

American Academy of Forensic Sciences

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REGISTRATION INFORMATION



The pre-registration deadline is January 24, 2018. Forms must be received by this date to qualify for the pre-registration rate and to register for Special Functions. Registration forms received after January 24, 2018, will be processed as on-site registrations.

Three Ways to Register

- Register online at www.aafs.org through the AAFS Account Portal.
- Scan & email your registration form (both pages) to tmccray@aafs.org.
- Mail your registration form, along with a check, money order, or purchase order to:
AAFS
410 North 21st Street
Colorado Springs, CO 80904
(Checks must be drawn on a U.S. bank in U.S. funds, made payable to AAFS.)
- Faxed registration forms are not accepted.

Registration Confirmation

- When you register online, you will receive an email confirmation immediately.
- When you email or mail your registration form to AAFS, a confirmation email will be sent once your registration form is processed.
- Bring a copy of your confirmation letter to the onsite pre-registration desk for meeting check-in.

Questions

If you have any questions or need assistance with registration, contact the AAFS Office at (719) 636-1100 or email Tracie McCray (tmccray@aafs.org).

The AAFS maintains a list of Frequently Asked Questions (FAQ) on the website:
www.aafs.org/meetings/aafs-70th-annual-scientific-meeting-seattle-washington-2018/



REGISTRATION INFORMATION

PRE-REGISTRATION SAVINGS

The benefits of pre-registration cannot be emphasized enough!

Over 35% savings for AAFS members!

This is the only chance to register for Special Functions (breakfasts, luncheons, workshops, and special sessions)!

Your pre-registration form must be received by Wednesday, January 24, 2018.

REGISTRATION FEES*	Pre-Registration Discount Rate	On-Site Registration
1. AAFS Members & Trainee Affiliates, Applicants**	\$325	\$450
2. AAFS Student Affiliates**	\$100	\$125
3. AAFS Retired Fellows	\$ 0	\$ 0
4. Non-Members	\$515	\$575
5. Non-Member Trainees** (Must provide letter from employer verifying trainee status)	\$325	\$450
6. Non-Member Full-Time Students**	\$155	\$180
7. AFTE Members**, IAAI Members**, and IAI Members**	\$325	\$450
8. Daily Registrants (Wednesday, Thursday, Friday, and/or Saturday admission to scientific sessions only)	\$175/day	\$200/day

*Includes admittance into AAFS sessions starting with the Tuesday evening Welcoming Reception through the Saturday morning Scientific Sessions (excludes all sessions found in section “SPECIAL FUNCTIONS” of the registration form).

**Registration Requirement:

AAFS Applicants must have a completed application on file by the application deadline.

AAFS Student Affiliates must have certified annual eligibility.

Non-Member Trainees must submit a letter from employer verifying trainee status to tmccray@aafs.org.

Non-Member Full-Time Students must submit an official Verification of Enrollment confirming full-time status during February 2018. Not available to those in postgraduate internships, residencies, or fellowships.

AFTE, IAAI, and IAI Members must provide proof of current membership to tmccray@aafs.org.

PRE-REGISTRATION DEADLINE

The **deadline for pre-registration** is January 24, 2018. Registration forms must be ***received*** by this date. Pre-registration forms received at the AAFS office after January 24, 2018, will be processed as on-site registrations and will cancel all Special Function selections (e.g., Breakfast and Luncheon Seminars, Workshops, and Special Sessions). Don't delay; register today via online, mail, or scan and email your pre-registration form as soon as possible to ensure your full participation and reduced registration fees. ***Faxed registration forms are not accepted.***

REFUNDS

All requests for refunds must be made in writing via email (tmccray@aafs.org) or mail to the AAFS headquarters. Canceled registration fees will be refunded as follows:

Prior to December 1	Full refund less \$25 charge
December 1-31	75% refund
January 1-31	60% refund
February 1-9	50% refund
No refunds after February 9, 2018.	

ACCOMPANYING SPOUSE REGISTRATION

Accompanying Spouse registration includes a name badge only and is not eligible for Continuing Education credit, Workshop, Special Session registration, or Certificate of Attendance; however, Breakfast Seminar and Luncheon Seminar tickets may be purchased by the pre-registration deadline. Accompanying Spouse registration is only available to those paying the full meeting registration fee (excludes Student registrants, Daily registrants, and Workshop Only registrants). An Accompanying Spouse registration is available for an additional fee (\$50). This reduced fee is intended for spouses, family members, or other traveling companions who are not members of the forensic science or legal community and should not be used for colleagues, interns, or students.



American Academy of Forensic Sciences • Pre-Registration Form

70th Annual Scientific Meeting • February 19-24, 2018 • Seattle, Washington

Pre-Registration Deadline – January 24, 2018

Three Ways to Register:

Register on-line at www.aafs.org

Scan & email your registration form (both pages) to tmccray@aafs.org

Mail your form with check, money order, or purchase order to:

AAFS

410 North 21st Street

Colorado Springs, CO 80904

Registration forms must be received by **Wednesday, January 24**, to be eligible to register for the 2018 Special Functions and to qualify for the discounted registration rate.

On January 25, 2018, the on-site rates become effective and registration for 2018 Special Functions will be voided.

Registration questions may be directed to Tracie McCray (tmccray@aafs.org or 719.636.1100).

Faxed registration forms are not accepted.

REGISTRANT INFORMATION

Salutation (Dr/Mr/Ms): _____ First Name: _____ Last Name: _____ Highest Degree: _____

Mailing Address: _____

City: _____ State/Province: _____ ZIP/Postal Code: _____ Country: _____

BADGE INFORMATION

Full Badge Name: _____ Badge Agency/School: _____

Badge City: _____ Badge State/Province: _____ Badge Country: _____

ADDITIONAL INFORMATION

Email: _____ Cell Phone: _____

Hotel: _____ First AAFS Meeting? ☐ Yes ☐ No

Vocational Status: ☐ Professional ☐ Student ☐ Academic ☐ Decision Maker ☐ Purchasing Agent ☐ Other

Attendee Gender: ☐ Male ☐ Female

Would you like to receive pre-meeting exhibitor mailings? ☐ Yes ☐ No

Emergency Contact Name: _____ Emergency Contact Phone: _____

An “accompanying spouse” registration is available for an additional fee (\$50). This reduced fee is intended for spouses, family members, or other traveling companions who are not members of the forensic science or legal community and may not be used for colleagues, students, or interns. “Accompanying spouse” registration includes a name badge only and is not eligible for Continuing Education credit, Workshop/Special Session Registration, or Certificates of Attendance; however, Breakfast and Luncheon Seminar tickets may be purchased by the Pre-Registration deadline.

“Accompanying spouse” registration is only available to those paying the full meeting registration fee (excludes Student, Daily, and Workshop Only registrants.)

☐ Yes (\$50)

Name: _____

ADA ACCOMMODATIONS



Please list any special dietary requirements: _____

Please list ADA accommodation requests: _____

Please note: This ADA Accommodations request refers to meeting/session accommodations (e.g., wheelchair access, assisted listening devices, etc.) and should specify what event(s) you are attending. ADA accommodations related to hotel room reservations should be directed to the hotel when making reservations. ADA Accommodations are required by the Pre-Registration deadline (January 24, 2018). Requests received after this date may not be processed or fulfilled in time. Venues may not be able to fulfill every special dietary request. Please be specific and use standard accommodation language to detail your dietary needs.

CONTINUING EDUCATION CREDIT

☐ \$100 Administrative Fee

Registrants must pick up a CE Credit Request Form at the registration counter and submit by the deadline for credit/certificate.

Please see the *Advance Program* for detailed information, including the types of credit offered.

REGISTRATION FEES

Includes admittance into AAFS sessions starting with the Tuesday evening Welcoming Reception through the Saturday morning Scientific Sessions (excludes all Special Functions). A complimentary beverage ticket is included with all registration categories except Student, Daily, and Workshop Only.

Category	Pre-Registration (through January 24)	On-Site Registration (effective January 25)
☐ AAFS Members, Trainee Affiliates, Applicants*	\$325	\$450
☐ AAFS Student Affiliates	\$100	\$125
☐ AAFS Retired Fellows	\$0	\$0
☐ Non-Members	\$515	\$575
☐ Non-Member Trainees*	\$325	\$450
☐ Non-Member Full-Time Students*	\$155	\$180
☐ AFTE Members* ☐ IAAI Members* ☐ IAI Members*	\$325	\$450
☐ Daily: ☐ Wed ☐ Thurs ☐ Fri ☐ Sat	\$175/DAY	\$200/DAY
☐ Workshop Only	See Special Functions (next page)	Not Available

*Must provide/submit additional documentation by the **January 24, 2018**, Pre-Registration deadline (via email to Tracie McCray, tmccray@aafs.org).

♦ **Applicants** – Completed AAFS application on file by the application deadline. ♦ **Non-Member Full-Time Students** – Verification of Full-Time Enrollment Feb 2018.

♦ **Non-Member Trainees** – Letter from employer verifying trainee status.

♦ **AFTE, IAI, and IAAI Members** – Proof of active membership.

♦ **Registrant Minimum Age:** Registrants for the AAFS Annual Meeting must be at least 18 years old, accompanied by a parent, or a registered college student.

SPECIAL FUNCTIONS

The following sessions are priced separately and are not included in the Registration Fees. Special Functions fill quickly due to limited seating. Registration for all Special Functions officially closes as of the **January 24, 2018**, Pre-Registration deadline. **AAFS has a firm policy that non-registered attendance or auditing is not permitted in these sessions.** (AAFS Policy and Procedure Manual 3.1.3.3.)

Breakfast Seminars (see <i>Advance Program</i> for detailed descriptions)					Fee	Qty	Total
☐	Mon	7:00-8:30	BS1	Analytical Thinking Skills: Essential Training for 21 st -Century Forensic Scientists	\$50		\$
☐	Tues	7:00-8:30	BS2	My Experiences as a Forensic Science Consultant for Crime Drama Television Series	\$50		\$
☐	Wed	7:00-8:30	BS3	The Lawyers Always Win	\$50		
☐	Thurs	7:00-10:00	BS4	YFSF's Wake Up to Professional Development ... and Bacon!	\$50		\$
☐	Fri	7:00-8:30	BS5	The Making of an Opioid Crisis in America? Why Research, Policy, and Practice Matter	\$50		\$
Luncheon Seminars (see <i>Advance Program</i> for detailed descriptions)					Fee	Qty	Total
☐	Thurs	12:00-1:30	L1	Post-Conviction DNA Testing in an Ever-Advancing DNA World	\$55		\$
☐	Fri	12:00-1:30	L2	Understanding the Impact of Human Factors on Forensic Science: Case Studies	\$55		
Section Luncheons (Section Business Meetings begin following the Luncheon – see <i>Advance Program</i> for times)					Fee	Qty	Total
☐	Wed	12:00-1:00	L3	Criminalistics Section Luncheon (<i>Criminalistics Section members only</i>)	\$10		\$
☐	Wed	12:00-1:45	L4	Digital & Multimedia Sciences Section Luncheon	\$55		\$
☐	Wed	12:00-1:30	L5	General Section Luncheon	\$55		\$
☐	Wed	12:00-1:45	L6	Jurisprudence Section Luncheon	\$55		\$
☐	Wed	12:00-1:15	L7	Pathology/Biology Section Luncheon	\$55		\$
☐	Wed	12:00-1:45	L8	Psychiatry & Behavioral Science Section Luncheon	\$55		\$
☐	Wed	12:00-1:45	L9	Toxicology Section Luncheon	\$55		\$
Special Sessions (see <i>Advance Program</i> for detailed descriptions)					Fee		Total
☐	Tues	8:30-12:30	S1	Interdisciplinary Symposium: Raising the Bar in Forensic Science	\$75		\$
☐	Tues	8:30-8:00	S2	Young Forensic Scientists Forum – Research in Forensic Science	\$75		\$
Workshops (see <i>Advance Program</i> for detailed descriptions)					With Meeting Reg	Workshop Only	Total
☐	Mon	8:30-12:00	W1	Proposed Revisions to the Federal Bureau of Investigation (FBI) Quality Assurance Standards – DNA	\$100	\$125	\$
☐	Mon	8:30-12:05	W2	Heavy Petting: A Forensic Expert's Guide to Bestiality and Zoophilia	\$100	\$125	\$
☐	Mon	8:30-12:30	W3	Alternate Light Source (ALS) Photography: Ultraviolet (UV), Infrared Radiation (IR), Lights, and Filters (<i>Limit 30</i>)	\$100	\$125	\$
☐	Mon	8:30-12:30	W4	Applications of Raman Spectroscopy for Trace Evidence Examinations (<i>Limit 40</i>)	\$100	\$125	\$
☐	Mon	8:30-12:30	W5	Ohio's Assertive Approach to Scheduling Opioids and Fentanyl Analogs	\$100	\$125	\$
☐	Mon	8:30-4:30	W6	Machine Readable Technologies in Travel and Identity Documents	\$200	\$250	\$
☐	Mon	8:30-5:00	W7	Data Standards, Archiving, and Analytics in Forensic Anthropology (<i>Limit 40</i>)	\$200	\$250	\$
☐	Mon	8:30-5:00	W8	Innovative Teaching With Active Learning Methods – Implementation in Forensic Science Education	\$200	\$250	\$
☐	Mon	8:30-5:00	W9	Putting the Expert on Trial	\$200	\$250	\$
☐	Mon	8:30-5:20	W10	A Multidisciplinary Approach to Dog Fighting Cases	\$200	\$250	\$
☐	Mon	8:30-5:45	W11	Some Like It Hot: Forensic Analysis of Burnt Remains	\$200	\$250	\$
☐	Mon	1:00-4:00	W12	Eric Zimmerman's Open Source Forensic Tools Library	\$150	\$175	\$
☐	Mon	1:00-6:00	W13	Moving From CPI to Probabilistic Genotyping for DNA Mixture Interpretation (<i>Limit 125</i>)	\$100	\$125	\$
☐	Mon	1:00-6:05	W14	Pharmacogenomics – Uses in Forensic and Clinical Toxicology	\$125	\$150	\$
☐	Tues	8:30-12:30	W15	Postmortem Monocular Indirect Ophthalmoscopy (PMIO) (<i>Limit 32</i>)	\$100	\$125	\$
☐	Tues	8:30-12:45	W16	Forensic Image Processing	\$150	\$175	\$
☐	Tues	8:30-4:30	W17	An Introduction to Lean Fundamentals and Six Sigma Operational Improvement (<i>Limit 60</i>)	\$200	\$250	\$
☐	Tues	8:30-5:00	W18	Domestic Violence and Child Abuse Deaths	\$200	\$250	\$
☐	Tues	8:30-5:00	W19	The Evolution of Fire Investigation From the Perspective of Science: Why Science Matters in the Search for Justice	\$200	\$250	\$
☐	Tues	8:30-5:00	W20	Fentalogs: Chemistry, Pharmacology, and Toxicology of Illicit Fentanyl and Emerging Opioids	\$200	\$250	\$
☐	Tues	8:30-5:00	W21	Macromorphoscopic (MMS) Traits: Data Collection and Analysis	\$200	\$250	\$
☐	Tues	8:30-5:00	W22	Science Matters to Everyone: Victims, Offenders, and the Public	\$200	\$250	\$
☐	Tues	1:00-5:00	W23	Cardiovascular Pathology for Medical Examiners and Coroners: Basic and Advanced Techniques (<i>Limit 100</i>)	\$100	\$125	\$
☐	Tues	1:00-5:30	W24	Think Tank on the Leading Edge of Forensic Science	\$100	\$125	\$
Special Functions Sub-Total:					\$		

PAYMENT PROCESSING

Registrant Name: _____

Accompanying Spouse Fee (*From Page 1*): \$ _____

Continuing Education Fee (*From Page 1*): \$ _____

Registration Fee (*From Page 1*): \$ _____

Special Functions Total (*From Above*): \$ _____

TOTAL AMOUNT DUE: \$ _____

All payments to AAFS must be in U.S. Funds drawn on a U.S. bank.

Attendee will automatically receive a registration confirmation via email.

Email a receipt copy to: _____

☐ Check Enclosed ☐ Purchase Order (Attach Copy)

☐ Visa/MasterCard/Discover/American Express

Card No: _____

Name on Card: _____

Expiration Date (MM/YYYY): _____

Security Code: _____ Billing ZIP Code: _____

Signature: _____

Signature Required for Credit Card Purchases

Cardholder authorizes this payment and agrees to comply with the obligations set forth in the Cardholder Agreement with the card issuer.

Refund Policy: All requests for refunds must be submitted via mail or email (tmccray@aafs.org). Phone and faxed requests are not accepted.

Canceled registration fees will be refunded accordingly: Dec 1-31 at 75%; Jan 1-31 at 60%; Feb 1-9 at 50%; no refunds after February 9.

ABOUT THE AAFS



For 70 years, the American Academy of Forensic Sciences (AAFS) has served a distinguished and diverse membership. Its 6,700+ members are divided into eleven sections spanning the forensic enterprise. Included among the Academy's members are physicians, attorneys, dentists, toxicologists, anthropologists, document examiners, digital evidence experts, psychiatrists, engineers, physicists, chemists, criminalists, educators, and others. Representing all 50 United States, Canada, and 70 other countries worldwide, they actively practice forensic science and, in many cases, teach and conduct research in the field as well. Each section provides opportunities for professional development, personal contacts, awards, and recognition. Many sections publish AAFS *News Feed* articles which keep their members abreast of activities and developments in their fields.

As a professional society dedicated to the application of science to the law, the AAFS is committed to the promotion of education and the elevation of accuracy, precision, and specificity in the forensic sciences. It does so via the *Journal of Forensic Sciences* (its internationally recognized scientific journal), the AAFS *News Feed*, its annual scientific meeting, the conduct of seminars and meetings, and the initiation of actions and reactions to various issues of concern. For its members and affiliates, AAFS provides expert witness referrals, job opportunity listings, as well as scientific reference studies. As the world's most prestigious forensic science organization, the AAFS represents its membership to the public and serves as the focal point for public information concerning the forensic science profession. Founded in 1948, the AAFS is headquartered in Colorado Springs, CO.

AAFS Annual Scientific Meeting

Each February, the AAFS scientific meeting gathers together approximately 5,000 world-renowned professionals to present the most current information, research, and updates in their fields. More than 900 scientific papers, seminars, workshops, and other special sessions are presented. In addition, approximately 170 exhibitors showcase the cutting-edge technology and services of this ever-changing profession.

