavioral analysis in staged incidents, paradoxical undressing, and awareness of junk science.

Impact Statement: This presentation will impact the forensic science community through descriptions of various forensic processes detailed by the investigators who employed them in cited case studies.

Program Description: Investigators and forensics specialists within United States military criminal investigation organizations conduct felony investigations around the world. Representatives from the United States Army Criminal Investigation Division and the Office of the Armed Forces Medical Examiner will discuss a variety of forensic concepts and processes illustrated through an array of case studies.

Chair:

Steven Geniuk, MS

United States Army CID
Fort Leonard Wood, MO

Co-Chair:

Donald Hayden, MFS

United States Army CID
Fort Leonard Wood, MO

Presenters:

Adam Armstrong, MS

United States Army CID
Kaiserslautern, Rheinland-Pfalz, Germany

Matthew James, MFS

United States Army CID
Joint Base Fort Myer-Henderson Hall, VA

Arthur Chancellor, MCJA

United States Army CID
Fort Bragg, NC

Andrew Mansell, MS

United States Army CID
Fort Bragg, NC

Nicole Daniels, MFS

United States Army CID
Joint Base Fort Meyer-Henderson Hall, VA

Edward Mazuchowski II, MD, PhD

Forensic Pathology Associates
Health Network Laboratories
Allentown, PA

Armando Dela Rosa, MFS

United States Army CID
Fort Irwin, CA

Michelle Miller, PsyD

United States Army CID
Quantico, VA

Michael Easter, MFS

United States Army CID
Fort Hood, TX

Vanessa Neff, MS, MA

United States Army CID
Fort Hood, TX

Schedule:

8:30 a.m. – 8:45 a.m.

Introduction

Steven Geniuk, MS; Donald Hayden, MFS

8:45 a.m. – 9:45 a.m.

Soldier Crushed By Armored Vehicle

Vanessa Neff, MS, MA; Edward Mazuchowski II, MD, PhD

9:45 a.m. – 10:00 a.m.

BREAK

10:00 a.m. – 11:00 a.m.

Entomology Used in a Missing Soldier Case

Nicole Daniels, MFS

11:00 a.m. – 12:00 p.m.

3D Imaging Used in Death Investigations

Armando Dela Rosa, MFS; Matthew James, MFS

12:00 p.m. – 1:00 p.m.	BREAK
1:00 p.m. – 2:30 p.m.	Staged Kidnapping Behavioral Analysis <i>Michelle Miller, PsyD; Arthur Chancellor, MCJA</i>
2:30 p.m. – 2:45 p.m.	BREAK
2:45 p.m. – 3:45 p.m.	Paradoxical Undressing in Recovered Remains <i>Adam Armstrong, MS; Andrew Mansell, MS</i>
3:45 p.m. – 4:45 p.m.	Validity of Divining Rods For Clandestine Grave Locations <i>Michael Easter, MFS</i>
4:45 p.m. – 5:00 p.m.	DISCUSSION & QUESTIONS <i>Steven Geniuk, MS; Donald Hayden, MFS</i>

Target Audience: General, Pathology/Biology, Psychiatry & Behavioral Science

Knowledge Level Required: Basic

Expected Handout Length: 180 pages

W14 Interdisciplinary Approaches to Age Estimation

Tuesday, February 22

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-Moderator:

Sara C. Zapico, PhD

New Jersey Institute of Technology
Newark, NJ

Presenters:

Joe Adserias Garriga, PhD

Mercyhurst University
Erie, PA

Sara M. Getz, PhD

University of Wisconsin–Platteville
Platteville, WI

Sakher AlQatani, PhD

King Saud University
Riyadh, Saudi Arabia

Douglas H. Ubelaker, PhD

Smithsonian Institute
Washington, DC

Christian Crowder, PhD

Dallas County Medical Examiner Office
Dallas, TX

Sara C. Zapico, PhD

New Jersey Institute of Technology
Newark, NJ

Victoria M. Dominguez, PhD

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

Schedule:

8:30 a.m. – 8:45 a.m.

Welcome and Introduction

Sarah Ellingham, PhD, and Sara C. Zapico, PhD

8:45 a.m. – 9:15 a.m.

Why Is Establishing Age Important in Forensic Science?

Joe Adserias Garriga, PhD

9:15 a.m. – 10:00 a.m.

Juvenile Age Assessment of a Living and the Dead Through Skeletal Methods

Douglas H. Ubelaker, PhD

10:00 a.m. – 10:45 a.m.

Adult Age Estimation Through Skeletal Methods

Sara M. Getz, PhD

10:45 a.m. – 11:00 a.m.