Future Annual Meetings

2019 AAFS Annual Meeting

February 18-23, 2019
The Baltimore Convention Center
Baltimore, MD

2020 AAFS Annual Meeting

February 17-22, 2020
Anaheim Convention Center
Anaheim, CA

2021 AAFS Annual Meeting

February 15-20, 2021
George R. Brown Convention Center
Houston, TX

2022 AAFS Annual Meeting

February 21-26, 2022
Washington State Convention Center
Seattle, WA

2023 AAFS Annual Meeting

February 13-18, 2023
Rosen Shingle Creek
Orlando, FL

410 North 21st Street
Colorado Springs, CO 80904
Phone: (719) 636-1100
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Email: membership@aafs.org
Website: www.aafs.org

Anne Warren, Executive Director



OFFICERS & OFFICIALS

Officers

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<i>Treasurer:</i>	Zeno J. Geradts, PhD

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<i>Engineering Sciences:</i>	Mark I. Marpet, PhD, PE
<i>General:</i>	Paul E. Kish, MS
<i>Jurisprudence:</i>	Paul Messner, JD
<i>Odontology:</i>	John P. Kenney, DDS, MS
<i>Pathology/Biology:</i>	Andrew M. Baker, MD
<i>Psychiatry & Behavioral Science:</i>	Christopher R. Thompson, MD
<i>Questioned Documents:</i>	Thomas W. Vastrick, BS
<i>Toxicology:</i>	Sarah Kerrigan, PhD

2018 Annual Scientific Meeting Program Committee

<i>Program Chair:</i>	Christine Funk, JD
<i>Program Co-Chairs:</i>	Lucy A. Davis, BHS; Anjali A. Ranadive, JD
<i>Plenary Session:</i>	Nikolas P. Lemos, PhD; James Downs, MD
<i>Poster Sessions:</i>	Michelle R. Hoffman, MS; Kristen Hartnett-McCann, PhD
<i>Workshops:</i>	Karolyn L. Tontarski, MS; Claire E. Shepard, MS
<i>Breakfast Seminars:</i>	Peter T. Ausili, MS; Sarah Kerrigan, PhD
<i>Luncheon Seminars:</i>	Marie Samples, MS; Marla E. Carroll, BS
<i>Last Word Society:</i>	Kenneth E. Melson, JD; Paula C. Brumit, DDS; James E. Starrs, LLM
<i>Bring Your Own Slides:</i>	Michael M. Baden, MD; Joseph A. Prahlow, MD
<i>Student Academy:</i>	Julie A. Howe, MBA; Marilyn T. Miller, EdD
<i>Interdisciplinary Symposium:</i>	Linton Mohammed, PhD; Karen B. Rosenbaum, MD
<i>Local Arrangements:</i>	Fiona J. Couper, PhD
<i>Academy Cup:</i>	Laura L. Liptai, PhD; Winona J. Agbabiaka, JD; Carla Miller Noziglia, MS; Matthew R. Wood, PhD
<i>Anthropology:</i>	Paul D. Emanovsky, PhD; Kristen Hartnett-McCann, PhD
<i>Criminalistics:</i>	Patrick Buzzini, PhD; Noelle J. Umback, PhD
<i>Digital & Multimedia Sciences:</i>	Mary F. Horvath, MFS; Douglas R. White, MS
<i>Engineering Sciences:</i>	David Pienkowski, PhD; Sarah V. Hainsworth, PhD
<i>General:</i>	Gina Londino-Smolar, MS; Steven L. Downs, MFS
<i>Jurisprudence:</i>	Christine Haskell, JD; Julie Maxwell, JD
<i>Odontology:</i>	Roger D. Metcalf, DDS, JD
<i>Pathology/Biology:</i>	Chris Milroy, MD, LLB
<i>Psychiatry & Behavioral Science:</i>	J. Paul Fedoroff, MD; Sebastien S. Prat, MD
<i>Questioned Documents:</i>	Samiah Ibrahim, BSc; Kevin P. Kulbacki, MSFS
<i>Toxicology:</i>	William R. Johnson, BA; Sherri L. Kacinko, PhD

OFFICERS & OFFICIALS



Past Presidents

*R.B.H. Gradwohl, MD	1949-51	Maureen Casey Owens, AB	1984-85
*S.A. Levinson, MD, PhD	1951-52	*Arthur D. Goldman, DMD	1985-86
*R.N. Harger, PhD	1952-53	*Don Harper Mills, JD, MD	1986-87
*Louis P. Regan, MD, LLB	1953-54	Yale H. Caplan, PhD	1987-88
*A.W. Freireich, MD	1954-55	Richard S. Frank, BS	1988-89
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*S.R. Gerber, MD, LLB	1961-62	Haskell M. Pitluck, JD	1995-96
*Milton Helpert, MD	1962-63	Richard Rosner, MD	1996-97
*Oliver C. Schroeder, Jr., JD	1963-64	Michael A. Peat, PhD	1997-98
*Dwight M. Palmer, MD	1964-65	Barry A.J. Fisher, MS, MBA	1998-99
*Robert B. Forney, PhD	1965-66	Patricia J. McFeeley, MD	1999-00
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*Charles S. Petty, MD	1967-68	Mary Fran Ernst, BLS	2001-02
*Maier I. Tuchler, MD	1968-69	Graham R. Jones, PhD	2002-03
*James W. Osterburg, MPA	1969-70	Kenneth E. Melson, JD	2003-04
*Edwin C. Conrad, JD, PhD	1970-71	Ronald L. Singer, MS	2004-05
Cyril H. Wecht, MD, JD	1971-72	Edmund R. Donoghue, MD	2005-06
Douglas M. Lucas, MSc, DSc	1972-73	James G. Young, MD	2006-07
*Morton F. Mason, PhD	1973-74	Bruce A. Goldberger, PhD	2007-08
*David A. Crown, DCrim	1974-75	Carol E. Henderson, JD	2008-09
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*James T. Weston, MD	1976-77	Joseph P. Bono, MA	2010-11
*B. Edward Whittaker, BS	1977-78	Douglas H. Ubelaker, PhD	2011-12
*Kurt M. Dubowski, PhD	1978-79	Robert E. Barsley, DDS, JD	2012-13
*June K. Jones, MS	1979-80	Barry K. Logan, PhD	2013-14
Lowell J. Levine, DDS	1980-81	Daniel A. Martell, PhD	2014-15
*Joseph H. Davis, MD	1981-82	Victor W. Weedn, MD, JD	2015-16
*Anthony Longhetti, BA	1982-83	John E. Gerns, MFS	2016-17
*George E. Gantner, MD	1983-84		

* Deceased



OFFICERS & OFFICIALS

Section Officers

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Chair: Vincent J. Desiderio, Jr., MS
Secretary: Kristy Kadesh, PhD

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Chair: Marcus Rogers, PhD
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Chair: Michelle R. Hoffman, MS
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Chair: Stephanie Domitrovich, JD, PhD
Secretary: Pamela A.W. King, JD

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Chair: Raymond G. Miller, DDS
Secretary: Adam J. Freeman, DDS

Pathology/Biology

Chair: Joyce L. deJong, DO
Secretary: David O. Carter, PhD

Psychiatry & Behavioral Science

Chair: Karen B. Rosenbaum, MD
Secretary: Dean M. De Crisce, MD

Questioned Documents

Chair: Linton Mohammed, PhD
Secretary: Jan Seaman Kelly, BA

Toxicology

Chair: Fiona J. Couper, PhD
Secretary: Nikolas P. Lemos, PhD

R.B.H. Gradwohl Laureates

*Milton Helpert, MD	1978
*Rolla N. Harger, PhD	1979
*James T. Weston, MD	1984
*Oliver C. Schroeder, Jr., JD	1987
Abel M. Dominguez, PhD	1993
Douglas M. Lucas, MSc, DSc	1995
Kenneth S. Field, MBA	1997
*Sidney Kaye, PhD	1998
*Richard C. Froede, MD	2002
*Joseph H. Davis, MD	2005
Barry A.J. Fisher, MS, MBA	2008
*Kurt M. Dubowski, PhD	2011
James E. Starrs, LLM	2012
Thomas T. Noguchi, MD	2015
Robert E. Gaensslen, PhD	2017

Douglas M. Lucas Medalists

Sir Alec J. Jeffreys, DPhil	1999
*Alan S. Curry, PhD	2002
Joseph Almog, PhD	2005
*Clyde C. Snow, PhD	2008
Pierre A. J.-L. Margot, PhD	2011
Duarte N. Vieira, PhD, MD	2014
Douglas H. Ubelaker, PhD	2017

* Deceased

OFFICERS & OFFICIALS



Distinguished Fellows

Abel M. Dominguez, PhD	1990	Barry A.J. Fisher, MS, MBA	2001
Kenneth S. Field, MBA	1990	Robert B. J. Dorion, DDS	2002
*Ordway Hilton, MA	1990	Richard S. Frank, BS	2002
Douglas M. Lucas, MSc, DSc	1990	Carla M. Noziglia, MS	2003
Irwin N. Perr, MD, JD	1990	*James L. Frost, MD	2004
*Kurt M. Dubowski, PhD	1991	*Gerald L. Vale, DDS, JD	2004
*June K. Jones, MS	1991	Michael Finnegan, PhD	2005
*Oliver C. Schroeder, Jr., JD	1991	Andre A. Moenssens, JD, LLM	2005
*Clyde C. Snow, PhD	1991	Michael A. Peat, PhD	2006
*Robert H. Cravey, BS	1992	Thomas T. Noguchi, MD	2007
*Richard C. Froede, MD	1992	Kenneth E. Melson, JD	2008
*Emanuel Tanay, MD	1992	Joseph L. Peterson, DCrim	2008
*Joseph H. Davis, MD	1993	Randy L. Hanzlick, MD	2009
*Anthony Longhetti, BA	1993	*Jay A. Siegel, PhD	2009
*Don Harper Mills, JD, MD	1993	Ronald L. Singer, MS	2010
William M. Bass III, PhD	1994	*Robert Thibault, MFS	2010
Henry C. Lee, PhD	1994	Mary Fran Ernst, BLS	2011
*David J. Purtell, PhD	1994	Patricia J. McFeeley, MD	2011
*Charles J. Stahl III, MD	1995	Richard Rosner, MD	2011
*Irving Sunshine, PhD	1995	*James W. Osterburg, MPA	2012
Yale H. Caplan, PhD	1996	Haskell M. Pitluck, JD	2012
James E. Starrs, LLM	1996	John D. McDowell, DDS, MS	2013
*Homer R. Campbell, Jr., DDS	1998	Marina Stajić, PhD	2013
John J. Harris, BS	1998	Edmund R. Donoghue, MD	2014
Norman D. Sperber, DDS	1998	Graham R. Jones, PhD	2014
*James V.P. Conway	2000	Marilyn A. Huestis, PhD	2015
Robert E. Gaensslen, PhD	2000	Douglas H. Ubelaker, PhD	2016
Steven C. Batterman, PhD	2001	Peter R. De Forest, DCrim	2017
*B.G. Brogdon, MD	2001	Virginia A. Lynch, MSN	2018

* Deceased



GENERAL INFORMATION

Registration Desk Hours

Washington State Convention Center

Sunday	February 18	1:00 p.m.	-	5:00 p.m.
Monday	February 19	6:45 a.m.	-	5:00 p.m.
Tuesday	February 20	6:45 a.m.	-	6:00 p.m.
Wednesday	February 21	6:45 a.m.	-	5:00 p.m.
Thursday	February 22	6:45 a.m.	-	5:00 p.m.
Friday	February 23	6:45 a.m.	-	4:00 p.m.
Saturday	February 24	7:30 a.m.	-	12:00 p.m.

Exhibit Hall Hours

Washington State Convention Center

Wednesday	February 21	11:30 a.m.	-	4:00 p.m.
Thursday	February 22	9:00 a.m.	-	2:00 p.m.
AAFS Reception	(Exhibits Open)	6:00 p.m.	-	8:00 p.m.
Friday	February 23	9:00 a.m.	-	1:00 p.m.

Attention Meeting Presenters

The *Journal of Forensic Sciences* encourages authors to submit previously unpublished reports and papers presented at the AAFS annual meeting.

For full instructions on manuscript preparation, consult the Information for Authors available at <https://www.aafs.org/resources/journal-of-forensic-sciences/information-for-authors/>.

Manuscripts must be submitted electronically via the *Journal of Forensic Sciences* Manuscript Central site: <http://mc.manuscriptcentral.com/jofs>. For questions, please contact: jfs.editor@att.net.

Video and/or audio recording of any session(s) or parts thereof is not permitted without prior approval from the American Academy of Forensic Sciences.

English is the official language of the AAFS and its meetings; neither oral nor written translations will be provided.

Although precautions are taken to prevent schedule changes, speakers and program schedules may change due to unforeseen circumstances.

As a courtesy to others, please silence your cell phone when attending the sessions.

AWARDS & RECEPTIONS



The **Distinguished Fellow Award** and the **AAFS Outstanding Early Career Achievement in Forensic Science Award** will be presented on Wednesday, February 21, 2018, during the AAFS Annual Business Meeting. Join us in acknowledging your most distinguished colleagues as they are presented with these prestigious awards.

Distinguished Fellow Honoree

Virginia A. Lynch, MSN

AAFS Outstanding Early Career Achievement in Forensic Science Award

Lavinia Iancu, PhD

Section Awards will be presented during Section Business Meetings, also on Wednesday, February 21, 2018, (see Section Business Meeting start times on page 16). The Section Award recipients will be acknowledged again before the entire membership during the AAFS Annual Business Meeting, along with the presentation of the Distinguished Fellow Medal Plaque and the AAFS Outstanding Early Career Achievement in Forensic Science Award.

2018 Section Award Honorees

Anthropology Section's

T. Dale Stewart Award
J. Lawrence Angel Award
Ellis R. Kerley Research Award
Service Award

P. Willey, PhD
Michala K. Stock, MA
Marin A. Pilloud, PhD
Gregory E. Berg, PhD
Michael Finnegan, PhD
Richard L. Jantz, PhD
Erin H. Kimmerle, PhD
Elizabeth A. Miller, PhD
Susan M.T. Myster, PhD
Vincent H. Stefan, PhD

Criminalistics Section's

Paul L. Kirk Award
Mary E. Cowan Outstanding Service Award
Meritorious Service Award

Nicholas Petraco, MS
Anjali A. Ranadive, JD
Chris E. Taylor, BS

Digital & Multimedia Sciences Section's

Outstanding Research Award
Outstanding Case Study Award

Kathryn C. Seigfried-Spellar, PhD
Christina A. Malone, MSFS

Engineering Sciences Section's

Founders Award
Andrew H. Payne, Jr., Special Achievement Award

Harold Franck, MSEE
David Pienkowski, PhD
Kurt D. Weiss, MS



AWARDS & RECEPTIONS

General Section's

Robert Gaffney Achievement Award
John R. Hunt Award
Paul W. Kehres Meritorious Service Award

Erick S. Hansen, PhD
Julie A. Howe, MBA
Claire E. Shepard, MS

Jurisprudence Section's

Harold A. Feder Award

Roderick T. Kennedy, JD

Odontology Section's

Lester Luntz Award
Reidar F. Sognnaes Award of Excellence in Forensic Odontology

Gary M. Berman, DDS
Harry H. Mincer, DDS, PhD

Pathology/Biology Section's

Milton Helpen Award

Andrew M. Baker, MD

Psychiatry & Behavioral Science Section's

Richard Rosner, MD, Award for the Best Paper by a Fellow in
Forensic Psychiatry or Forensic Psychology

Brian J. Holoyda, MD

Questioned Documents Section's

Ordway Hilton Award

Thomas W. Vastrick, BS

Toxicology Section's

Alexander O. Gettler Award
Rolla N. Harger Award
Ray Abernethy Award
Irving Sunshine Award

Frederick W. Fochtman, PhD
Sarah Kerrigan, PhD
Karl B. Scheidweiler, PhD
Erin L. Karschner, PhD

2017-18 FSF Emerging Forensic Scientist Award Honorees

The FSF Emerging Forensic Scientist Award will be presented on Wednesday, February 21, 2018, during the AAFS Annual Business Meeting. You'll want to be present to congratulate recipients:

Lindsay Glicksberg, BS, and D'Nisha D. Hamblin, MSFS

2017-18 FSF Henry C. Lee Scholarship Recipient

The FSF Henry C. Lee Scholarship will be presented on Wednesday, February 21, 2018, during the AAFS Annual Business Meeting. You'll want to be present to congratulate recipient:

Muataz A. Al-Qazzaz, PhD

AWARDS & RECEPTIONS



2017-18 FSF Warren-Young Scholarship Recipient

The FSF Warren-Young Scholarship will be presented on Wednesday, February 21, 2018, during the Annual Business Meeting. You'll want to be present to congratulate recipient:

Betty H. Davis, BSEd

2017-18 FSF Jan S. Bashinski Criminalistics Graduate Thesis Assistance Grant

The FSF Jan S. Bashinski Criminalistics Graduate Thesis Assistance Grant will be presented on Wednesday, February 21, 2018, during the Criminalistics Section Business Meeting. You'll want to be present to congratulate recipient:

Logan D. Hickey, BSc

2017-18 FSF/CRC Press Student Travel Grant

The FSF/CRC Press Student Travel Grant will be presented on Wednesday, February 21, 2018, during the Annual Business Meeting. You'll want to be present to congratulate recipient:

Victoria M. Dominguez, MA

RECEPTION INFORMATION

Welcoming Reception — Tuesday, February 20 — 6:00 p.m. - 8:00 p.m.

This opening event is your opportunity to meet old friends and to make new acquaintances. Snacks and cash bars will be available.

AAFS 70th Annual Wine & Cheese Reception — Thursday, February 22 — 6:00 p.m. - 8:00 p.m.

The AAFS Wine & Cheese Reception will be held to celebrate what promises to be an excellent 2018 program and to toast your return to the Academy's 71st Annual Scientific Meeting in 2019 (Baltimore, MD)!



SECTION BUSINESS MEETINGS

The Sections

The Sections of the American Academy of Forensic Sciences will hold their annual business meetings on Wednesday, February 21, 2018. Some of the sections will hold a luncheon prior to the start of the business meeting. This is your opportunity to participate! Please attend and contribute to your section's future plans. Specific times are noted below:

Section	Luncheon	Business Meeting
Anthropology		2:00 p.m. - 3:45 p.m.
Criminalistics *	12:00 p.m. - 1:00 p.m.	1:05 p.m. - 3:45 p.m.
Digital & Multimedia Sciences **	12:00 p.m. - 1:45 p.m.	2:00 p.m. - 3:45 p.m.
Engineering Sciences		2:00 p.m. - 3:45 p.m.
General **	12:00 p.m. - 1:30 p.m.	1:45 p.m. - 3:45 p.m.
Jurisprudence **	12:00 p.m. - 1:45 p.m.	2:00 p.m. - 3:45 p.m.
Odontology		2:00 p.m. - 3:45 p.m.
Pathology/Biology **	12:00 p.m. - 1:15 p.m.	1:30 p.m. - 3:45 p.m.
Psychiatry & Behavioral Science **	12:00 p.m. - 1:45 p.m.	2:00 p.m. - 3:45 p.m.
Questioned Documents		2:00 p.m. - 3:45 p.m.
Toxicology **	12:00 p.m. - 1:45 p.m.	2:00 p.m. - 3:45 p.m.

* This luncheon requires pre-registration and is open only to members of the Criminalistics Section.
 ** These luncheons require pre-registration.

The Annual Business Meeting of Fellows and Members — Attend to Win a Complimentary Meeting Registration!

The Annual Business Meeting of the Fellows and Members of the AAFS will be held Wednesday, February 21, 2018, at 4:15 p.m., at the Washington State Convention Center in Seattle, WA. It is essential that all Fellows and Members attend this very important meeting in order to reach a quorum for the voting process. Agenda items include the election of 2018-19 Officers, consideration of bylaw amendments, presentation of the Distinguished Fellow and AAFS Outstanding Early Career Achievement in Forensic Science Awards, and recognition of all Members being promoted to Fellow status. You also will be briefed on AAFS activities during the past year and plans for the future.

As an incentive to attend, all Fellows and Members present will automatically be entered in a drawing for a complimentary meeting registration to attend the 2019 AAFS Annual Scientific Meeting in Baltimore, MD.

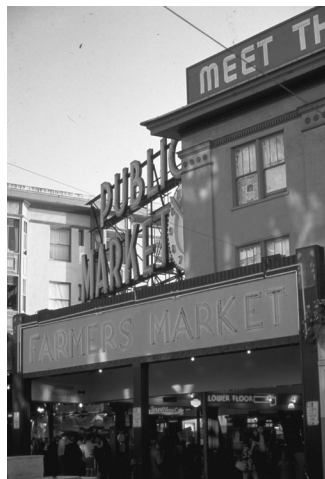
SEATTLE, WA



WELCOME TO SEATTLE!

Situated at the neck between Lake Washington and Puget Sounds, Seattle is covered with natural beauty. The city is surrounded by parkland, forests, and mountains, and offers plenty in the line of culture and history.

The stunning Chihuly Garden and Glass is the masterpiece of the artist Dale Chihuly and leaves visitors mesmerized with its intriguing pieces. Another place enjoyed by all is the Museum of Flight with more than 150 historic artifacts. The iconic landmark of Seattle is the observation tower known as the Needle. From its 520-foot observation deck, you can take in Mount Rainer, Mount Baker, and the Cascade Mountains.



Head to Seward Park on Lake Washington, one of the state's most popular recreational facilities, for excellent views of the surrounding areas. Seattle's cool and buzzing Pike Place Market, one of the country's oldest farmers' markets, is a delightful mixture of stores and specialties. Whether it's antiques, collectibles, fruit,

or flowers you are after, this market is the place to go. Green Lake Park, home to hundreds of species of plants and trees, is Seattle's favorite green area and attracts runners, picnickers, and boaters.

Check out the Museum of Pop Culture, dedicated to contemporary popular culture and with truly fascinating exhibits. The Living Computer Museum provides interesting insight into the history of computers and technology. Nature lovers will enjoy the Seattle Aquarium and Woodland Park Zoo, while the hands-on learning Pacific Science Center and the wonderful Children's Museum are much loved by kids of all ages.

Seattle's culinary choices are as delicious as they are endless. Enjoy a true taste of the Pacific Northwest with dishes that are often made using regionally grown, locally sourced ingredients. More than 50 bars and restaurants are within walking distance. Restaurants specialize in an array of cuisines, from perennial favorites like American, French, and Italian to the global flavors of Asia, Mexico, and the Mediterranean — not to mention seafood, steak, burgers, vegetarian fare, and much more!

WASHINGTON STATE CONVENTION CENTER

Located on Pike Street in the heart of downtown Seattle, the Washington State Convention Center is close to hotels, Pike Place Market, restaurants, shopping, entertainment, parks, and more.





SEATTLE, WA

CLIMATE IN FEBRUARY

Average temperatures are in the mid-40s in Seattle during the month of February. The weather can be unpredictable, so the best way to prepare is to layer and have an umbrella on hand.



TRANSPORTATION

Plane

The Seattle-Tacoma (Sea-Tac) International Airport is located 14 miles away from downtown Seattle. It is a 20-minute ride from downtown by car and 34 minutes by Link Light Rail. Sea-Tac is served by 24 airlines with non-stop flights serving 77 domestic cities and 22 international destinations.

Train

Four train routes service Seattle's King Street Station, located on the south edge of downtown between the International District and Pioneer Square.

- **Amtrak** (amtrak.com) has three routes: Coast Starlight travels between Seattle, Portland, and Los Angeles. Amtrak Cascades travels between Vancouver (BC), Seattle, Tacoma, Portland, Salem, and Eugene. Empire Builder travels between Chicago, Minneapolis/St. Paul, Spokane, Portland, and Seattle.
- **Rocky Mountaineer** (rockymountaineer.com) also stops at King Street Station, offering a higher-end travel option with its Coastal Passage route between Seattle, Vancouver (BC), and the Canadian Rockies.

SEA-TAC GROUND TRANSPORTATION

Car Rentals

All rental car companies currently operating at Sea-Tac Airport operate at a separate rental car facility, with dedicated shuttle buses operating on a 24-hour-a-day schedule. Two passenger pick-up areas are located outside baggage claim at the north and south ends of the main terminal.

Car Sharing

Available car sharing services include Lyft, Uber, Car2Go, BMW's ReachNow, and Zipcar.

Link Light Rail

Sound Transit's Link Light Rail is a great option for travelers coming to or from the airport. The SeaTac/Airport Station is connected to the fourth floor of the airport parking garage. Trains arrive and depart on the platform level of the station. The Link Light Rail service runs from 5:00 a.m. to 1:00 a.m. Monday through Saturday, and 6:00 a.m. to midnight on Sunday.



Taxi/Limousine

Taxi and limousine services are available on the third floor of the Sea-Tac parking garage. They run approximately \$40 to downtown.

Shuttle

Shuttle service is available at the inner drive curb on the third floor of the Sea-Tac parking garage.

Bus

Buses arrive and depart from the far south end of Sea-Tac Airport baggage claim area outside of door number 2. Departure times are shown on information signs at the bus stop.

Sources:

www.visitseattle.org
www.visitcity.com/seattle

ACCOMMODATIONS



The AAFS has selected three headquarter hotels for your stay during the 70th Annual Scientific Meeting in Seattle, WA. All of the hotels are within walking distance of the Washington State Convention Center and offer great amenities to help you throughout your stay.

Go to the AAFS Annual Meeting “Accommodations” webpage (<https://www.aafs.org/meetings/accommodationshotel-reservations/>) to make your hotel reservations. By clicking on one of the photos, you will be taken to the hotel’s AAFS-specific meetings page where you may secure your reservation at the group-contracted rate. Make your reservations today!

Early reservations are recommended to take advantage of discounted rates. Please be sure to cancel your reservations if you are unable to attend or you cannot use the reservations. This will make the rooms available for other attendees and will help AAFS avoid the financial penalties associated with cancellations made after the room block closes.



Seattle Sheraton – Room Rate: \$189

Situated in the city’s vibrant core, the Sheraton Seattle Hotel provides a gateway to the diverse sights and sounds of the Pacific Northwest. Simply step out the front doors to find gourmet food, exciting entertainment, and world-class shopping. Business travelers are only a few blocks from the Washington State Convention Center.

Feel free to surf the web on computer workstations or bring your laptop for complimentary wireless high-speed internet access in the lobby. There is also a 24-hour business center for business travelers that is staffed during the week. Enjoy a spa treatment, a dip in the pool, or a workout at the 24-hour fitness center.

Settle into the stylish comfort of one of 1,236 smoke-free guest rooms offering breathtaking views of the Emerald City.

Hyatt Olive 8 – Room Rate: \$213

Nestled in the theater district of downtown Seattle, this stunning hotel is within walking distance to Seattle’s most famous attractions, shopping, restaurants, and the Washington State Convention Center.

Make yourself at home in one of the 346 air-conditioned rooms featuring refrigerators and iPod docking stations. Wired and wireless internet access is complimentary, and flat-screen televisions with satellite programming provide entertainment. Conveniences include laptop-compatible safes and desks, and housekeeping is provided daily.

Relax at the full-service spa where you can enjoy massages, body treatments, and facials. You’re sure to appreciate the recreational amenities, including an indoor pool, a spa tub, and a sauna. Additional features at this hotel include complimentary wireless internet access, concierge services, and express check-in.



Grand Hyatt – Room Rate: \$213

Check into one of the 457 guestrooms and suites with views of Puget Sound, Lake Union, and the Olympic and Cascade Mountain Ranges. Stay mobile at the oversized work area with extra outlets, dual-line cordless speakerphones with voicemail, and free Wi-Fi throughout.

Grand Hyatt Seattle makes it easy to stay productive, even while on the road. The hotel business center services are available 24 hours a day for your successful stay.

From the legendary Pike Place Market to the iconic Space Needle, Grand Hyatt Seattle puts you right in the heart of it all. The Washington State Convention Center is less than 1/4 mile.

Enjoy complimentary access to the Health Club featuring a sauna, steam room, whirlpool, and relaxing spa treatments.



CONTINUING EDUCATION

General Information

All meeting sessions are lectures with one or more speakers. Continuing professional education credits are offered for physicians, dentists, and attorneys. Continuing education credit applications have been submitted for physicians and dentists. Attorneys may request CLE credit; please see the “Legal” section on page 22. Nurses may use the AAFS CME Credit Reporting Forms for filing CERP hours with their state accreditation agency. Please check with your state agency for details. In addition, AAFS offers a generic CE certificate which may be used for purposes not outlined above.

To register for continuing education credit, please complete the appropriate section on the meeting Registration Form. An individual must be a registrant to obtain continuing education credits. Fees charged for continuing education credits are based on projected costs of providing the various types of continuing education credit. The AAFS has adopted a user-pay approach so that those individuals who benefit from the specific continuing education program are responsible for the costs incurred.

In order to be in compliance with the various accrediting organizations, introductions, breaks, and lunches have been deducted from the total hours. Please note that continuing education credit is not available for all sessions. All continuing education credit recipients will receive documentation regarding the number of continuing education hours awarded. Attendance reports are filed with the appropriate state or national agency, as required.

Objectives of the AAFS Continuing Education Program

To provide for multidisciplinary presentation, instruction, and discussion of relevant forensic science issues related to science, evidence and the law, and to research descriptive studies, technology and methods, diagnostics, interpretations, testimony, and administrative functions performed by forensic scientists in the disciplines of pathology, biology, odontology, anthropology, psychiatry & behavioral science, psychology, engineering sciences, toxicology, questioned document examination, criminalistics, jurisprudence, digital & multimedia sciences, and general forensic investigation.

Expected Outcome of Participation

A participant in the AAFS Continuing Education Program should: a) understand the perspectives and roles of the various forensic science disciplines; b) increase awareness of current forensic science issues; c) learn new technologies and methods; d) broaden diagnostic acumen; e) gain practical knowledge to modify current practices; f) affirm current concepts and practices; g) improve interpretative skills regarding evidence, observations, and information; h) interact with colleagues; and, i) expand one’s historical perspective on the forensic sciences.

Faculty Disclosure Policy

As a sponsor of continuing education, the American Academy of Forensic Sciences must insure balance, independence, objectivity, and scientific rigor in all its educational activities. All faculty participating in a sponsoring activity are expected to disclose any significant financial interest or other relationship: (1) with the manufacturer(s) of any commercial product(s) and/or provider(s) of commercial services discussed in an educational presentation; and, (2) with any commercial supporters of the activity. (Significant financial interest or other relationship can include such things as grants or research support, employee, consultant, major stockholder, member of speaker’s bureaus, etc.) AAFS has an established policy regarding conflicts of interest that includes decisions the Program Committee members may make in selecting content for the Annual Scientific Meeting Program. By serving on the committee, regardless of role, each member has agreed to comply with Section 1.4.7. of the *AAFS Policy and Procedure Manual*.

To serve on the 2017-18 Program Committees, it is required that AAFS staff members, program committee members, and reviewers complete a Conflict of Interest form before they are provided access to review submissions for the program. For continuing education accreditation purposes, the disclosed relationships are published below so that learners are aware of the nature of any relationships that may impact the selection of presentations for the program. If a committee member failed to provide complete disclosure of a relevant financial interest or relationship, the committee member or reviewer was not allowed to serve. The executed Faculty Conflict of Interest forms are on file in the AAFS Office.

CONTINUING EDUCATION



American Board of Criminalists Approval

The American Academy of Forensic Sciences (AAFS) is approved by the American Board of Criminalistics (ABC) to offer continuing education points for approved workshops for criminalists and forensic scientists. The ABC maintains responsibility for the program, and credit may be awarded to ABC Fellows, Diplomates, and Affiliates.

Overall Purpose and Objective Statements for Major Aspects of AAFS Programs

Workshops and Special Sessions

Purpose: To provide an opportunity for experts to present material and to lead discussion and practical exercises related to forensic science methods, procedures, diagnosis, investigation, professional relations and practices, communication, administration, and professional development.

Educational Objectives: Detailed individually in each workshop and special session announcement and description.

CE Credit: Varies from 1.5 credit hours to 16 credit hours depending on sessions.

Breakfast/Luncheon Seminars

Purpose: To provide an opportunity for presentation and discussion of relevant historical and current topics of forensic science interest related to specific case investigations, or general or specific investigative needs and procedures, methodologies, and testimony.

Educational Objectives: Detailed individually in each breakfast/luncheon seminar announcement and description.

CE Credit: Designated for a maximum of .75 credit hour for Breakfast Seminars and 1.0 credit hour for Luncheon Seminars.

Plenary Session

Purpose: To provide a multidisciplinary presentation and discussion of issues related to the forensic science profession.

Educational Objectives: Attendees will be able to: a) identify the challenges the forensic science profession has faced and will continue to face in terms of ensuring quality; b) identify ways to deal with the variances each challenge presents; and, c) identify the entities which have influence over setting the quality standards in the field of forensic science.

CE Credit: Designated for a maximum of 2.0 credit hours.

Oral and Poster Section Scientific Sessions

Purpose: To provide an opportunity for presentation and discussion of case reports, descriptive studies, review presentations, research, administrative issues, and investigative/diagnostic methods regarding topics and issues of importance to a primary discipline among the forensic sciences.

Educational Objectives: To meet the educational objectives stated by each presenter for his/her presentation.

CE Credit: Varies according to the individual's session attendance. Designated for a maximum of 25.0 credit hours.

Last Word Society

Purpose: To provide a retrospective forensic analysis of historical events and to provide education about the history and evolution of forensic sciences as well as the modern methods and technologies used to re-examine past events of forensic science interest. Emphasis is placed on the evaluation of the original opinions and case outcome and on the development of newer hypotheses based on the re-analysis.

Educational Objectives: To meet the educational objectives stated by each presenter for his/her presentation.

CE Credit: Designated for a maximum of 2.0 credit hours.



CONTINUING EDUCATION

Guidelines For Claiming Credit

As the sponsor of Continuing Education Credit, the AAFS recognizes that the forensic science disciplines are inextricably linked and that interdisciplinary knowledge is critical to promote competence in forensic practice. As a result, the claiming of credit for various continuing education activities related to medicine, dentistry, law, and other forensic disciplines need not be limited to one's primary professional specialty. For example, a forensic pathologist from the Pathology/Biology Section may gain very useful and relevant information by attending a presentation in the Anthropology Section scientific session. It is appropriate to claim continuing medical education credit for that session. Many other examples exist where the claiming of continuing education credit is appropriate for attending sessions that cover material related to, but which lay outside of, one's primary professional area of expertise.

It is the conference attendee's responsibility to document which program sessions were attended and to determine those sessions for which continuing education credit may be claimed. The AAFS operates under the assumption that meeting attendees will, in general, be unlikely to attend sessions that will not be beneficial to their professional practice and that the claim for continuing education credit is justified if a session contains scientific or practice-related information that may bring new knowledge, may affirm current knowledge, or may provide information that could possibly modify one's professional practices.

Those who wish to receive continuing education credit must register and pay for this service on the meeting Registration Form. CE Credit Request Forms will be available at the registration desk. The completed forms must be returned to AAFS by the designated deadline.

Dental

This continuing education activity has been planned and implemented in accordance with the standards of the ADA Continuing Education Recognition Program (ADA CERP) through joint providership efforts between Postgraduate Institute for Medicine and American Academy of Forensic Science.

Postgraduate Institute for Medicine is an ADA CERP Recognized Provider. ADA CERP is a service of the American Dental Association to assist dental professionals in identifying quality providers of continuing dental education. ADA CERP does not approve or endorse individual courses or instructors, nor does it imply acceptance of the credit hours by boards of dentistry. Concerns or complaints about a CE Provider may be directed to the provider or to ADA CERP at www.ada.org/cerp.

Legal

Continuing legal education credit will be awarded on an hour-for-hour basis. Attorneys may file the AAFS-issued CLE certificate with their respective state bars. Please contact Continuing Education Coordinator Kimberly Wrasse, kwrasse@aafs.org, no later than the January 24, 2018, pre-registration deadline if your state bar will not allow you to self-report. AAFS will apply for accreditation/approval from your state in this circumstance.

Medical

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of Postgraduate Institute for Medicine and American Academy of Forensic Science. The Postgraduate Institute for Medicine is accredited by the ACCME to provide continuing medical education for physicians. The Postgraduate Institute for Medicine designates this live activity for a maximum of 52 AMA PRA Category 1 Credit(s)[™]. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

General

General continuing education credit is offered for those practicing the various forensic science disciplines not represented in the aforementioned list.

FINANCIAL CONTRIBUTORS



**The American Academy of Forensic Sciences
would like to thank the following supporters
for their contributions to the
2018 AAFS 70th Annual Scientific Meeting:**

Agilent Technologies, Inc.
American Polygraph Association
Anthropology Section
Cayman Chemical Company
**Center for Forensic Science Research and Education
at the Fredric Rieders Foundation**
Criminalistics Section
Engineering Sciences Section
General Section
Immunalysis Corporation
Jurisprudence Section
Laurelanne Bundens
Lipomed, Inc.
NMS Labs
Odontology Section
Pathology/Biology Section
Psychiatry & Behavioral Science Section
Waters Corporation



CALENDAR OF EVENTS

AAFS 70th Annual Scientific Meeting

Calendar of Events

Saturday, February 17, 2018

8:00 a.m.	-	5:00 p.m.	American Board of Criminalistics (ABC) Board of Directors
8:00 a.m.	-	5:00 p.m.	ABC Examination Committee
8:00 a.m.	-	5:00 p.m.	United States Army CID Criminalistics Committee
8:30 a.m.	-	5:00 p.m.	ASTM E30 Forensic Sciences
8:30 a.m.	-	5:00 p.m.	ASTM E30.12 Digital and Multimedia Evidence

Sunday, February 18, 2018

8:00 a.m.	-	12:00 p.m.	National Safety Council (NSC) Alcohol, Drugs and Impairment Division (ADID)
8:00 a.m.	-	5:00 p.m.	ABC Board of Directors
8:00 a.m.	-	5:00 p.m.	ABC Examination Committee
8:00 a.m.	-	5:00 p.m.	Forensic Science Education Programs Accreditation Commission (FEPAC) Business Meeting
8:00 a.m.	-	5:00 p.m.	United States Army CID Criminalistics Committee
8:00 a.m.	-	6:00 p.m.	Forensic Specialties Accreditation Board (FSAB) Annual Meeting
8:30 a.m.	-	5:00 p.m.	ASTM E30 Forensic Sciences
9:00 a.m.	-	5:00 p.m.	International Association of Coroners & Medical Examiners (IAC&ME) Executive Board
1:00 p.m.	-	5:00 p.m.	AAFS REGISTRATION OPEN
1:00 p.m.	-	5:00 p.m.	NSC Alcohol, Drugs and Impairment Division (ADID)
1:00 p.m.	-	6:00 p.m.	AAFS Cyber Cafe
1:00 p.m.	-	6:00 p.m.	AAFS Speaker Ready Room

Monday, February 19, 2018

6:00 a.m.	-	6:00 p.m.	AAFS Speaker Ready Room
6:45 a.m.	-	5:00 p.m.	AAFS REGISTRATION OPEN
7:00 a.m.	-	8:30 a.m.	Breakfast #1: <i>Analytical Thinking Skills: Essential Training for 21st-Century Forensic Scientists</i> (Pre-Registration Required)
7:00 a.m.	-	6:00 p.m.	AAFS Cyber Cafe
7:00 a.m.	-	11:00 p.m.	Press Room
8:00 a.m.	-	5:00 p.m.	AAFS Board of Directors
8:00 a.m.	-	5:00 p.m.	Academy Standards Board (ASB) Board of Directors
8:30 a.m.	-	12:00 p.m.	Workshop #1: <i>Proposed Revisions to the Federal Bureau of Investigation (FBI) Quality Assurance Standards — DNA</i> (Pre-Registration Required)
8:30 a.m.	-	12:05 p.m.	Workshop #2: <i>Heavy Petting: A Forensic Expert's Guide to Bestiality and Zoophilia</i> (Pre-Registration Required)
8:30 a.m.	-	12:30 p.m.	Workshop #3: <i>Alternate Light Source (ALS) Photography: Ultraviolet (UV), Infrared Radiation (IR), Lights, and Filters</i> (Pre-Registration Required)
8:30 a.m.	-	12:30 p.m.	Workshop #4: <i>Applications of Raman Spectroscopy for Trace Evidence Examinations</i> (Pre-Registration Required)
8:30 a.m.	-	12:30 p.m.	Workshop #5: <i>Ohio's Assertive Approach to Scheduling Opioids and Fentanyl Analogs</i> (Pre-Registration Required)
8:30 a.m.	-	4:30 p.m.	Workshop #6: <i>Machine-Readable Technologies in Travel and Identity Documents</i> (Pre-Registration Required)

CALENDAR OF EVENTS



8:30 a.m.	-	5:00 p.m.	Workshop #7: <i>Data Standards, Archiving, and Analytics in Forensic Anthropology</i> (Pre-Registration Required)
8:30 a.m.	-	5:00 p.m.	Workshop #8: <i>Innovative Teaching With Active Learning Methods — Implementation in Forensic Science Education</i> (Pre-Registration Required)
8:30 a.m.	-	5:00 p.m.	Workshop #9: <i>Putting the Expert on Trial</i> (Pre-Registration Required)
8:30 a.m.	-	5:20 p.m.	Workshop #10: <i>A Multidisciplinary Approach to Dogfighting Cases</i> (Pre-Registration Required)
8:30 a.m.	-	5:45 p.m.	Workshop #11: <i>Some Like It Hot: A Forensic Analysis of Burnt Remains</i> (Pre-Registration Required)
9:00 a.m.	-	5:00 p.m.	IAC&ME Board of Directors
1:00 p.m.	-	4:00 p.m.	Workshop #12: <i>Eric Zimmerman's Open Source Forensic Tools Library</i> (Pre-Registration Required)
1:00 p.m.	-	6:00 p.m.	Workshop #13: <i>Moving From the Combined Probability of Inclusion (CPI) to Probabilistic Genotyping for DNA Mixture Interpretation</i> (Pre-Registration Required)
1:00 p.m.	-	6:05 p.m.	Workshop #14: <i>Pharmacogenomics — Uses in Forensic and Clinical Toxicology</i> (Pre-Registration Required)
3:00 p.m.	-	5:00 p.m.	National Association of Medical Examiners (NAME) Journal Editorial Board
5:00 p.m.	-	6:00 p.m.	Consortium of Forensic Science Organizations (CFSO) Legislative Update Presentation (Open to All Meeting Attendees)
6:00 p.m.		8:00 p.m.	Academy Standards Board Meet & Greet Reception
6:00 p.m.	-	11:00 p.m.	NAME Executive Committee
7:00 p.m.	-	8:30 p.m.	International Attendee Welcome Reception (by Invitation Only)