BREAK

11:00 a.m. – 11:45 a.m.	Juvenile Age Assessment of the Living and the Dead Through Dental Methods <i>Sakher AlQatani, PhD</i>
11:45 a.m. – 12:30 p.m.	Adult Age Assessment Through Dental Methods <i>Joe Adserias Garriga, PhD</i>
12:30 p.m. – 1:30 p.m.	BREAK
1:30 p.m. – 2:00 p.m.	Age Assessments by Histological Methods <i>Christian Crowder, PhD; Victoria M. Dominquez, PhD</i>
2:00 p.m. – 2:45 p.m.	Age Assessment by Molecular Techniques <i>Sara C. Zapico, PhD</i>
2:45 p.m. – 3:15 p.m.	The Relevance of Age Assessment From a Humanitarian Perspective <i>Sarah Ellingham, PhD</i>
3:15 p.m. – 3:30 p.m.	BREAK
3:30 p.m. – 4:45 p.m.	Practical Cases <i>All Presenters</i>
4:45 p.m. – 5:00 p.m.	Closing Remarks <i>Sarah Ellingham, PhD</i>

Target Audience: Anthropology, General, Odontology, Pathology/Biology

Knowledge Level Required: Intermediate

Expected Handout Length: 100 pages

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

Tuesday, February 22

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

Oscar Michelen, JD
South Mineola, NY

Krista A. Currie, MS
Laurentian University
Sudbury, Ontario, Canada

Janis C. Puracal, JD
Forensic Justice Project
Portland, OR

Ken Klonsky
Innocence International
Vancouver, British Columbia, Canada

Jeff Reisig, JD
Yolo County District Attorney’s Office
Woodland, CA

Ray Klonsky
Brooklyn, NY

Schedule:

8:30 a.m. – 8:45 a.m.

Introduction to Workshop

Lisa A. Mertz, MS; Krista Currie, MS; Andrew J. Schweighardt, PhD

8:45 a.m. – 9:30 a.m.

David’s Story

David McCallum

9:30 a.m. – 9:45 a.m.

David Meets Rubin Carter and Ken Klonsky

David McCallum; Ken Klonsky

9:45 a.m. – 10:00 a.m.

Big Brother/Little Brother

David McCallum; Ray Klonsky

10:00 a.m. – 10:15 a.m.

BREAK

10:15 a.m. – 11:00 a.m.

David’s Case and the Fight for Justice

Oscar Michelen, JD; Ken Klonsky; David McCallum

11:00 a.m. – 11:30 a.m.	Fight For Justice: David and Me <i>Ray Klonsky; Ken Klonsky</i>
11:30 a.m. – 12:15 p.m.	Innocence International and Continuing Dr. Carter’s Legacy <i>Ken Klonsky</i>
12:15 p.m. – 1:15 p.m.	BREAK
1:15 p.m. – 2:30 p.m.	DNA Technology: Bridging the Gap to Justice <i>Lisa A. Mertz, MS; Krista Currie, MS</i>
2:30 p.m. – 3:15 p.m.	Wrongful Convictions and the Role of Forensics in Post-Conviction Litigation <i>Janis C. Puracal, JD</i>
3:15 p.m. – 3:30 p.m.	BREAK
3:30 p.m. – 4:45 p.m.	Prosecutor-Initiated Resentencing: The Science of Redemption <i>Jeff Reisig, JD; Hillary Blout, JD</i>
4:45 p.m. – 5:00 p.m.	QUESTIONS & ANSWERS <i>All Presenters</i>

Target Audience: Criminalistics, General, Jurisprudence

Knowledge Level Required: Basic

Expected Handout Length: 100 pages

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

Co-Chair:

Marilyn A. Heustis, PhD

Huestis & Smith Toxicology, LLC
Severna Park, MD

Presenters:

Scott Akridge, MD

Saint Louis University School of Medicine
St. Louis, MO

Daniel S. Isenschmid, PhD

NMS Labs
Horsham, PA

Joe Bou Nassif, MD

Saint Louis University School of Medicine
St. Louis, MO

Graham R. Jones, PhD

Edmonton, Alberta, Canada

Felice F. Carabellese, MD

University of Bari
Bari, Italy

Dayong Lee, PhD

Houston Forensic Science Center
Houston, TX

Dean M. DeCrisce, MD

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

Barry K. Logan, PhD

NMS Labs
Horsham, PA

Alexandre Dumais, MD

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

Katherine McArthur, MD

Saint Louis University School of Medicine
St. Louis, MO

Marissa Hirsch, MD

Saint Louis University School of Medicine
St. Louis, MO

Michael L. Smith, PhD

Huestis & Smith Toxicology, LLC
Severna Park, MD

Rebecca J. Houston, PhD

Department of Psychology
Rochester, NY

Target Audience: Psychiatry & Behavioral Science; Toxicology

Knowledge Level Required: Basic

Expected Handout Length: 100 pages

Schedule:

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

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, MSFS
Forensic Document Services, LLC
Pensacola, FL

Presenters:

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

Lloyd W. Cunningham
Alamo, CA

Schedule:

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

Target Audience: Questioned Documents

Knowledge Level Required: Basic

Expected Handout Length: 50 pages

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

Tuesday, February 22

8:30 a.m. – 11:30 a.m.