Tuesday, February 20, 2018

6:00 a.m.	-	6:00 p.m.	AAFS Speaker Ready Room
6:45 a.m.	-	6:00 p.m.	AAFS REGISTRATION OPEN
7:00 a.m.	-	8:00 a.m.	NAME Foundation Board of Trustee
7:00 a.m.	-	8:30 a.m.	Breakfast #2: <i>My Experiences as a Forensic Science Consultant for Crime Drama Television Series</i> (Pre-Registration Required)
7:00 a.m.	-	9:00 a.m.	Toxicology Section Steering Committee
7:00 a.m.	-	6:00 p.m.	AAFS Cyber Cafe
7:00 a.m.	-	11:00 p.m.	Press Room
7:30 a.m.	-	9:30 a.m.	Forensic Sciences Foundation (FSF) Board of Trustees
8:00 a.m.	-	12:00 p.m.	American Board of Forensic Toxicology (ABFT) Certification Examination
8:00 a.m.	-	12:00 p.m.	NAME Board of Directors
8:00 a.m.	-	5:00 p.m.	ASB Consensus Body Meetings
8:00 a.m.	-	5:00 p.m.	CFSO Board (Not Open to the Public)
8:00 a.m.	-	8:00 p.m.	National Institute of Standards and Technology (NIST) Organization of Scientific Area Committees (OSAC) — Public Status Reports & Open Discussion
8:30 a.m.	-	12:30 p.m.	Special Session #1: <i>Interdisciplinary Symposium — Raising the Bar in Forensic Science</i> (Pre-Registration Required)
8:30 a.m.	-	12:30 p.m.	Workshop #15: <i>Postmortem Monocular Indirect Ophthalmoscopy (PMIO)</i> (Pre-Registration Required)
8:30 a.m.	-	12:45 p.m.	FEPAC: Accreditation of Forensic Science Academic Programs Through the AAFS
8:30 a.m.	-	12:45 p.m.	Workshop #16: <i>Forensic Image Processing</i> (Pre-Registration Required)
8:30 a.m.	-	4:30 p.m.	Workshop #17: <i>An Introduction to Lean Fundamentals and Six Sigma Operational Improvement</i> (Pre-Registration Required)
8:30 a.m.	-	5:00 p.m.	Special Session #2: <i>Young Forensic Scientists Forum (YFSF) — Research in Science: How Young Scientists Can Shape a Better Future</i> (Pre-Registration Required)
8:30 a.m.	-	5:00 p.m.	Workshop #18: <i>Domestic Violence and Child Abuse Deaths</i> (Pre-Registration Required)



CALENDAR OF EVENTS

8:30 a.m. - 5:00 p.m.	Workshop #19: <i>The Evolution of Fire Investigation From the Perspective of Science: Why Science Matters in the Search for Justice (Pre-Registration Required)</i>
8:30 a.m. - 5:00 p.m.	Workshop #20: <i>Fentalogs: The Chemistry, Pharmacology, and Toxicology of Illicit Fentanyl and Emerging Opioids (Pre-Registration Required)</i>
8:30 a.m. - 5:00 p.m.	Workshop #21: <i>Macromorphoscopic (MMS) Traits: Data Collection and Analysis (Pre-Registration Required)</i>
8:30 a.m. - 5:00 p.m.	Workshop #22: <i>Science Matters to Everyone: Victims, Offenders, and the Public (Pre-Registration Required)</i>
8:30 a.m. - 5:15 p.m.	National Institute of Justice (NIJ) Forensic Science Research & Development Symposium
9:00 a.m. - 10:30 a.m.	AAFS 2018 Annual Meeting Program Committee Review and Breakfast
9:00 a.m. - 2:00 p.m.	AAFS Student Academy
9:00 a.m. - 4:00 p.m.	NAME 2018 Interim Scientific Program Registration
10:00 a.m. - 12:00 p.m.	Diversity Outreach Committee
12:00 p.m. - 2:00 p.m.	AAFS 2017-18 Section Officers Luncheon and Meeting
12:00 p.m. - 2:30 p.m.	AAFS Long Term Planning Committee (LTPC)
1:00 p.m. - 5:00 p.m.	ABFT Board of Directors
1:00 p.m. - 5:00 p.m.	NAME 2018 Interim Scientific Program
1:00 p.m. - 5:00 p.m.	Workshop #23: <i>Cardiovascular Pathology for Medical Examiners and Coroners: Basic and Advanced Techniques for the Investigation of Sudden Cardiac Death (Pre-Registration Required)</i>
1:00 p.m. - 5:30 p.m.	Workshop #24: <i>Think Tank on the Leading Edge of Forensic Science: Drones, Autonomous Vehicles, Big Data/Big Problems, National Security Globalization Into Protrusionism Privacy, Dirty Bombs, and Microbial Forensics (Pre-Registration Required)</i>
1:30 p.m. - 3:00 p.m.	FEPAC Program Directors
5:30 p.m. - 7:30 p.m.	Society of Forensic Anthropologists (SOFA) Board
6:00 p.m. - 8:00 p.m.	AAFS Welcoming Reception
6:00 p.m. - 8:00 p.m.	Employment Forum
8:00 p.m. - 10:00 p.m.	Diversity and Inclusion in Forensic Sciences Reception
8:00 p.m. - 10:00 p.m.	Evening Session: <i>Forensic Science in the Public Eye: Communication, Diversity, and Research (Open to All Meeting Attendees)</i>

Wednesday, February 21, 2018

6:00 a.m. - 6:00 p.m.	AAFS Speaker Ready Room
6:45 a.m. - 5:00 p.m.	AAFS REGISTRATION OPEN
7:00 a.m. - 8:30 a.m.	Breakfast #3: <i>The Lawyers Always Win (Pre-Registration Required)</i>
7:00 a.m. - 12:00 p.m.	ABC Certification Examination
7:00 a.m. - 12:00 p.m.	Society of Forensic Toxicologists (SOFT) Board of Directors Meeting
7:00 a.m. - 6:00 p.m.	AAFS Cyber Cafe
7:00 a.m. - 11:00 p.m.	Press Room
8:00 a.m. - 8:45 a.m.	AAFS ACADEMY CUP
8:00 a.m. - 9:00 a.m.	American Board of Forensic Anthropology (ABFA) "How To" Session (Board Exam)
8:30 a.m. - 11:30 a.m.	American Dental Association (ADA) OSAC Forensic Odontology Taskforce
9:00 a.m. - 11:00 a.m.	AAFS PLENARY SESSION
11:00 a.m. - 12:00 p.m.	AAFS Membership Application "How To" Session
11:00 a.m. - 12:00 p.m.	International Affairs Committee
11:00 a.m. - 12:00 p.m.	Theoretical Forensic Sciences "Think Tank" Committee

CALENDAR OF EVENTS



11:30 a.m.	-	1:00 p.m.	Poster Sessions: Anthropology, Criminalistics, Digital & Multimedia Sciences, Engineering Sciences, General, Jurisprudence, Odontology, Pathology/Biology, Psychiatry & Behavioral Science, Questioned Documents <i>Posters will be available for viewing from 10:00 a.m. – 1:00 p.m. Presenting authors will be available for discussion from 11:30 a.m. – 1:00 p.m.</i>
11:30 a.m.	-	4:00 p.m.	EXHIBITS OPEN
12:00 p.m.	-	1:00 p.m.	Criminalistics Section Luncheon (<i>Pre-Registration Required</i>)
12:00 p.m.	-	1:15 p.m.	Pathology/Biology Section Luncheon (<i>Pre-Registration Required</i>)
12:00 p.m.	-	1:30 p.m.	General Section Luncheon (<i>Pre-Registration Required</i>)
12:00 p.m.	-	1:45 p.m.	Digital & Multimedia Sciences Section Luncheon (<i>Pre-Registration Required</i>)
12:00 p.m.	-	1:45 p.m.	Jurisprudence Section Luncheon (<i>Pre-Registration Required</i>)
12:00 p.m.	-	1:45 p.m.	Odontology Section Executive Committee Luncheon
12:00 p.m.	-	1:45 p.m.	Psychiatry & Behavioral Science Section Luncheon (<i>Pre-Registration Required</i>)
12:00 p.m.	-	1:45 p.m.	Toxicology Section Luncheon (<i>Pre-Registration Required</i>)
12:30 p.m.	-	1:30 p.m.	ABFA Diplomates
1:00 p.m.	-	2:00 p.m.	AAFS Abstract Submission “How To” Session
1:05 p.m.	-	3:45 p.m.	Criminalistics Section Business Meeting
1:30 p.m.	-	3:45 p.m.	Pathology/Biology Section Business Meeting
1:45 p.m.	-	3:45 p.m.	General Section Business Meeting
2:00 p.m.	-	3:45 p.m.	Anthropology Section Business Meeting
2:00 p.m.	-	3:45 p.m.	Digital & Multimedia Sciences Section Business Meeting
2:00 p.m.	-	3:45 p.m.	Engineering Sciences Section Business Meeting
2:00 p.m.	-	3:45 p.m.	Jurisprudence Section Business Meeting
2:00 p.m.	-	3:45 p.m.	Odontology Section Business Meeting
2:00 p.m.	-	3:45 p.m.	Psychiatry & Behavioral Science Section Business Meeting
2:00 p.m.	-	3:45 p.m.	Questioned Documents Section Business Meeting
2:00 p.m.	-	3:45 p.m.	Toxicology Section Business Meeting
4:15 p.m.	-	5:30 p.m.	AAFS ANNUAL BUSINESS MEETING & AWARDS CEREMONY
5:30 p.m.	-	7:30 p.m.	SOFA General Membership Meeting
6:00 p.m.	-	7:00 p.m.	Psychiatry & Behavioral Science Section Reception (<i>by Invitation Only</i>)
6:00 p.m.	-	7:00 p.m.	YFSF Bring Your Own Slides
6:00 p.m.	-	8:00 p.m.	Criminalistics Section Reception (<i>by Invitation Only</i>)
6:00 p.m.	-	8:00 p.m.	Engineering Sciences Section Reception (<i>by Invitation Only</i>)
6:00 p.m.	-	8:00 p.m.	General Section Reception (<i>by Invitation Only</i>)
6:00 p.m.	-	8:00 p.m.	Jurisprudence Section Reception (<i>by Invitation Only</i>)
6:00 p.m.	-	8:00 p.m.	New Mexico Office of the Medical Investigator and the University of New Mexico School of Medicine Alumni, Faculty, and Staff Reception
6:00 p.m.	-	8:00 p.m.	Odontology Section Reception (<i>by Invitation Only</i>)
6:00 p.m.	-	8:00 p.m.	Pathology/Biology Section Reception (<i>by Invitation Only</i>)
6:00 p.m.	-	8:00 p.m.	Promega Genetic Identity Reception
6:00 p.m.	-	8:00 p.m.	Questioned Documents Section Reception (<i>by Invitation Only</i>)
6:00 p.m.	-	8:00 p.m.	Toxicology Section Awardees Recognition & Reception (<i>by Invitation Only</i>)
6:30 p.m.	-	8:30 p.m.	Center for Advanced Research in Forensic Science (CARFS) Poster Session & Reception
7:00 p.m.	-	8:30 p.m.	Digital & Multimedia Sciences Section Reception (<i>by Invitation Only</i>)
7:00 p.m.	-	8:30 p.m.	The George Washington University Forensic Sciences Alumni Reception
7:30 p.m.	-	9:00 p.m.	Toxicology Section Poster Session
8:00 p.m.	-	10:00 p.m.	Bring Your Own Slides (BYOS)
8:00 p.m.	-	10:00 p.m.	University of New Haven Student and Alumni Reception



CALENDAR OF EVENTS

Thursday, February 22, 2018

6:00 a.m. - 6:00 p.m.	AAFS Speaker Ready Room
6:45 a.m. - 5:00 p.m.	AAFS REGISTRATION OPEN
7:00 a.m. - 10:00 a.m.	Breakfast #4: <i>YFSF's Wake Up to Professional Development ... and Bacon!</i> (Pre-Registration Required)
7:00 a.m. - 6:00 p.m.	AAFS Cyber Cafe
7:00 a.m. - 11:00 p.m.	Press Room
7:30 a.m. - 8:00 a.m.	AAFS Moderator's "How To" Preview
7:30 a.m. - 9:00 a.m.	AAFS Policy and Procedure Committee
8:00 a.m. - 5:00 p.m.	ASB Consensus Body Meetings
9:00 a.m. - 11:30 a.m.	Council of Federal Forensic Laboratory Directors (CFFLD)
9:00 a.m. - 2:00 p.m.	EXHIBITS OPEN
11:00 a.m. - 12:30 p.m.	Membership Reference Committee Training

Scientific Sessions — Morning

8:30 a.m. - 10:45 a.m.	Multidisciplinary Session: Criminalistics II/General II/Pathology/Biology I/Toxicology
8:30 a.m. - 11:30 a.m.	Psychiatry & Behavioral Science
8:30 a.m. - 11:45 a.m.	Odontology
8:30 a.m. - 12:00 p.m.	Anthropology Session I
8:30 a.m. - 12:00 p.m.	Anthropology Session II
8:30 a.m. - 12:00 p.m.	Engineering Sciences
8:30 a.m. - 12:00 p.m.	General Session I
8:30 a.m. - 12:00 p.m.	Jurisprudence
8:30 a.m. - 12:00 p.m.	Pathology/Biology Session II
8:30 a.m. - 12:00 p.m.	Questioned Documents
8:30 a.m. - 12:10 p.m.	Criminalistics Session I
8:30 a.m. - 12:15 p.m.	Digital & Multimedia Sciences
9:00 a.m. - 11:50 a.m.	Pathology/Biology Session III
11:00 a.m. - 11:45 a.m.	Toxicology
11:00 a.m. - 12:00 p.m.	Criminalistics Session II

Scientific Sessions — Afternoon

1:00 p.m. - 3:30 p.m.	Psychiatry & Behavioral Science
1:00 p.m. - 5:00 p.m.	Engineering Sciences
1:00 p.m. - 5:00 p.m.	Odontology
1:00 p.m. - 5:00 p.m.	Toxicology
1:00 p.m. - 5:15 p.m.	Criminalistics Session II
1:15 p.m. - 5:00 p.m.	General Session I
1:15 p.m. - 5:10 p.m.	Digital & Multimedia Sciences
1:15 p.m. - 5:15 p.m.	Criminalistics Session I
1:30 p.m. - 5:00 p.m.	Jurisprudence
1:30 p.m. - 5:00 p.m.	Pathology/Biology Session II
1:30 p.m. - 5:15 p.m.	Questioned Documents
1:45 p.m. - 5:00 p.m.	Anthropology Session I
1:45 p.m. - 5:00 p.m.	Anthropology Session II
2:00 p.m. - 4:00 p.m.	Pathology/Biology Session III
11:30 a.m. - 1:00 p.m.	Poster Sessions: Anthropology, Criminalistics, General, Jurisprudence, Odontology, Pathology/Biology, Psychiatry & Behavioral Science <i>Posters will be available for viewing from 10:00 a.m. – 1:00 p.m. Presenting authors will be available for discussion from 11:30 a.m. – 1:00 p.m.</i>

CALENDAR OF EVENTS



12:00 p.m.	-	1:30 p.m.	<i>Journal of Forensic Sciences</i> Editors' Wine & Cheese Luncheon
12:00 p.m.	-	1:30 p.m.	Luncheon #1: <i>Post-Conviction DNA Testing in an Ever-Advancing DNA World</i> (Pre-Registration Required)
1:00 p.m.	-	2:00 p.m.	AAFS International Educational Outreach Program (IEOP) 2018 — Cuba
1:00 p.m.	-	2:00 p.m.	Membership New Section Officer Application and Requirement Training
2:00 p.m.	-	3:00 p.m.	AAFS Finance Committee
3:30 p.m.	-	5:30 p.m.	AAFS Exhibitor Liaison Committee & Reception
4:00 p.m.	-	6:00 p.m.	Criminalistics Section Regional Forensic Science Associations (RAC) Meeting
5:00 p.m.	-	6:00 p.m.	SOFT/AAFS Drugs & Driving Committee
5:30 p.m.	-	7:00 p.m.	Anthropology - Ellis R. Kerley Forensic Sciences Foundation Reception (<i>by Invitation Only</i>)
6:00 p.m.	-	8:00 p.m.	AAFS 70 th Annual Wine & Cheese Reception
6:00 p.m.	-	8:00 p.m.	University Fair
7:00 p.m.	-	8:00 p.m.	YFSF Bring Your Own Posters
7:00 p.m.	-	9:00 p.m.	Fire Debris Discussion Group
7:00 p.m.	-	9:00 p.m.	Toxicology Open Forum
8:00 p.m.	-	10:00 p.m.	Last Word Society

Friday, February 23, 2018

6:00 a.m.	-	6:00 p.m.	AAFS Speaker Ready Room
6:45 a.m.	-	4:00 p.m.	AAFS REGISTRATION OPEN
7:00 a.m.	-	8:30 a.m.	Breakfast #5: <i>The Making of an Opioid Crisis in America? Why Research, Policy, and Practice Matter</i> (Pre-Registration Required)
7:00 a.m.	-	4:00 p.m.	AAFS Cyber Cafe
7:00 a.m.	-	11:00 p.m.	Press Room
8:00 a.m.	-	9:15 a.m.	AAFS 2018-19 Nominating Committee
8:30 a.m.	-	9:00 a.m.	AAFS Continuing Education Committee
9:30 a.m.	-	10:30 a.m.	AAFS 2018-19 Section Officers
9:00 a.m.	-	1:00 p.m.	EXHIBITS OPEN
10:30 a.m.	-	11:30 a.m.	AAFS 2018-19 Program Committee
11:30 a.m.	-	12:30 p.m.	AAFS Program Process Review Ad-Hoc Committee

Scientific Sessions — Morning

8:30 a.m.	-	11:25 a.m.	Psychiatry & Behavioral Science
8:30 a.m.	-	11:45 a.m.	Anthropology
8:30 a.m.	-	11:45 a.m.	Odontology
8:30 a.m.	-	12:00 p.m.	Criminalistics Session I
8:30 a.m.	-	12:00 p.m.	Criminalistics Session II
8:30 a.m.	-	12:00 p.m.	General Session I
8:30 a.m.	-	12:00 p.m.	Jurisprudence
8:30 a.m.	-	12:00 p.m.	Multidisciplinary Session: Pathology/Biology Session II/Toxicology
8:30 a.m.	-	12:00 p.m.	Pathology/Biology Session I
8:30 a.m.	-	12:15 p.m.	Digital & Multimedia Sciences
8:30 a.m.	-	12:15 p.m.	Engineering Sciences
8:50 a.m.	-	12:00 p.m.	Questioned Documents

Scientific Sessions — Afternoon

1:00 p.m.	-	3:00 p.m.	Multidisciplinary Session: Criminalistics II/General II
1:00 p.m.	-	4:45 p.m.	Odontology
1:00 p.m.	-	4:45 p.m.	Psychiatry & Behavioral Science



CALENDAR OF EVENTS

1:00 p.m.	-	5:00 p.m.	Toxicology
1:00 p.m.	-	5:15 p.m.	Criminalistics Session I
1:15 p.m.	-	2:25 p.m.	Multidisciplinary Session: Digital & Multimedia Sciences/Engineering Sciences
1:15 p.m.	-	5:00 p.m.	General Session I
1:30 p.m.	-	4:45 p.m.	Jurisprudence
1:30 p.m.	-	4:45 p.m.	Pathology/Biology Session II
1:30 p.m.	-	5:00 p.m.	Pathology/Biology Session I
1:30 p.m.	-	5:15 p.m.	Anthropology
3:15 p.m.	-	5:00 p.m.	Criminalistics Session II
11:30 a.m.	-	1:00 p.m.	Poster Sessions: Anthropology, Criminalistics, Digital & Multimedia Sciences, General, Jurisprudence, Odontology, Pathology/Biology, Psychiatry & Behavioral Science <i>Posters will be available for viewing from 10:00 a.m. – 1:00 p.m. Presenting authors will be available for discussion from 11:30 a.m. – 1:00 p.m.</i>
12:00 p.m.	-	1:30 p.m.	AAFS Past Presidents Council Luncheon
12:00 p.m.	-	1:30 p.m.	Luncheon #2: <i>Understanding the Impact of Human Factors on Forensic Science: Case Studies in Fingerprint and Handwriting Examination (Pre-Registration Required)</i>
3:00 p.m.	-	5:00 p.m.	AAFS 2018-19 Board of Directors
7:00 p.m.	-	9:00 p.m.	Criminalistics Evening Session: Criminalistics Believe It or Not!

Saturday, February 24, 2018

6:00 a.m.	-	12:00 p.m.	AAFS Speaker Ready Room
7:30 a.m.	-	12:00 p.m.	AAFS REGISTRATION OPEN

Scientific Sessions – Morning

8:15 a.m.	-	12:00 p.m.	Criminalistics Session II
8:30 a.m.	-	12:00 p.m.	Criminalistics Session I

STUDENT ACADEMY



Pre-Registration Required — \$15

Tuesday

February 20, 2018

9:00 a.m. - 2:00 p.m.

The purpose of the Student Academy of Forensic Sciences is to bring to the attention of local area high school and college students the vital importance of the application of scientific principles to the administration of justice. It acquaints the participants with the role of the forensic science disciplines in the legal system as well as the education and training required for the career in each discipline. All high school and college-age students are welcome to attend.

Chair:

Julie A. Howe, MBA
Saint Louis University
St. Louis, MO

Co-Chair:

Marilyn T. Miller, EdD
Virginia Commonwealth University
Richmond, VA

Faculty:

Anthropology:

Ginesse A. Listi, PhD
Louisiana State University
Baton Rouge, LA

Odontology:

Robin A. Scheper, DDS
Gulfport, MS

Criminalistics:

Lynn A. Schneeweis, MS
Massachusetts State Police Crime Laboratory
Maynard, MA

Pathology/Biology:

James Downs, MD
forensiX, LLC
Savannah, GA

Digital & Multimedia Sciences:

Richard Vorder Bruegge, PhD
Federal Bureau of Investigation
Quantico, VA

Psychiatry & Behavioral Science:

Eleanor B. Vo, MD
OmaDesala Psychiatric Services
Ewing, NJ

Engineering Sciences:

Roy Crawford, BSME
RR Crawford Engineering, Inc.
Whitesburg, KY

Questioned Documents:

Jennifer Furman, MFS
TIGTA Forensic Science Laboratory
Beltsville, MD

General:

Claire E. Shepard, MS
Louisiana Delta Community College
Monroe, LA

Toxicology:

George F. Jackson, PhD
Armed Forces Medical Examiner System
Willingboro, NJ

Jurisprudence:

Pamela A.W. King, JD
Minnesota State Public Defender Office
Rochester, MN

Ashraf Mozayani, PhD
Texas Southern University
Houston, TX



INTERDISCIPLINARY SYMPOSIUM

Pre-Registration Required — \$75

S1 Raising the Bar in Forensic Science

Tuesday, February 20, 2018

8:30 a.m. - 12:30 p.m.

3.75 CE Hours

Chair:

Linton Mohammed, PhD
Forensic Science Consultants, Inc
Burlingame, CA

Faculty:

Allison Campbell, PhD
American Chemical Society
Washington, DC

Roger W. Falcone, PhD
University of California Berkeley
Berkeley, CA

Rick Jones, JD
National Association of Criminal Defense Lawyers
New York, NY

Daniel A. Martell, PhD
Park Dietz & Associates
Newport Beach, CA

Co-Chair:

Karen B. Rosenbaum, MD
New York, NY

Vernon M. Neppe, MD, PhD
Pacific Neuropsychiatric Institute
Seattle, WA

Matthew F. Redle, JD
Sheridan, WY

Christopher R. Thompson, MD
Los Angeles, CA

Educational Objective(s): The goals of the 2018 Interdisciplinary Symposium (IDS) are to provide attendees with an overview on how forensic science is viewed inside and outside the forensic arena and to present ideas on what the forensic science community can learn from the broader scientific community regarding transparency, research integrity, and a strong commitment to education.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing attendees with the perspectives of scientists from major scientific organizations inside and outside of forensic science and from attorneys from leading legal associations. Attendees will receive information on how to address strengths and weaknesses in the forensic sciences and should then be able to apply this knowledge in their own research and casework.

Program Description: The 2018 IDS will comprise several distinguished scientists from within and outside of forensic science. The speakers will address perceived research gaps in the forensic sciences and discuss how to close these gaps.

To complement the 2018 American Academy of Forensic Sciences theme, *Science Matters*, the theme of the 2018 IDS is *Raising the Bar*. This symposium will highlight collaboration with the broader scientific community as a means to strengthen forensic science. Popular television shows have had a generally positive impact (for forensic science) on how the public views forensic science and forensic scientists. Despite the public perception of the near-infallibility of forensic science to detect and solve crimes, there has been criticism of forensic science from the scientific and legal communities. The criticism often notes that there is too much emphasis on the forensic aspect of various disciplines and not enough emphasis on foundational sciences. The National Commission on Forensic Science (NCFS), in which many AAFS members were active, provided a forum for members of the broader scientific community to contribute to recommendations designed to foster the foundational sciences of forensic science and to strengthen the forensic science community. Although the NCFS was not renewed upon the expiration of its charter in the spring of 2017, collaboration with the broader scientific community remains an important objective of AAFS.

INTERDISCIPLINARY SYMPOSIUM



Pre-Registration Required — \$75

S1 Raising the Bar in Forensic Science

Program Description cont.:

At the 2018 IDS, a distinguished panel of researchers and speakers from professional organizations in the broader scientific community will address their perceptions of the strengths and challenges of the forensic science community. The 2018 speakers include the current leaders of the American Chemical Society (ACS), the American Physical Society (APS), the American Academy of Psychiatry and the Law (AAPL), the National Association of Criminal Defense Lawyers (NACDL), the Criminal Justice Section of the American Bar Association (ABA), and an AAFS past president. These speakers will discuss the efforts of their respective organizations to strengthen forensic science and the importance of “outside” voices in the advancement of forensic science. For example, with the APS, that could involve a discussion of what forensic science can learn from the broader scientific community about transparency, research integrity, and a strong commitment to education.

The keynote speaker is Vernon M. Neppe, MD, Director of the Pacific Neuropsychiatric Institute in Seattle, WA, Adjunct Professor of Psychiatry and Human Behavior, St. Louis University School of Medicine, St. Louis, MO, and former Director, Division of Neuropsychiatry, University of Washington, Seattle, WA. Dr. Neppe has contributed internationally in the specialties of neuropsychiatry and behavioral neurology, psychopharmacology, forensic psychiatry, anomalous psychology, and epileptology. A distinguished psychiatrist, author, playwright, and philosopher, Dr. Neppe’s presentation will highlight the importance of groundbreaking paradigm shifts to the advancement of scientific theory and practice.

Program:

8:30 a.m.	-	8:35 a.m.	Opening Remarks <i>Linton Mohammed, PhD</i>
8:35 a.m.	-	9:35 a.m.	Applying Feasibility, Falsifiability, and Certainty in Scientific Method to Forensic Science <i>Vernon M. Neppe, MD, PhD</i>
9:35 a.m.	-	10:05 a.m.	Forensic Science and the American Chemical Society <i>Allison Campbell, PhD</i>
10:05 a.m.	-	10:35 a.m.	The Culture of Continuous Improvement, Science in the Public Interest, and the Preparation of Bench and Bar <i>Matthew F. Redle, JD</i>
10:35 a.m.	-	10:50 a.m.	Break
10:50 a.m.	-	11:20 a.m.	Using X-Rays for High-Resolution Analysis of Chemical, Electronic, and Spatial Measurements <i>Roger W. Falcone, PhD</i>
11:20 a.m.	-	11:50 a.m.	Strengthening Forensic Science and Fulfilling the Duty to Correct and Notify <i>Rick Jones, JD</i>
11:50 a.m.	-	12:30 p.m.	Putting the Science in Forensic Behavioral Science: Advances in Forensic Psychiatry and Forensic Psychology <i>Christopher R. Thompson, MD; Daniel A. Martell, PhD</i>



YOUNG FORENSIC SCIENTISTS FORUM

Pre-Registration Required — \$75

S2 Research in Science: How Young Scientists Can Shape a Better Future

Tuesday, February 20, 2018

8:30 a.m. - 5:00 p.m.

6.0 CE Hours

President:

Brianna B. Bermudez, BS
Michigan State University
East Lansing, MI

Program Chair:

Amanda R. Hale, MA
North Carolina State University
Raleigh, NC

YFSF BYOS Chair:

Alyssa J. Badgley, MS
Michigan State University
East Lansing, MI

Long Term Planning Committee Representative:

Brianna B. Bermudez, BS
Michigan State University
East Lansing, MI

Secretary:

Brittany N. Beyer, MS
Houston Forensic Science Center
Houston, TX

Program Co-Chair:

Zain Bhaloo, MSc
Canada Border Services Agency
Ottawa, ON, CANADA

YFSF BYOP Chair:

Jeremy M. Manheim
Lafayette, IN

Financial Support Liaison Chair:

Vienna C. Lam, BA
Simon Fraser University
School of Criminology
Burnaby, BC, CANADA

Educational Objective(s): After attending this presentation, attendees will better understand the novel research being conducted by both young and leading scientists within a variety of forensic science disciplines and how important that research is to the field.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by educating young scientists on the importance of scientific research and the effects it has on the community at large. This special session also provides students and scientists with the opportunity to network with professionals in a unique setting that focuses on bridging the gap between established professionals and researchers and those aspiring to enter and thrive in the field.

Program Description: Calling all students, young researchers, and those new to forensic science! The Young Forensic Scientists Forum (YFSF) focuses on providing young professionals and students continued education in different aspects of forensic science at each AAFS Annual Scientific Meeting. Registration for the YFSF Special Session includes a day-long session on Tuesday and a Breakfast Session on Thursday. The full-day special session will highlight the novel and exciting research being conducted by Academy members and students. The YFSF also hosts Bring Your Own Slides (BYOS) and Bring Your Own Posters (BYOP) sessions that provide young professionals and students with the opportunity to present their research.

The 2018 YFSF Special Session, entitled *Research in Science: How Young Scientists Can Shape a Better Future*, is a day-long session that will leave attendees invigorated and excited about the research being conducted by Academy members and students. Participants will have a more complete understanding of the variety of disciplines that make up the Academy. The selection of speakers represents nearly every AAFS section, which makes for a highly diverse and unique suite of presentations.

The morning session will include an assortment of topics ranging from how to become an AAFS member to how 3D imaging can be used to analyze fingerprints. Following a delicious lunch, included with registration, attendees will hear about the Innocence Network and case-driven research. This day-long session will conclude with a Q&A session in which attendees can engage speakers and panelists in an open discussion.

YOUNG FORENSIC SCIENTISTS FORUM



Pre-Registration Required — \$75

S2 Research in Science: How Young Scientists Can Shape a Better Future

Speakers

Gail S. Anderson, PhD

Simon Fraser University
School of Criminology
Burnaby, BC, CANADA

Alexandria Anstett, MS

Customs and Border Protection
Newark, NJ

Maria Susana Ciruzzi, PhD

Hospital Nacional de Pediatría Prof
Buenos Aires, ARGENTINA

Josep De Alcaraz-Fossoul, PhD

Arizona State University
West Campus - School of Math and Natural Sciences
Glendale, AZ

Ashley E. Foster, MAS

Texas Department of Public Safety
Austin, TX

Lindsay Glicksberg, BS

Sam Houston State University
Dept of Forensic Science
Huntsville, TX

Pierre M.M. Guyomarc'h, PhD

Université de Bordeaux
Allee George St Hilaire
Pessac, FRANCE

Greg Hampikian, PhD

Boise State University
Biology Department
Boise, ID

Erin L. Houston, MS

Columbus, OH

Cheryl D. Hunter

AAFS Staff
Colorado Springs, CO

Pamela L. Marshall, PhD

Southern University at New Orleans
New Orleans, LA

Michael A. Peat, PhD

JFS Editor-in-Chief
The Woodlands, TX

Joseph A. Prahlow, MD

Western Michigan University
School of Medicine
Kalamazoo, MI

Dragan Primorac, MD, PhD

Orange, CT

Marcus Rogers, PhD

Purdue University
West Lafayette, IN

Elisa N. Shoff, BS

Miami-Dade Medical Examiner Department
Miami, FL

Peter R. Stout, PhD

Houston Forensic Science Center
Houston, TX

Thomas W. Vastrick, BS

Apopka, FL

Dante Webb, BS

Gaithersburg, MD

Sheila Willis, PhD

Forensic Science Ireland
Dublin, IRELAND

(continued)



YOUNG FORENSIC SCIENTISTS FORUM

Pre-Registration Required — \$75

S2 Research in Science: How Young Scientists Can Shape a Better Future

The YFSF BYOS Session will take place the evening of Wednesday, February 21, 2018, and follows a format similar to the AAFS BYOS Session. The YFSF also hosts a BYOP Session that features selected research posters presented by young scientists and students. The BYOP Session will be held jointly with the University Fair in the AAFS Poster Hall the evening of Thursday, February 22, 2018, in conjunction with the Wine and Cheese Reception in the Exhibit Hall from 6:00 p.m. to 8:00 p.m. The BYOP and BYOS Sessions are two opportunities provided by the YFSF for students and young scientists to present their research. Attendance at both the BYOP and BYOS events are free and open to all meeting attendees. YFSF does not require presenters of YFSF BYOP and BYOS Sessions to be members of AAFS and does not require they attend the Special Session, but they are encouraged to do so. The ultimate goal of this year's YFSF events is to facilitate the growth and career progression of those seeking to enter or are new to the field of forensic science. This Special Session will remind students and young researchers that the research they conduct has an impact on the field and the community. The YFSF looks forward to hosting these unique, fun, and educational events in Seattle, WA. Don't miss out on this valuable opportunity!

Program:

8:30 a.m.	-	8:40 a.m.	YFSF Introduction and Speaker Welcome <i>Brianna B. Bermudez, BS</i>
8:40 a.m.	-	8:55 a.m.	AAFS Membership <i>Cheryl D. Hunter</i>
8:55 a.m.	-	9:20 a.m.	Measuring the Frequency of Occurrence in Handwriting, Handprinting, and Numeral Characteristics <i>Thomas W. Vastrick, BS</i>
9:20 a.m.	-	9:40 a.m.	The Evolution of Digital Forensic Tools: How Research Has Shaped the Journey <i>Marcus Rogers, PhD</i>
9:40 a.m.	-	10:00 a.m.	Analyzing the Degradation of Fingerprints by 3D Imaging Technology <i>Josep De Alcaraz-Fossoul, PhD</i>
10:00 a.m.	-	10:15 a.m.	Synthetic Cathinone Stability in Blood Using Liquid Chromatography/Quadrupole Time-Of-Flight/Mass Spectrometry (LC/qTOF/MS) <i>Lindsay Glicksberg, BS</i>
10:15 a.m.	-	10:30 a.m.	Break
10:30 a.m.	-	10:50 a.m.	The Development of Screening Methods for Synthetic Stimulants and Opioids in Postmortem Specimens Using Liquid Chromatography/Ion Trap/ Mass Spectrometry (LC/Ion Trap/MSn) <i>Elisa N. Shoff, BS</i>
10:50 a.m.	-	11:10 a.m.	<i>The Journal of Forensic Sciences: Past, Present, and Future</i> <i>Michael A. Peat, PhD</i>

YOUNG FORENSIC SCIENTISTS FORUM



Pre-Registration Required — \$75

S2 Research in Science: How Young Scientists Can Shape a Better Future

11:10 a.m. - 11:30 a.m.	With a Little Help From My Friends — Soft or Hard Science: Assessing the Legal, Social, or Medical Approach to Science Matters <i>Maria Susana Ciruzzi, PhD</i>
11:30 a.m. - 12:00 p.m.	Clarity Regarding the Role of Forensic Scientist Is Vital for Progress <i>Sheila Willis, PhD</i>
12:00 p.m. - 1:30 p.m.	Lunch
1:30 p.m. - 2:00 p.m.	Forensic Genetics: Past, Present, and Exciting Future <i>Dragan Primorac, MD, PhD</i>
2:00 p.m. - 2:20 p.m.	Life in the Practitioner Lab: Where Research Fits In <i>Peter R. Stout, PhD</i>
2:20 p.m. - 2:50 p.m.	Using New DNA Techniques to Free the Innocent: Lessons From the Innocence Network <i>Greg Hampikian, PhD</i>
2:50 p.m. - 3:10 p.m.	The Forensic Unit of the International Committee of the Red Cross: 15 Years of Promoting Humanitarian Forensic Action <i>Pierre M.M. Guyomarc'h, PhD</i>
3:10 p.m. - 3:25 p.m.	Break
3:25 p.m. - 3:45 p.m.	Optimizing Case Report Research Collaboration With Students and Young Forensic Scientists <i>Joseph A. Prahlow, MD</i>
3:45 p.m. - 4:15 p.m.	Case-Driven Research: Why Is It Important for the Future of Forensic Science Programs? <i>Gail S. Anderson, PhD</i>
4:15 p.m. - 4:30 p.m.	How Underrepresented Minority Students Are Helping Shape the Future of Forensic Science <i>Pamela L. Marshall, PhD</i>
4:30 p.m. - 5:00 p.m.	Group Discussion and Closing Remarks <i>Amanda R. Hale, MA; Zain Bhaloo, MSc</i>



YOUNG FORENSIC SCIENTISTS FORUM

Wednesday

February 21, 2018 — 6:00 p.m. – 7:00 p.m.

YFSF Bring Your Own Slides

(Open to All Meeting Attendees)

Thursday

February 22, 2018 — 7:00 a.m. – 10:00 a.m.

AAFS Breakfast Session #4

(Pre-registration for B4 Required to Attend)

On Thursday morning, February 22, 2018, the YFSF will host an Academy-wide Breakfast Session and everyone attending the YFSF Tuesday session is encouraged to register to attend Breakfast Session #4, *YFSF's Wake Up to Professional Development ... and Bacon!* This Breakfast Session will feature two speakers addressing early career success and development as a scientist, as well as how to excel in the interview process. This Breakfast Session will conclude with a Q&A session and a résumé review.

The résumé review is a rare opportunity for young professionals and students to discuss and improve their résumés with established professionals and leaders in the field of forensic science! Attendees of the breakfast session must register separately for this Breakfast Session.

Thursday

February 22, 2018 — 7:00 p.m. – 8:00 p.m.

YFSF Bring Your Own Posters

(Open to All Meeting Attendees)

FORENSIC SCIENCE EDUCATION PROGRAMS COMMISSION (FEPAC)



Pre-Registration Not Required — Open to All Meeting Attendees

Accreditation of Forensic Science Academic Programs Through the FEPAC

Tuesday

February 20, 2018 — 8:30 a.m. - 12:45 p.m.

Educational Objectives: Upon completion of this session, the participant should be able to understand the process of accreditation through the AAFS FEPAC mechanism and be able to participate in the process as a reviewer of academic programs. Attendees from academic programs will also learn about the process of accreditation from different perspectives.

Chair:

Matthew R. Wood, PhD
Ocean County Sheriff's Department
Forensic Science Laboratory
Toms River, NJ

Commissioner:

Jeffrey K. Tomberlin, PhD
Texas A&M University
College Station, TX

Commissioner:

Daniel E. Katz, MFS
Maryland State Police
Forensic Science Division
Pikesville, MD

Program Description: This session has been developed to assist academic institutions offering undergraduate and graduate degree programs in forensic science and forensic digital evidence to prepare for the accreditation process through the FEPAC. This session will also assist future on-site evaluators (academic and practitioners) to prepare for on-site evaluations of academic programs. Successful completion of this one-day session will qualify participants for consideration to serve as on-site evaluators for FEPAC in the future (please note that participants must still meet other FEPAC requirements, such as membership in the AAFS and designation as either a practitioner or academician).

The FEPAC is a standing committee of the AAFS with a membership that includes five educators, five forensic laboratory directors, and a public member as voting members. The mission of the FEPAC is to maintain and enhance the quality of forensic science education through a formal evaluation and recognition of college-level academic programs. The primary function of the committee is to develop and maintain standards and to administer an accreditation program that recognizes and distinguishes high-quality undergraduate and graduate forensic science programs. Forty academic programs have successfully completed the accreditation process since 2003 (<http://fepac-edu.org>).

Program:

8:30 a.m. - 9:00 a.m.	Introduction and Welcoming Remarks Module 1: Accreditation, Mission, and History of FEPAC <i>Matthew R. Wood, PhD</i>
9:00 a.m. - 9:30 a.m.	Module 2: Overview of FEPAC Process, Policies, and Procedures <i>Daniel E. Katz, MFS</i>
9:30 a.m. - 10:00 a.m.	Module 3: Review of Undergraduate Standards <i>Jeffrey K. Tomberlin, PhD</i>
10:00 a.m. - 10:15 a.m.	Break
10:15 a.m. - 10:45 a.m.	Module 4: Review of Graduate Standards <i>Jeffrey K. Tomberlin, PhD</i>
10:45 a.m. - 11:15 a.m.	Module 5: Questions and Answers <i>Matthew R. Wood, PhD; Daniel E. Katz, MFS; Jeffrey K. Tomberlin, PhD</i>
11:15 a.m. - 11:45 a.m.	Module 6: The Role of the On-Site Evaluator <i>Daniel E. Katz, MFS</i>
11:45 a.m. - 12:15 p.m.	Module 7: Scenario and Evaluation <i>Matthew R. Wood, PhD; Daniel E. Katz, MFS; Jeffrey K. Tomberlin, PhD</i>
12:15 p.m. - 12:45 p.m.	Questions and Answers <i>FEPAC Commissioners and Director of Accreditation</i>



EVENING SESSION

Registration Not Required — Pre-Registration Not Required — Open to All Meeting Attendees

Forensic Science in the Public Eye: Diversity, Research, and Communication

Tuesday, February 20, 2018 — 8:00 p.m. - 10:00 p.m.