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 (Ret.)

Santa Fe, NM

Schedule:

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

Target Audience: Criminalistics, General, Jurisprudence

Knowledge Level Required: Basic

Expected Handout Length: 60 pages

Attendance Restriction: 40

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

Tuesday, February 22

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:

Jack Ballantyne, PhD
University of Central Florida
Orlando, FL

Chelsey Juarez, PhD
Fresno State University
Fresno, CA

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

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

Colleen Fitzpatrick, PhD
Identifinders International
Fountain Valley, CA

Schedule:

8:30 a.m. – 8:40 a.m.

Welcome and Introductions

Frederick R. Bieber, PhD

8:40 a.m. – 9:05 a.m.

Lessons Learned From the Field: Metrics and Success Criteria for Missing Persons Programs

Jack Ballantyne, PhD

9:05 a.m. – 9:30 a.m.

Identifying Unknown Soldiers With Novel DNA Sequencing Applications

Charla Marshall, PhD

9:30 a.m. – 9:55 a.m.

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

Chelsey Juarez, PhD

9:55 a.m. – 10:20 a.m.

Whose Loved One is This? The Role of Forensic Genetic Genealogy in Resolving Missing Person's Cases

Colleen Fitzpatrick, PhD

10:20 a.m. – 10:25 a.m.

QUESTIONS & ANSWERS

10:25 a.m. – 10:35 a.m.

BREAK

- 10:35 a.m. – 11:00 a.m. **Building a Missing Persons Database at National and Local Scales**
Bruce Budowle, PhD
- 11:00 a.m. – 11:25 a.m. **Managing Expectations: Engaging With Local Populations to Build a Successful Program**
Frederick R. Bieber, PhD
- 11:25 a.m. – 11:50 a.m. **Data Sovereignty and Governance: Taking a Privacy-First Approach to Human Identification**
Swathi A. Kumar, PhD
- 11:50 a.m. – 12:30 p.m. **Future-Casting: Reimagining Missing Persons Programs**
All Presenters

Target Audience: Anthropology, Criminalistics, General, Jurisprudence, Pathology/Biology

Knowledge Level Required: Basic

Expected Handout Length: 150 pages

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

Tuesday, February 22

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 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

Schedule:

1:00 p.m. – 1:20 p.m.

NSO: Introduction, Trends, and Updates

Donna M. Papsun, MS

1:20 p.m. – 1:40 p.m.

Drug Chemistry Workflows and Detection

Reta Newman, MA

1:40 p.m. – 2:00 p.m.

Nomenclature of Fentanyl Analogs, Nitazenes, and AP-Series NSOs

Donna M. Iula, PhD

2:00 p.m. – 2:20 p.m.

***In Vitro* and *In Vivo* Animals Models for Establishing Receptor Binding and Functional Effect of Nitazene Compounds**

Michael H. Baumann, PhD

2:20 p.m. – 2:40 p.m.

NSOs in Postmortem Casework—The West Coast Experience

Robyn N. Parks, MD

2:40 p.m. – 3:00 p.m.	Outbreak Investigations Involving Nitazenes and AP-Series NSOs <i>Barry K. Logan, PhD</i>
3:00 p.m. – 3:30 p.m.	BREAK
3:30 a.m. – 3:50 p.m.	Challenges in Identification and Certification of NSOs in Death Investigations—The Midwest Experience <i>Lynda Biedrzyski, MD</i>
3:50 a.m. – 4:10 p.m.	Impacts of an Early Warning System—The Tale of NPS Discovery <i>Alex J. Krotulski, PhD</i>
4:10 p.m. – 4:30 p.m.	Pros and Cons to Core Structure Scheduling and Effectiveness of Controls <i>M.J. Menendez, JD</i>
4:30 p.m. – 5:00 p.m.	Panel Discussion <i>All Presenters</i>

Target Audience: Criminalistics, Pathology/Biology, Toxicology

Knowledge Level Required: Intermediate

Expected Handout Length: 150 pages

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

Tuesday, February 22

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. Siegfried-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

Schedule:

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

Target 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