Speakers

Chair:

Christine Funk, JD*
Saint Paul, MN

Lucy A. Davis, BHS
LDH Consultants, LLC
Pikeville, KY

Ryan Gabrielson*
ProPublica
Oakland, CA

Aretha Marshall, BA*
Peacock Productions NBC News
New York, NY

Kevin Oliver, BA*
WNorml
Seattle, WA

Anjali A. Ranadive, JD
SciLawForensics, Ltd
Brookings, SD

Michelle Richmond, BA*
New York City, NY

Educational Objective(s): The goal of this presentation is to provide information, based on the experience of national leaders in media, activism, and advocacy, regarding how the use of communication, research, and a commitment to diversity can move the objectives forward and enhance the view of forensic science in the public eye.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by revealing how the national news media and political activists influence public opinion. The community can apply the experiences, perspectives, and skills demonstrated to implement new methods of accurately presenting the work of forensic scientists in a manner lay people can understand.

Program Description: “A reporter, an activist, and a producer walk into a bar ...” Please join us for a slightly different twist on this year’s meeting theme, *Science Matters*. The focus of the AAFS 2018 program is diversity, research, and communication in forensic science. By tapping resources from other professions, this presentation seeks to broaden the understanding of how media plays a pivotal role in the general public’s *perception* of forensic science and the criminal justice system. This session’s speakers come to the table (or bar) bringing their unique experiences regarding how to communicate the work of forensic scientists, their research, and their diversity to affect change in society.

Ryan Gabrielson is a journalist with the independent, non-profit investigative newsroom ProPublica that was awarded the 2017 Pulitzer Prize for public service. Mr. Gabrielson won the 2009 Pulitzer Prize for stories that exposed how immigration enforcement in Maricopa County, AZ, undermined both emergency response and law enforcement investigations. Mr. Gabrielson’s reporting has called attention to the apparent failure of the criminal justice system to understand the difference between a presumptive roadside drug test kit and the certainty of confirmatory testing. This lack of communication between science, law enforcement, and the courts has resulted in countless people being unnecessarily detained, as well as documented cases of wrongful conviction. Mr. Gabrielson’s work has resulted in changes in policy and procedures in the criminal justice system throughout the country.

EVENING SESSION



Pre-Registration Not Required — Open to All Meeting Attendees

Forensic Science in the Public Eye: Diversity, Research, and Communication

Aretha Marshall is an executive producer at Peacock Productions, NBC's non-fiction production company, and is responsible for all aspects of talent development, casting for content, and programming. She previously worked as the managing editor for *Dateline*, winning the 2010 Emmy for Outstanding Coverage of a Breaking News Story in a News Magazine. Ms. Marshall's recent work as Executive Producer of *Booking* on the History Channel's *Navy Seals: America's Secret Warriors* demonstrates the importance of having appropriate, knowledgeable people supplying facts to televised documentaries.

Kevin Oliver is a Washington state cannabis activist. Mr. Oliver is the executive director of the Washington state National Organization for the Reform of Marijuana Laws (NORML) and Political Action Committee (PAC). NORML's mission is to move public opinion sufficiently to legalize the responsible use of marijuana. During his career, Mr. Oliver has relied on grassroots organizing and providing information, based on data and research, to achieve legal reform and to ensure that consumers have access to safe, convenient, and affordable marijuana. In advocating individual legal rights, law reform, and best practices, he brings a different perspective to the forensic science point of view of cannabis identification and toxicology.

Michelle Richmond is a television news producer specializing in legal, crime, and justice news shows. She provided editorial guidance and post-production review for such non-fiction programs as MSNBC's *O.J. Simpson Chasing Freedom* and Lifetime's *JonBenet's Mother: Victim or Killer* to ensure the accuracy and quality of the productions. She also covered the Casey Anthony trial, analyzing witness testimony, motions, closing arguments, and jury instructions for news packages on *Good Morning America*, *World News Tonight*, and *Nightline*. Ms. Richmond routinely attends forensic conferences to develop storylines and content for news productions and brings in-depth knowledge regarding how forensic science is presented in the media.



ACADEMY CUP

Pre-Registration Not Required — Open to All Meeting Attendees

Wednesday

February 21, 2018 — 8:00 a.m. – 8:45 a.m.

A Quiz Game to Test Your Knowledge of AAFS

The AAFS 2018 Academy Cup will take place on Wednesday, February 21, 2018, before the Plenary Session. Teams meet at 8:00 a.m., an hour before the Plenary Session, for instructions and team strategy. The game will begin at 8:15 a.m. and consists of multiple-choice and true-or-false questions projected onto a screen to test each section's knowledge.

Each section's team is comprised of up to 11 members, including Past President/Past Vice President, Board Member and/or Officer, Chair, Secretary, Young Forensic Scientists Forum (YFSF) volunteers, as well as the section leader's other strategic choices. The YFSF volunteers will be assigned to sections on Tuesday at the YFSF Special Session. Teams will have 15 minutes to answer questions. Once all sections have turned in their answers, the answers to the questions will be presented.

The winning team will be announced and the trophy presented at the AAFS Annual Business Meeting at 4:15 p.m. Teams should be present at the Annual Business Meeting to discover who won and should be available at the conclusion to have a group photo taken.

If you just want to test your knowledge, the room is open for everyone. Feel free to join your section behind your flag to help cheer them on!

Academy Cup Committee:

Chair:	Laura L. Liptai, PhD (liptai@biomedicalforensics.com)
Co-Chair:	Carla Miller Noziglia, MS
Co-Chair:	Winona J. Agbabiaka, JD
Co-Chair:	Matthew R. Wood, PhD

Academy Cup Team Leaders:

Anthropology:	Kate Spradley, PhD; Jennifer C. Love, PhD
Criminalistics:	Vincent J. Desiderio, Jr., MS; Kristy Kadash, PhD
Digital & Multimedia Sciences:	Marcus Rogers, PhD; Marla E. Carroll, BS
Engineering Sciences:	Michelle R. Hoffman, MS; Darren Franck, MSME
General:	Joanna L. Collins, MFS; Steven C. Clark, PhD
Jurisprudence:	Stephanie Domitrovich, JD, PhD; Pamela A.W. King, JD
Odontology:	Raymond G. Miller, DDS; Adam J. Freeman, DDS
Pathology/Biology:	Joyce L. deJong, DO; James L. Caruso, MD
Psychiatry & Behavioral Science:	Dean M. De Crisce, MD; Christopher R. Thompson, MD
Questioned Documents:	Linton Mohammed, PhD; Jan Seaman Kelly, BA
Toxicology:	Fiona J. Couper, PhD; Nikolas P. Lemos, PhD

Program:

8:00 a.m.	-	8:15 a.m.	Instructions, Introductions of Team Leaders, and Team Strategizing
8:15 a.m.	-	8:30 a.m.	PowerPoint® Questions and Team Answer Sheet Turned In
8:30 a.m.	-	8:45 a.m.	PowerPoint® Answers

PLENARY SESSION



Pre-Registration Not Required — Open to All Meeting Attendees

Wednesday

February 21, 2018 — 9:00 a.m. - 11:00 a.m.

2.0 CE Hours

Welcoming Remarks

Science Matters

Betty Layne DesPortes, JD, MS

President

American Academy of Forensic Sciences

Benjamin & DesPortes, PC

Richmond, VA



Plenary Session Chair:

Nikolas P. Lemos, PhD

University of California, San Francisco
Palm Springs, CA

Plenary Session Co-Chair:

James Downs, MD

forensX, LLC
Savannah, GA

Speakers

Itiel Dror, PhD

University College London
Department of Security and Crime Science
London, England, UNITED KINGDOM

Rush D. Holt, PhD

American Association for the Advancement of Science
Washington, DC

Overview:

Forensic science is undergoing a dramatic shift. In contrast to just a few years ago when the role of the human examiner was basically non-existent as an issue in forensic science, today there is an understanding that the human examiner plays a critical role in forensic work. In most forensic domains, it is the human examiner who is the instrument of analysis, and the forensic result is dependent on his/her cognitive processing (e.g., perception, judgment, interpretation, and decision making). A whole range of cognitive issues underpin various aspects of forensic work, across many forensic disciplines. These are combined under the umbrella of the emerging field of cognitive forensics, the new frontier in forensic science. These include selection during recruitment, training, crime scene investigation, forensic decision making, verification, conflict resolution, reporting, the role of the forensic examiner, presentation in court, and judicial decisions. The scope and relevance of cognitive forensics will be presented, and the relevant research will be summarized to demonstrate its implication to forensic practice.

We are living in perilous times for science when ideological assertions are crowding out scientifically obtained evidence in public discussions of policy. This makes for perilous times for all undertakings that depend on evidence, including forensic science. The traditional American reverence for evidence is eroding. In much of public life, little distinction is made between opinion, wishful thinking, assertion, and methodically verified evidence. Nowhere is the importance of scientifically based evidence more important than in forensic methods and practice. Determinations derived through forensic methodology must be based on sound scientific process. When findings of guilt, innocence, or even life or death are poorly grounded in science, it is cause for alarm. In its 2009 Report, the National Research Council of the National Academies of Sciences, Engineering, and Medicine concluded that too often forensic science, as currently practiced, has “little systematic research to validate the discipline’s basic premises and techniques.” Fortunately, since 2009, there has been progress. The National Institute of Standards and Technology (NIST) has established the Organization of

(continued)



PLENARY SESSION

Pre-Registration Not Required — Open to All Meeting Attendees

Science Matters

Overview cont.:

Scientific Area Committees (OSACs) to set standards for forensic practice. The American Association for the Advancement of Science (AAAS) has published thorough evaluations of the current status of fire investigation and latent fingerprint examination, pointing out gaps in our knowledge. In 2016, the President's Council of Advisors on Science and Technology (PCAST) examined the strengths and weaknesses of six investigative techniques. The National Commission on Forensic Science, before its elimination, promoted important reform techniques in the criminal justice system. As part of the necessary effort to restore public appreciation of the value of evidence in public policy and judicial procedures, steps must be taken to ensure that all people involved in forensic science and practice understand the importance of establishing the validity and reliability of forensic techniques.

Program:

9:00 a.m. - 9:05 a.m.	Welcoming Remarks <i>AAFS President Betty Layne DesPortes, JD, MS</i>
9:05 a.m. - 9:55 a.m.	What Can Cognitive Neuroscience Contribute to Forensic Science? The New Cognitive Forensics <i>Itiel Dror, PhD</i>
9:55 a.m. - 10:45 a.m.	Show Me The Evidence <i>Rush D. Holt, PhD</i>
10:45 a.m. - 11:00 a.m.	Panel Discussion <i>Betty Layne DesPortes, JD, MS; Itiel Dror, PhD; Rush D. Holt, PhD</i>

BREAKFAST SEMINARS



Pre-Registration Required — \$50

Monday

#1 Analytical Thinking Skills: Essential Training for 21st-Century Forensic Scientists

February 19, 2018

7:00 a.m. - 8:30 a.m.

.75 CE Hour

Mary Ellen O'Toole, PhD*
George Mason University
Fairfax, VA

Joseph A. DiZinno, DDS
Alexandria, VA

Educational Objective(s): The goals of this presentation are to: (1) provide attendees with an overview on creating a stand-alone analytical thinking course in graduate curriculums; (2) instruct attendees on structuring a course to address real-world forensic science problems; and, (3) inform attendees on teaching students a specific methodology to break down complex problems.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing students the skills for working in the field in the 21st century.

Forensic science can be considered a three-pronged science designed to train students in theory, research, and application; however, students can face particularly significant challenges without analytical thinking skills and understanding how to apply them to real-world forensic problems.

While analytical thinking skills are important for all scientists, they are particularly critical for forensic science students who must be able to comprehend complex scientific theories, principles, and methodologies, synthesize all of their knowledge, and apply it in real-world situations with unpredictable challenges. To complicate this challenge, many forensic scientists are regularly expected to testify, under oath in court, as to the analytical thinking process they applied to the problem. A weakness or flaw in their analytical thinking or in the application of the science to real-world problems, and the subsequent flawed or weak explanations to the trier of fact, could result in a serious appellate issue for the case, which could summarily damage or even end a young scientist's career.¹

Forensic scientists are also often asked to serve on multidisciplinary commissions, panels, etc., to collaborate on specific forensic science problems, identify causation, and recommend viable solutions.

Dr. Richard Bloom, a well-known psychologist and educator, created the *Taxonomy of Educational Objectives Book*, which identified levels of cognition ranging from basic comprehension of scientific theories and principles to much more complicated levels of cognition.¹ Later revised, the book identified analytical thinking, creativity, and evaluation as the highest levels of cognition requiring specific teaching methodologies in order to develop and maintain these skills.²

In their 1992 paper presented at the annual meeting of the American Educational Research Association, Franklin and Theall noted that college instructors in soft disciplines utilized a wider range of teaching behaviors than those utilized by instructors in science disciplines.³ Twenty-two years later, Benton and Cashen opined that Science, Technology, Engineering, and Math (STEM) instructors relied predominately on lectures in their courses, rather than more advanced levels of instructional behaviors to help students reach higher levels of cognition, including analytical and creative thinking.⁴ This study conducted a review of ten forensic science graduate programs. Five programs were Forensic Science Education Programs Accreditation Commission (FEPAC) -accredited, and five were not. Results indicated none of these programs included a stand-alone analytical thinking course in their curriculums.

This presentation is designed to provide attendees with the structure, content, and outline to create a stand-alone analytical thinking course for graduate students in a forensic science program. Attendees will learn how to introduce students to analytical thinking concepts in a one-semester course.

(continued)



BREAKFAST SEMINARS

Pre-Registration Required — \$50

Monday

#1 **Analytical Thinking Skills: Essential Training for 21st-Century Forensic Scientists**

Part 1: Demonstrate how to break down a real-life forensic science problem into its most basic component parts in order to identify causation. Students will see that most real-life forensic science problems are complicated and multilayered, and they need a method to break the problem into manageable parts.

Part 2: Students will learn how to develop hypotheses to test causation using research methodologies, both qualitative and quantitative.

Part 3: Using a collaborative and multidisciplinary framework, students will learn how to use analytical and creative skills to identify relevant conclusions and, from those conclusions, develop creative but scientifically sound recommendations for solutions.

Currently, many graduate forensic science programs do not offer stand-alone analytical thinking courses. These skills are either not directly taught or are minimally covered in other courses. Without a solid understanding of analytical thinking skills, forensic science students are not being adequately equipped to face career challenges in the 21st century.

Reference(s):

1. Bloom, B. 1956. *Taxonomy of Educational Objectives Book, Handbook 1: Cognitive Domain* (New York: Longman).
2. Anderson, Lorin W., and David R. Krathwohl. 2001. *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. (New York: Longman).
3. Franklin, Jennifer, and Michael Theall. *Disciplinary Differences: Instructional Goals and Activities, Measures of Student Performance, and Student Ratings of Instruction*. (1992).
4. Stephen Benton and William Cashin, *Student Ratings of Instruction in College and University Courses in Higher Education: Handbook of Theory and Research*, ed. Michael Paulsen (New York: Springer, 2014), 29.

BREAKFAST SEMINARS



Pre-Registration Required — \$50

Tuesday

#2 My Experiences as a Forensic Science Consultant for Crime Drama Television Series

February 20, 2018

7:00 a.m. - 8:30 a.m.

.75 CE Hour

Gregory E. Laskowski, MPA*
Criminalistics Services International, LLC
Bakersfield, CA

John Houde
Calico Press, LLC
Rolling Bay, WA

Educational Objective(s): The goal of this presentation is to educate attendees on the processes that occur in the creation of a crime drama episode and why certain aspects of the “reality” of forensic science do not necessarily get translated to the screen. This presentation will discuss the real-life experiences of a forensic science consultant for such television shows as: *CSI: Crime Scene Investigation*; *CSI: Miami*; *Law and Order*; *BONES*; *Killer Instinct*; *Vanished*; *The Mob Doctor*; *Rizzoli and Isles*; *Drop Dead Diva*; *The Blacklist*; and, *Rosewood*. Clips from various episodes of these shows will be presented with a discussion on what is real and what is “Hollywood Real.” Attendees will be taken on a virtual tour of what happens in the writers’ room and on the set.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing attendees with a better understanding of the reason forensic science is portrayed in a certain manner on television crime dramas.

Forensic science flew under the radar for a number of decades. A brief spike in interest of the discipline occurred for a span of seven years from 1976 to 1983. *Quincy ME* was a very popular television show. It was Quincy played by Jack Klugman that fostered the career interest of this presenter. It was not until October of 2000 that the breakout television series *CSI: Crime Scene Investigation* hit the television airwaves. This megahit show took the world by storm. At one point, *CSI: Crime Scene Investigation* was the number-one rated show in the world and/or the most-watched television crime drama. Soon after, the television series led to a number of spinoffs: *CSI: Miami*, *CSI: New York*, and the much less-known *CSI: Cyber*, gathering number-one ratings for the CBS television network. Not to be outdone, the Fox Television Network launched its own hit forensic science series, *BONES*. On the cable networks, docudrama series such as *Forensic Files* aka *Medical Detectives*, *Cold Case Files*, and *Extreme Forensics* became extremely popular, with the HLN network broadcasting multiple episode reruns of *Forensic Files* nightly for six years after the original series ended. This presenter has had the distinct honor of having been featured in three episodes. Another hit television show, *NCIS*, and its spinoffs, *NCIS: Los Angeles*, and *NCIS: New Orleans*, feature forensic science components.

For the disciplines of forensic science, these television shows created a wave — perhaps a tsunami — of interest. Young people suddenly began to seriously look at career paths in forensic science. Colleges and universities began seriously looking at either creating or expanding programs in forensic science. During the 2000s, forensic science was in vogue. It was cool to work in a crime lab or be a crime scene investigator. Crime labs were seeing a tremendous uptick in applications for criminalist positions. Colleges and universities began to develop curricula to meet Forensic Science Education Program Accreditation Commission (FEPAC) guidelines. With success comes criticism, and, not surprisingly, the legal community and its allies in the legal educational community began their quest to diminish forensic science. The specter of the “CSI Effect” was raised because it was felt that forensic scientists, when testifying as expert witnesses, were seen as too believable by juries. Juries had unreasonable expectations when forensic science was not introduced in certain trials. Then, many disciplines were being questioned as to whether they were scientific or employing valid scientific techniques. Forensic science was now under the microscope.

(continued)



BREAKFAST SEMINARS

Pre-Registration Required — \$50

Tuesday

#2 My Experiences as a Forensic Science Consultant for Crime Drama Television Series

For the past 17 years, I have served as a forensic consultant to such television shows as *CSI: Crime Scene Investigations*, *CSI: Miami*, *BONES*, *Rizzoli and Isles*, *Law and Order*, *Rosewood*, and *The Blacklist*, in addition to appearing on several forensic science-themed docudramas. As a television consultant, I would either respond to email questions from writers and producers, review scripts, work on-set advising the director or the set dresser, or explain how to perform a technique to the actors. While most of these shows have now been canceled, they do appear on cable television networks and appear to have a strong following. Binge watching these shows can be accomplished by live streaming or DVD rental. While no longer in the forefront of television series lineups, forensic science appears as an ancillary subject in television crime dramas, such as *The Blacklist* and *Lucifer*. So, to an extent, I still keep somewhat busy. Through the use of personal stories and video clips from some of these shows, this presentation will reveal both the real and farcical aspects of television crime dramas.

BREAKFAST SEMINARS



Pre-Registration Required — \$50

Wednesday

#3 The Lawyers Always Win

February 21, 2018

7:00 a.m. - 8:30 a.m.

.75 CE Hour

Roderick T. Kennedy, JD*
Albuquerque, NM

Gil Sapir, JD
Chicago, IL

Educational Objective(s): The goal of this presentation is to reinforce the nature of science as transparent and objective. The legal system will ultimately turn to recognized criteria based in the scientific method and academic science to judge the utility and validation of forensic science. Forensic science can profit from associations that will quantify and qualify the limits of forensic examinations. This argues that there is no valid basis to resist examination of forensic science practice by traditional science and legal scholars.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by demonstrating that it is ultimately the law and law-trained persons who determine the criteria for admissibility of forensic science evidence in court.

In 1923, the *Frye* case judged a challenge to a nascent technology purporting to detect deception in a subject.¹ *Frye* held that evidence produced from novel techniques based in scientific supposition must be judged by the general acceptance of a relevant scientific community related to the technique in question to be admitted. Polygraphy was sidelined; “general acceptance by a relevant community” became a criterion for the admissibility of novel scientific evidence. Physiologists and psychologists were considered the relevant touchstone for “expert testimony deduced from the discovery, development, and experiments thus far made.”¹ Polygraphy is still judged by these objective disciplines, but not so much the polygraphers themselves.² The law has a suspicion of self-referenced validation.

In 2009 and 2016, failures of forensic claims to validity and reliability in their theories, applications, and results caused two blue-ribbon commissions to review the state of forensic science, and various pattern-matching disciplines specifically.^{3,4} In the latter, the President’s Council of Advisors on Science and Technology (PCAST) identified two gaps for these disciplines: (1) the need for clarity regarding the scientific standards for the validity and reliability of forensic methods; and, (2) the need to evaluate specific forensic methods to determine whether they have been scientifically established to be valid and reliable. It cast these concepts as “foundational validity” and “validity as applied.”⁵

Forensic practitioners criticized these reports as reflecting the views of persons from outside the practice of forensic science. Citing “unprecedented (and unrelenting) challenges from legal professionals, research academics, and the popular press” promotes an idea that only those who practice the particular discipline can establish or judge its validity, not statisticians or scientists from academia, and most particularly, not lawyers.⁶ These critics do not recall that forensic science itself is a collection of applied disciplines whose goal is to explain case phenomena in ways relevant and helpful to a court. For years, forensic science escaped much critical evaluation because its genesis, practitioners, and proponents in court were, for the most part, on the same side. This changed in the 1990s when an academically validated and objective scientific technique — DNA analysis — was used not to convict, but exonerate persons who had been wrongfully convicted. In half of those cases, false and overstated forensic opinions contributed to the injustice. At that point, the legal profession began looking to objective scientific evaluation of claims to legitimacy to which some more subjective (i.e., pattern-matching) disciplines of forensic science laid claim. Prosecutors paid attention to avoid reversals and defense attorneys to call “foul” on unsupported testimony.

(continued)



BREAKFAST SEMINARS

Pre-Registration Required — \$50

Wednesday

#3 The Lawyers Always Win

Wrongful convictions are a stain on the judicial system, which is self-policing. In cases in which trust in forensic science has been shaken, the law looks to established scientific practice to evaluate and change it. The Los Alamos National Laboratories teaches judges that foremost, science is an open process in which theories and methods must be open to testing by any interested party. The manner in which statistics can validate investigative conclusions compels the use of likelihood ratios, and expressions of limitations on conclusions become requisite to expert testimony. Academic scientists, therefore, inform us as to what validity, repeatability, and reliable process is, and what should be used in the important work of administering justice.

The practice and fate of the forensic sciences is in the hands of lawyers, who are its end consumers, and who are awakening to the need to validate forensic specialties that have been shown susceptible to bias, subjectivity, and lack of enforceable standards for practice. Admissibility of forensic results is in the hands of judges, who look to statisticians, behavioral scientists, and academic disciplines to quantify and qualify validity and reliability of forensic techniques and results. For forensic scientists to keep their research cards close to the vest ignores the open nature of science and sacrifices collaboration with academic scientists to develop acceptable standards for the practice. Forensics' validity in court can be admitted as valid and reliable within its limits, so long as the limits are properly expressed.⁷ A bunker mentality that closes out scrutiny and validation can only result in the march of the law going around the bunker.

Reference(s):

1. *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923).
2. National Research Council. 2003. *The Polygraph and Lie Detection*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/10420>.
3. National Research Council. *Strengthening Forensic Science in the United States: A Path Forward*. Washington, DC: The National Academies Press, 2009.
4. https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/PCAST/pcast_forensic_science_report_final.pdf (last accessed 7/31/17).
5. *Id.*, Note 4 at x.
6. Chumbley, S., Zhang, S., Morris, M., Spotts, R. and Macziewski, C. (2017), Development of a Mobile Toolmark Characterization/Comparison System. *J Forensic Sci*, 62: 83–91.
7. E.g., *United States v. Monteiro*, 407 F. Supp. 2d 351 (D. Mass. 2006) (holding although tool mark analysis is sufficiently valid and reliable to be admissible, the expression of results was not in accord with standards and was excluded).

BREAKFAST SEMINARS



Pre-Registration Required — \$50

Thursday

#4 YFSF's Wake Up to Professional Development ... and Bacon!

February 22, 2018

7:00 a.m. - 10:00 a.m.

.75 CE Hour

Alex J. Krotulski, MS*

The Center for Forensic Science Research & Education
Willow Grove, PA

Amanda L.A. Mohr, MSFS*

The Center for Forensic Science Research & Education
Willow Grove, PA

Barbara L. Hovanec*

NMS Labs
Willow Grove, PA

Brianna B. Bermudez, BS

Albuquerque, NM

Educational Objective(s): After attending this presentation, attendees will have gained knowledge pertaining to professional development and understand how to better prepare themselves for a career in forensic science. Additionally, attendees will be informed of practical applications by professionals established within several disciplines of forensic science.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by educating young scientists on the importance of personal and professional developments and on the positive effects they can have on the forensic science community. This breakfast seminar provides students and scientists with the opportunity to network with professionals in a unique setting that focuses on bridging the gap between established professionals and young scientists, both in higher education and in the beginning of their careers.

The Young Forensic Scientists Forum (YFSF) Breakfast Session is a morning session that will leave attendees motivated and enthusiastic about their future successes and accomplishments. This session will focus on bridging the gap between academics and early career growth. The goal is to provide young forensic scientists, whether students, near-graduates, or recent employees, with practical skills and knowledge associated with this transition period. Topics of interest will include the application and interview processes, early success and development as a scientist in a respective field, and the overall feelings and emotions that can often overwhelm young scientists. The speaker presentations will conclude with an open Q & A session, where attendees will be able to interact with the speakers to gain additional information.

The YFSF Breakfast Session will conclude, as always, with the popular résumé review session, pioneered by Academy scientists and peers from across several disciplines and career paths. This session is a rare opportunity for young professionals and students to discuss and improve their résumés with established professionals and leaders in the fields of forensic science. Attendees will sit down one-on-one with résumé reviewers to gain imperative knowledge regarding important aspects and areas to highlight or improve upon within their achievements and qualifications.

Program:

7:00 a.m. - 8:00 a.m.	YFSF Breakfast and Introductions <i>Alex J. Krotulski, MS</i>
8:00 a.m. - 8:20 a.m.	Self-Marketing and Early Management: Applying and Interviewing for Your First Job <i>Barbara L. Hovanec</i>
8:20 a.m. - 8:40 a.m.	Starting Your Career on a Successful Note: Growth and Development as an Early Professional <i>Amanda L.A. Mohr, MSFS</i>
8:40 a.m. - 9:00 a.m.	Questions and Answers
9:00 a.m. - 10:00 a.m.	Résumé Review



BREAKFAST SEMINARS

Pre-Registration Required — \$50

Friday

#5 The Making of an Opioid Crisis in America? Why Research, Policy, and Practice Matter

February 23, 2018

7:00 a.m. - 8:30 a.m.

.75 CE Hour

Andrew M. Baker, MD*

Hennepin County Medical Examiner's Office
Minneapolis, MN

Michael F. Rieders, PhD*

NMS Labs
Willow Grove, PA

Sabra R. Botch-Jones, MS, MA*

Boston University School of Medicine
Biomedical Forensic Sciences
Boston, MA

Jeri D. Roper-Miller, PhD*

RTI International
Research Triangle Park, NC

Bruce A. Goldberger, PhD*

University of Florida College of Medicine
Gainesville, FL

Agnes D. Winokur, MS*

DEA/Southeast Laboratory
Miami, FL

Barry K. Logan, PhD*

NMS Labs
The Center for Forensic Science Research & Education
Willow Grove, PA

Educational Objective(s): After attending this presentation, attendees will be able to analyze and discuss the features and characteristics of the opioid crisis in the United States. Attendees will also be able to summarize successful implementation of policies and practices at the federal, state, and local levels.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing an open forum for forensic practitioners of many disciplines to discuss the impacts of the opioid crisis to the criminal justice system and how improved reporting, surveillance, research, analytical testing, technology, and policy can help mitigate the challenges of use and misuse of these drugs.

Nearly three million Americans reported a substance use disorder to prescription pain relievers or heroin in 2015, fueling a steady increase in fatalities to an estimated 91 United States deaths daily. These rates are not slowing. In fact, alarming increases in 2015 also resulted in drug overdoses becoming the leading cause of accidental death in the United States, with more than half attributed to heroin and prescription pain relievers (33,091 of 52,404 total drug overdoses).¹ Effective strategies begin with understanding the factors that drive the interrelated problems our nation faces with the ever-increasing opioid crisis in public health and the criminal justice system.

Law enforcement, medical professionals, laboratories, and legal agencies are battling with unmanageable caseloads, economic shortfalls, and challenges for safety, analytical preparedness, and basic education and training. Confronted with the fast-paced emerging drug life cycles, reliable surveillance and intelligence are needed more than they have ever been. The legislative quagmire is just as burdensome, as policy change cannot happen without the data to support change.

This breakfast seminar is an ongoing effort of the National Institute of Justice's Forensic Technology Center for Excellence and the American Academy of Forensic Sciences Synthetic Opioids Ad Hoc Committee to heighten awareness in our communities and encourage working together to bring about necessary research and positive changes to policy and practice. This seminar will offer

BREAKFAST SEMINARS



Pre-Registration Required — \$50

Friday

**#5 The Making of an Opioid Crisis in America? Why Research, Policy,
and Practice Matter**

a multifaceted perspective to the manner in which diverse criminal justice disciplines are addressing these challenges, sharing their knowledge, and advancing science, technology, and law. Dealing with the impacts of the opioid crisis to the criminal justice system requires better reporting, surveillance, research, technology, and policy than are currently in use. This type of forum is the kind of effective public safety strategies identified by the National Governors Association to reduce the illicit supply of and demand for opioids by implementing best practices and ensuring inter-governmental cooperation in criminal and death investigations, as well as establishing and enhancing stakeholder coalitions.² The need to understand the epidemic and its effects goes beyond knowing your own profession — it takes a global perspective to fully act and make a difference.

Reference(s):

- ^{1.} Rudd R.A., Seth P., David F., Scholl L. Increases in Drug and Opioid-Involved Overdose Deaths — United States, 2010–2015. *Morb Mortal Wkly Rep (MMWR)* 2016;65:1445–1452. DOI:<http://dx.doi.org/10.15585/mmwr.mm65051e1>.
- ^{2.} National Governors Association. *Finding Solutions to the Prescription Opioid and Heroin Crisis: A Road Map for States*. 2016. <https://www.nga.org/files/live/sites/NGA/files/pdf/2016/1607NGAOpioidRoadMap.pdf>.



LUNCHEON SEMINARS

Pre-Registration Required — \$55

Thursday

#1 Post-Conviction DNA Testing in an Ever-Advancing DNA World

February 22, 2018

12:00 p.m. - 1:30 p.m.

1.0 CE Hour

Lisa Mertz, MS*

Office of the Chief Medical Examiner
Department of Forensic Biology
New York, NY

Heather Nelson, MS*

Office of the Chief Medical Examiner
New York, NY

Educational Objective(s): After attending this presentation, attendees will better understand the complexities and challenges faced in processing post-conviction DNA cases and will be presented with real-life case examples.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by showcasing the need for the continued processing of post-conviction cases so forensic science can, through the development and deployment of new technologies, continue to serve both the criminal justice system and society.

DNA testing has become one of the most important forensic tools available in solving, prosecuting, and preventing crime. It is relied upon heavily in the justice system to aid in convicting the guilty and freeing the innocent; however, the usefulness of DNA testing has only been routinely demonstrated within the past decade because of advancements in DNA technology. Such advancements have led to a renewed interest in wrongful convictions. This interest is especially strong in those cases in which convictions are based solely on eyewitness accounts. With the implementation of new DNA technology, physical evidence at crime scenes can be reassessed to see what is possible in terms of examining evidence for biological fluids and/or biological material.

Post-conviction investigations face many of the same basic challenges as new investigations in terms of DNA testing; however, there are additional complexities. Processing a post-conviction case involves greater cooperation among law enforcement, the crime laboratory, and the district attorney's office. This is due to the fact that simply locating the items of evidence to be processed can be both time-consuming and challenging. Just as time-consuming and challenging is locating previous reports and previous laboratory testing results. From past reports and considering previously tested and untested pieces of evidence, if they are found, the crime laboratory can make a determination as to what DNA testing or additional testing is now plausible. Challenges are then faced in the processing of evidence that is old and may only result in the recovery of degraded DNA. Difficulties also arise when dealing with items of evidence that may have been unknowingly contaminated at the scene in a pre-DNA world where there was less emphasis on proper protective equipment. A DNA profile may be able to be recovered from the item of evidence tested; however, obtaining these elimination samples from witnesses or law enforcement personnel, who may have come into contact with the item, may be impossible. Oftentimes, processing post-conviction cases can encounter obstacles in obtaining funding. Laboratories are frequently backlogged with current cases and often do not have the funding to look back, vet, and process old cases.

With all the hurdles faced by crime laboratories, several post-conviction cases remain dormant, their probative evidence locked in unprocessed DNA to this day. The wrongfully convicted continue to serve their sentences in jail, harboring the hope that DNA will one day help them in their quest for justice. Similarly, the families of victims of violent crimes, in too many instances, remain deprived of the closure of knowing the true identities of actual perpetrators. This Luncheon Seminar will present post-conviction case examples that will highlight the challenges faced in processing such cases. This seminar will also showcase the need for the continued processing of post-conviction cases so forensic science can, through the development and deployment of new technologies, continue to serve the criminal justice system and society.

LUNCHEON SEMINARS



Pre-Registration Required — \$55

Friday

#2 Understanding the Impact of Human Factors on Forensic Science: Case Studies in Fingerprint and Handwriting Examination

February 23, 2018

12:00 p.m. - 1:30 p.m.

1.0 CE Hour

Ted M. Burkes, BS*

Federal Bureau of Investigation Laboratory
Quantico, VA

David Kaye, JD*

Penn State Law
University Park, PA

Melissa Gische, MFS*

Federal Bureau of Investigation
Quantico, VA

Melissa K. Taylor, BA*

Gaithersburg, MD

Emily J. Will, MA*

Raleigh, NC

Educational Objective(s): After attending this presentation, attendees will better understand: (1) the general themes of human factors and organizational theory; and, (2) the findings and recommendations of the Expert Working Groups on Human Factors in Latent Print and Handwriting Examinations.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by helping forensic professionals understand the impact of human factors on every aspect of the evidence examination process.

Forensic science plays a vital role in the criminal justice system by providing scientifically based information through the analysis of physical evidence; however, several high-profile cases in the United States and abroad have highlighted the fact that human errors can occur. Human error is an inevitable part of everyday life; however, in certain endeavors, such as forensic analysis, in which errors may lead to the loss of life or liberty, error prevention is imperative. Human factors analysis can advance the understanding of the nature of errors in complex work settings. The study of human factors is the scientific discipline concerned with the understanding of interactions among humans and other elements of a system and is the profession that applies theory, principles, data, and other methods to design in order to optimize human well-being and overall system performance. The forensic science community can benefit from the application of the substantial body of human factors research to advance the understanding of the nature of errors, enhance productivity and quality in forensic examinations, and reduce the consequences and likelihood of human error in the interpretation of evidence.

The National Institute of Justice and the National Institute of Standards and Technology have partnered to sponsor a series of expert working groups to examine the effects of human factors in forensic analyses and recommend practices to reduce the likelihood of error. Each discipline-specific working group will be comprised of experts from relevant forensic disciplines, statisticians, psychologists, researchers, and other scientific experts, in addition to representatives from the legal community, professional organizations, and other identified stakeholder groups. To date, reports, including recommendations, have been published in the areas of fingerprint and handwriting examinations. The next working groups in this series will focus on DNA mixture interpretation and tool mark examinations.

This presentation will provide the general themes of human factors and organizational theory. The findings and recommendations of the Expert Working Groups on Human Factors in Latent Print and Handwriting Examinations will be presented. A range of issues affecting forensic science disciplines in the areas of work environment, training, emerging technology, and research needs will also be covered.

This presentation will further assist forensic examiners in understanding the purposes and value of reporting and documenting examinations and will provide recommendations for standardizing the content of these materials. Presenters will discuss methods to improve trial and pretrial communications between relevant parties — the experts, lawyers, judges, and juries.



WORKSHOPS

Pre-Registration Required — \$100 w/registration; \$125 workshop only

#1 Proposed Revisions to the Federal Bureau of Investigation (FBI) Quality Assurance Standards — DNA

Monday, February 19, 2018

8:30 a.m. – 12:00 p.m.

3.25 CE Hours

Educational Objective(s): After attending this presentation, attendees will be informed of the proposed changes to the FBI Quality Assurance Standards for Casework and Databasing laboratories. Laboratory personnel will be aware of any changes to policies and procedures that may be necessary in order to comply with the new standards.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing an opportunity to learn about the proposed changes to these quality standards in advance. All National DNA Index System (NDIS)-participating laboratories are required to adhere to and be audited against the revised standards when these standards become effective.

Chair:

Kristy Kadash, PhD

Jefferson County Regional Crime Laboratory
Golden, CO

Co-Chair:

Susannah Kehl, MS

Federal Bureau of Investigation Laboratory
Quantico, VA

Faculty:

Jocelyn R. Carlson, MS

Federal Bureau of Investigation
Quantico, VA

Program Description: This session is being offered as an opportunity to learn about the proposed changes to the FBI Quality Assurance Standards that all NDIS-participating DNA casework and database labs must meet. These standards have not been substantially updated since 2009, but the methods, technologies, and interpretation approaches have certainly evolved in that time. The presenters will highlight all changes and focus on areas that may have the greatest impact on laboratory work and management practices. This session provides an advance notice to the community of the revised standards before they take effect.

Program:

8:30 a.m. - 8:40 a.m.	Introduction, History, and Overview of FBI Quality Assurance Standards <i>Jocelyn R. Carlson, MS; Susannah Kehl, MS; Kristy Kadash, PhD</i>
8:40 a.m. - 9:30 a.m.	Standards 3 Through 6 <i>Jocelyn R. Carlson, MS; Susannah Kehl, MS; Kristy Kadash, PhD</i>
9:30 a.m. - 10:30 a.m.	Standards 7 Through 10 <i>Jocelyn R. Carlson, MS; Susannah Kehl, MS; Kristy Kadash, PhD</i>
10:30 a.m. - 10:45 a.m.	Break
10:45 a.m. - 11:25 a.m.	Standards 11 Through 14 <i>Jocelyn R. Carlson, MS; Susannah Kehl, MS; Kristy Kadash, PhD</i>
11:25 a.m. - 12:00 p.m.	Standards 15 Through 17 <i>Jocelyn R. Carlson, MS; Susannah Kehl, MS; Kristy Kadash, PhD</i>

Targeted Audience: Criminalistics

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

Expected Handout Length: 10 Pages

WORKSHOPS



Pre-Registration Required — \$100 w/registration; \$125 workshop only

#2 Heavy Petting: A Forensic Expert's Guide to Bestiality and Zoophilia

Monday, February 19, 2018

8:30 a.m. – 12:05 p.m.

3.0 CE Hours

Educational Objective(s): After attending this presentation, attendees will understand the history of human-animal sexual intercourse in various cultures across time as well as the development of law around the world to prosecute this behavior. Attendees will learn current conceptualizations of bestiality and the related diagnosis of zoophilia from the psychiatric perspective. Lastly, attendees will be able to describe current approaches to the evaluation of bestiality cases from the point of view of a forensic pathologist and law enforcement officer.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by improving the understanding of bestiality, a rarely discussed sexual behavior, and its relevance to the fields of forensic mental health, forensic pathology, and criminal investigation.

Chair:

Carl Wigren, MD
Wigren Forensic, PLLC
Seattle, WA

Co-Chair:

J. Paul Fedoroff, MD
Royal Ottawa Hospital
Ottawa, ON, CANADA

Faculty:

John Allgire, BS
Whatcom County Sheriff's Office
Bellingham, WA

Sara Moore, PsyD
Institute for Sexual Wellness
Weymouth, MA

Susan Hatters-Friedman, MD
University of Auckland
Auckland, NEW ZEALAND

Renee Sorrentino, MD
Institute for Sexual Wellness
Weymouth, MA

Brian J. Holoyda, MD
Saint Louis University
Department of Psychiatry &
Behavioral Neuroscience
St. Louis, MO

Program Description: This multidisciplinary session featuring forensic mental health experts, a forensic pathologist, and a law enforcement officer will educate attendees about bestiality (i.e., human-animal sexual intercourse). The history of bestiality across cultures, as well as the development of legislation to prosecute this behavior will be described. The body of literature on individuals who engage in bestiality will be reviewed, providing practical recommendations for psychiatric and medical evaluation and treatment. The Enumclaw horse sex case will be reviewed from a forensic pathologist's perspective and current practices and examples of the forensic investigation of such cases will be described.

(continued)



WORKSHOPS

Pre-Registration Required — \$100 w/registration; \$125 workshop only

#2 Heavy Petting: A Forensic Expert's Guide to Bestiality and Zoophilia

Program:

8:30 a.m.	-	8:55 a.m.	Historical and Cultural Background <i>Sara Moore, PsyD</i>
8:55 a.m.	-	9:25 a.m.	Evaluation and Treatment <i>Renee Sorrentino, MD</i>
9:25 a.m.	-	9:55 a.m.	Bestiality and the Law <i>Brian J. Holoyda, MD</i>
9:55 a.m.	-	10:25 a.m.	Break
10:25 a.m.	-	10:55 a.m.	Ethical Issues <i>Susan Hatters-Friedman, MD</i>
10:55 a.m.	-	11:20 a.m.	Bestiality and Forensic Pathology <i>Carl Wigren, MD</i>
11:20 a.m.	-	12:05 p.m.	Criminal Investigation of Bestiality Cases <i>John Allgire, BS</i>

Targeted Audience: Anthropology, Criminalistics, Digital & Multimedia Sciences, General, Jurisprudence, Pathology/Biology, Psychiatry & Behavioral Science

Knowledge Level Required: Basic (little to no knowledge of subject presented)

Expected Handout Length: 6 Pages

WORKSHOPS



Pre-Registration Required — \$100 w/registration; \$125 workshop only

#3 Alternate Light Source (ALS) Photography: Ultraviolet (UV), Infrared Radiation (IR), Lights, and Filters

Monday, February 19, 2018

8:30 a.m. – 12:30 p.m.

3.75 CE Hours

Educational Objective(s): After attending this presentation, attendees will understand how to properly image trace evidence by ALS, utilizing a Digital Single Lens Reflex (DSLR) cameras, ALS kits, and filters.

Impact on the Forensic Science Community: Professionals charged with processing crime scenes and forensic evidence are often expected to understand, but are not properly trained in, the use of ALS, including UV and IR. This presentation will impact the forensic science community by providing a broad understanding of the capabilities of standard and modified DSLR cameras in their ability to image evidence outside the visible spectrum.

Chair:

David G. Pauly, MFS

Methodist University Forensic Science Program

TruForensics, LLC

Fayetteville, NC

Co-Chair:

Mark Vecellio, MFS

Sanford, NC

Faculty:

David Alford, BS

Sirchie

Youngsville, NC

Steven L. Downs, MFS

Methodist University

Applied Forensic Science

Fayetteville, NC

Dyer Bennett, MS

Sirchie

Youngsville, NC

Program Description: While most crime scene and evidence photography is conducted in the visible spectrum of light, much of the most valuable evidence (biological fluids, trace hair/fibers, firearms/explosive residue, inks, etc.) must be visualized and thus imaged outside of the visible spectrum. This ALS photography session will expose attendees to UV and IR photography through instruction and hands-on practical exercises on the use of DSLR cameras, ALS, and specialized filters.

Program:

8:30 a.m. - 9:00 a.m.	Visible Light Photography Review and Tour of DSLR <i>David G. Pauly, MFS</i>
9:00 a.m. - 9:30 a.m.	ALS — Background <i>Dyer Bennett, MS</i>
9:30 a.m. - 10:15 a.m.	Exercise: Search and Image Bodily Fluids With UV/ALS <i>David Alford, BS</i>
10:15 a.m. - 10:30 a.m.	Break
10:30 a.m. - 11:15 a.m.	Exercise: Imaging Latent Prints and Trace Evidence Using UV and ALS <i>Mark Vecellio, MFS; Steven L. Downs, MFS</i>

(continued)



WORKSHOPS

Pre-Registration Required — \$100 w/registration; \$125 workshop only

#3 Alternate Light Source (ALS) Photography: Ultraviolet (UV), Infrared Radiation (IR), Lights, and Filters

Program cont.:

11:15 a.m. - 11:45 a.m.	Exercise: IR to Image Blood and Gun Shot Residue (GSR) on Dark Surfaces <i>Dyer Bennett, MS; Steven L. Downs, MFS</i>
11:45 a.m. - 12:15 p.m.	Exercise: Documents Under UV, IR, and ALS <i>David G. Pauly, MFS; Dyer Bennett, MS;</i>
12:15 p.m. - 12:30 p.m.	Questions and Answers <i>David G. Pauly, MFS; Mark Vecellio, MFS; Dyer Bennett, MS; David Alford, BS; Steven L. Downs, MFS</i>

Targeted Audience: Anthropology, Criminalistics, Digital & Multimedia Sciences, Engineering Sciences, General, Jurisprudence, Odontology, Pathology/Biology, Questioned Documents

Knowledge Level Required: Basic (little to no knowledge of subject presented)

Expected Handout Length: 12 Pages

Restricted Audience Size: 30

Participants are encouraged to bring a work or personal camera to the workshop.

WORKSHOPS



Pre-Registration Required — \$100 w/registration; \$125 workshop only

#4 Applications of Raman Spectroscopy for Trace Evidence Examinations

Monday, February 19, 2018

8:30 a.m. – 12:30 p.m.

3.25 CE Hours

Educational Objective(s): This presentation focuses on applications of Raman spectroscopy for the analysis of various types of materials that may be encountered as trace evidence. This presentation is intended to provide trace evidence examiners with a better understanding of this underutilized analytical method, which has seen significant developments in instrument technology in the past couple of decades. After attending this presentation, attendees will gain: (1) a better understanding of the theory, principles, and instrumentation of Raman spectroscopy; and, (2) a greater appreciation of Raman spectroscopy's capabilities and limitations for the characterization, comparison, and identification of various types of trace evidence.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by increasing participant knowledge and information as well as providing a framework upon which examiners can better utilize this method for casework and to correctly interpret the spectral data of their evidence.

Chair:

Christopher S. Palenik, PhD

Microtrace
Elgin, IL

Co-Chair:

Edward M. Suzuki, PhD

Washington State Patrol Crime Lab
Seattle, WA

Faculty:

Andrew M. Bowen, MS

United States Postal Inspection Service
Dulles, VA

Patrick Buzzini, PhD

Sam Houston State University
Chemistry/Forensic Science Building
Huntsville, TX

Program Description: The applications of Raman spectroscopy for the analysis of trace evidence are presented in this session, which emphasizes spectral interpretation. This technique has seen several significant instrument developments recently, which have served not only to make it more sensitive, but also more applicable to the wide variety of materials that may be examined as evidence. Because it requires little sample preparation, permits very small areas to be probed in a non-destructive manner, provides structural information about analytes, and produces data that complements those obtained using traditional methods, Raman spectroscopy is ideally suited for the examination of certain types of trace evidence.

Program:

8:30 a.m. - 9:20 a.m.	Principles of Raman Spectroscopy — A Comparison of Infrared and Raman Methods of Analysis <i>Edward M. Suzuki, PhD</i>
9:20 a.m. - 9:30 a.m.	Break
9:30 a.m. - 10:20 a.m.	The Identification and Classification of Pigments, Nanoparticles, and Other Fine Traces in Forensic Casework <i>Christopher S. Palenik, PhD</i>
10:20 a.m. - 10:40 a.m.	Break

(continued)



WORKSHOPS

Pre-Registration Required — \$100 w/registration; \$125 workshop only

#4 Applications of Raman Spectroscopy for Trace Evidence Examinations

Program cont.:

10:40 a.m. - 11:30 a.m.	The Complementary Nature of Raman Micro-Spectroscopy and Polarized Light <i>Andrew M. Bowen, MS</i>
11:30 a.m. - 11:40 a.m.	Break
11:40 a.m. - 12:30 p.m.	The Characterization and Discrimination of Textile Fiber Dyes <i>Patrick Buzzini, PhD</i>

Targeted Audience: Criminalistics, Engineering Sciences, General, Questioned Documents

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

Expected Handout Length: 25 Pages

Restricted Audience Size: 40

WORKSHOPS



Pre-Registration Required — \$100 w/registration; \$125 workshop only

#5 Ohio's Assertive Approach to Scheduling Opioids and Fentanyl Analogs

Monday, February 19, 2018

8:30 a.m. – 12:30 p.m.

3.5 CE Hours

Educational Objective(s): After attending this presentation, attendees will: (1) recognize the role of state government in the scheduling of drugs; (2) understand the importance of rapid scheduling of drugs for law enforcement purposes; (3) identify the parts of the molecular structure of drugs that are responsible for pharmacological interactions; and, (4) realize the importance of communication and cooperation between forensic laboratories and government entities.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing an in-depth examination of how one state is combating the opioid epidemic.

Chair:

Douglas E. Rohde, MS

Lake County Crime Laboratory
Painesville, OH

Co-Chair:

Eric S. Lavins, BS

Cuyahoga County Medical Examiner's Office
Toxicology Department
Cleveland, OH

Faculty:

Joseph A. Felo, DO

Cuyahoga County Medical Examiner's Office
Cleveland, OH

Jon E. Sprague, PhD

Center for the Future of Forensic Science
Bowling Green State University
Bowling Green, OH

Erin C. Reed, JD

State of Ohio Board of Pharmacy
Columbus, OH

Stanton W. Wheasler, BS

Ohio Bureau of Criminal Investigation
London, OH

Program Description: This workshop will highlight several forensic disciplines and their integrated response to the opioid epidemic in Ohio. Session topics will include a review of opioid deaths, the legal processes of drug scheduling on a state level, identification of fentanyl analogs in toxicology and drug chemistry casework, and pharmacophore definition and application in drug scheduling.

Program:

8:30 a.m. - 8:45 a.m.	Welcome and Overview <i>Douglas E. Rohde, MS; Eric S. Lavins, BS</i>
8:45 a.m. - 9:00 a.m.	U-47700 Identification in a Fatality <i>Douglas E. Rohde, MS</i>
9:00 a.m. - 10:00 a.m.	Emergency Scheduling of U-47700 <i>Erin C. Reed, JD</i>
10:00 a.m. - 10:15 a.m.	Fentanyl Analogs in Postmortem Examinations <i>Joseph A. Felo, DO</i>

(continued)



WORKSHOPS

Pre-Registration Required — \$100 w/registration; \$125 workshop only

#5 Ohio's Assertive Approach to Scheduling Opioids and Fentanyl Analogs

Program cont.:

10:15 a.m. - 10:30 a.m.	Break
10:30 a.m. - 10:45 a.m.	Fentanyl Analogs in Toxicology Examinations <i>Eric S. Lavins, BS</i>
10:45 a.m. - 11:00 a.m.	Fentanyl Analogs in Drug Chemistry Examinations <i>Stanton W. Wheasler, BS</i>
11:00 a.m. - 12:00 p.m.	The Pharmacophore Rule for Fentanyl Analogs <i>Jon E. Sprague, PhD</i>
12:00 p.m. - 12:15 p.m.	Ohio's Continued Response <i>Erin C. Reed, JD</i>
12:15 p.m. - 12:30 p.m.	Questions and Answers <i>Douglas E. Rohde, MS; Eric S. Lavins, BS; Erin C. Reed, JD; Jon E. Sprague, PhD; Joseph A. Felo, DO</i>

Targeted Audience: Criminalistics, Jurisprudence, Pathology/Biology, Toxicology

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

Expected Handout Length: 85 Pages

WORKSHOPS



Pre-Registration Required — \$200 w/registration; \$250 workshop only

#6 Machine-Readable Technologies in Travel and Identity Documents

Monday, February 19, 2018

8:30 a.m. – 4:30 p.m.

6.25 CE Hours

Educational Objective(s): After attending this presentation, attendees will understand how contemporary machine-readable technologies used in travel and identity documents function and the circumstances under which the encoded data can be accessed using software and/or hardware readers.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by describing novel travel and identity documents examination methods that revolve around document reader technology instead of microscopic and other conventional methods for the examination of questioned documents.

Chair:

Linda L. Mitchell, BS
Forensic QDE Lab, LLC
Escondido, CA

Co-Chair:

Linton Mohammed, PhD
Forensic Science Consultants, Inc
Burlingame, CA

Faculty:

Joel A. Zlotnick, MSFS
United States Department of State
Washington, DC

Program Description: Passports, visas, birth records, identity cards, and other identity and travel documents have been manufactured with a diverse array of machine-readable technologies that are capable of very different functions. These include optical character recognition fonts, machine-readable text zones, magnetic stripes, barcodes, optical strips, and both contact and contactless smart chips. Many machine-readable features can be decoded using inexpensive equipment ranging from small magnetic stripe readers to commercial barcode software to a variety of smartphone applications. The goals of this session are to describe the basics of machine-readable document technologies and to outline some straightforward methods for accessing machine-readable document features using low-cost techniques.

Program:

8:30 a.m.	-	9:20 a.m.	Introduction and Magnetic Stripes <i>Joel A. Zlotnick, MSFS</i>
9:20 a.m.	-	9:30 a.m.	Break
9:30 a.m.	-	10:20 a.m.	Barcodes and Optical Stripes <i>Joel A. Zlotnick, MSFS</i>
10:20 a.m.	-	10:30 a.m.	Break
10:30 a.m.	-	11:30 a.m.	Smart Cards and Radio Frequency Identification <i>Joel A. Zlotnick, MSFS</i>
11:30 a.m.	-	12:30 p.m.	Lunch

(continued)



WORKSHOPS

Pre-Registration Required — \$200 w/registration; \$250 workshop only

#6 Machine-Readable Technologies in Travel and Identity Documents

Program cont.:

12:30 p.m.	-	1:20 p.m.	The Technical Evolution of Passports <i>Joel A. Zlotnick, MSFS</i>
1:20 p.m.	-	1:30 p.m.	Break
1:30 p.m.	-	2:20 p.m.	Public Key Cryptography and Electronic Security <i>Joel A. Zlotnick, MSFS</i>
2:20 p.m.	-	2:30 p.m.	Break
2:30 p.m.	-	3:20 p.m.	REAL ID, Enhanced Driver's Licenses, and Trusted Traveler Program Cards <i>Joel A. Zlotnick, MSFS</i>
3:20 p.m.	-	3:30 p.m.	Break
3:30 p.m.	-	4:30 p.m.	International Cards, e-Government, and Course Summary <i>Joel A. Zlotnick, MSFS</i>

Targeted Audience: Questioned Documents

Knowledge Level Required: Basic (little to no knowledge of subject presented)

Expected Handout Length: 100 Pages

Limited to AAFS members until January 15, 2018.

WORKSHOPS



Pre-Registration Required — \$200 w/registration; \$250 workshop only

#7 Data Standards, Archiving, and Analytics in Forensic Anthropology

Monday, February 19, 2018

8:30 a.m. – 5:00 p.m.

7.25 CE Hours

Educational Objective(s): After attending this presentation, attendees will understand the benefits of a unified data architecture and ontology of forensic anthropology data, which enables the development and implementation of software applications for data analytics. Attendees of this session will join a community of users and will gain access to open source software for recording and managing biometric data in forensic anthropology.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing access to an ecosystem of software applications for forensic anthropology that facilitates casework analyses. Casework efficiencies are realized through a common ontology, enabling data sharing and opportunities for new methods. The ecosystem of applications is based on open source software that fosters collaboration and community engagement via appropriate interfaces and Application Programming Interfaces (APIs).

Chair:

Franklin E. Damann, PhD

Defense POW/MIA Accounting Agency
Central Identification Laboratory
Offutt AFB, NE

Co-Chair:

Nicholas P. Herrmann, PhD

Texas State University
Department of Anthropology
San Marcos, TX

Faculty:

Felix Engel, MA

Albert Ludwigs University Freiburg
Freiburg, GERMANY

Sachin Pawaskar, PhD

University of Nebraska Omaha
Omaha, NE

Alexandria Frye, MA

San Marcos, TX

Stefan Schlager, PhD

Albert Ludwigs University Freiburg
Freiburg, GERMANY

Jeffrey James Lynch, MSc

Omaha, NE

Stephen D. Ousley, PhD

Mercyhurst University
Department of Anthropology/Archaeology
Erie, PA

Carl M. Stephan, PhD

The University of Queensland
School of Biomedical Sciences
Saint Lucia, AUSTRALIA

Program Description: Presentations of a unified data architecture and ontology for recording and managing biometric data in forensic anthropology will be presented in this session.

(continued)



WORKSHOPS

Pre-Registration Required — \$200 w/registration; \$250 workshop only

#7 Data Standards, Archiving, and Analytics in Forensic Anthropology

Program:

8:30 a.m. - 9:45 a.m.	Information Management, Project Pipelines, and the Commingled Remains and Analytics Platform <i>Sachin Pawaskar, PhD</i>
9:45 a.m. - 10:00 a.m.	Break
10:00 a.m. - 11:30 a.m.	Knowledge Management and Ontology of Forensic Anthropology Research Data From Texas State <i>Felix Engel, MA; Stefan Schlager, PhD</i>
11:30 a.m. - 12:30 p.m.	Hands-On Exercise: The R-Programming Environment and Its Application to Biometric Data and Analytics in Forensic Anthropology <i>Sachin Pawaskar, PhD; Carl N. Stephan, PhD</i>
12:30 p.m. - 1:30 p.m.	Lunch
1:30 p.m. - 2:00 p.m.	Skelet-O Matic: A Macro-Enabled Inventory Application <i>Carl N. Stephan, PhD</i>
2:00 p.m. - 3:00 p.m.	Osteosort: Lecture, Demonstration, and Hands-On Tutorial <i>Jeffrey James Lynch, MSc</i>
3:00 p.m. - 3:15 p.m.	Break
3:15 p.m. - 4:15 p.m.	FORDISC® Updates and Demonstration <i>Stephen D. Ousley, PhD</i>
4:15 p.m. - 5:00 p.m.	TDStats for Automating Facial Soft Tissue Thickness Analysis <i>Carl N. Stephan, PhD</i>

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

Knowledge Level Required: Basic (little to no knowledge of subject presented)

Expected Handout Length: 50 Pages

Restricted Audience Size: 40

Attendees should bring their own laptop or tablet for participation in the workshop.

WORKSHOPS



Pre-Registration Required — \$200 w/registration; \$250 workshop only

#8 Innovative Teaching With Active Learning Methods — Implementation in Forensic Science Education

Monday, February 19, 2018

8:30 a.m. – 5:00 p.m.

6.5 CE Hours

Educational Objective(s): After attending this presentation, attendees will be able to: (1) describe general principles of learning, including examples related directly to scientific disciplines; (2) identify and describe a variety of active learning methods; (3) distinguish between active and non-active learning methods; (4) cite examples of useful teaching methods dependent on the environment; (5) evaluate innovative teaching styles that could be incorporated into their classroom; and, (6) generate lesson plans that could be integrated into their classroom.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by exploring a variety of teaching strategies to gain insight into a broader scope of active learning methods useful in forensic science teaching. Attendees will learn how these teaching methods can help forensic science instructors adapt their lesson plans to rapidly changing learning environments. By discussing multiple learning techniques and the application of teaching methods in forensic science education, attendees will be able to incorporate new tools into their forensic science classroom.

Chair:

Amy N. Brodeur, MFS
Boston University School of Medicine
Biomedical Forensic Sciences
Boston, MA

Co-Chair:

Matthew R. Wood, PhD
Ocean County Sheriff's Department
Forensic Science Laboratory
Toms River, NJ

Faculty:

Adrienne L. Brundage, PhD
Bryan, TX

Caitlin E. Porterfield, MS
Forensic Science Institute
University of Central Oklahoma
Edmond, OK

Sandra Haddad, PhD
Bay Path University
Longmeadow, MA

Catherine G. Rushton, EdD
Marshall University Forensic Science Program
Huntington, WV

Gina Londino-Smolar, MS
Indiana University – Purdue University Indianapolis
Indianapolis, IN

John A. Williams, PhD
Western Carolina University
Department of Anthropology and Sociology
Cullowhee, NC

Mark R. McCoy, EdD
University of Central Oklahoma
Forensic Science Institute
Edmond, OK

Mark Windschitl, PhD
University of Washington
Seattle, WA

Program Description: Many instructors still teach the way they were taught — lecture and test — without realizing that more active learning methods exist. This session, organized jointly by the Council of Forensic Science Educators (COFSE) and the Forensic Science Education Programs Accreditation Commission (FEPAC), will explore innovative teaching strategies currently being used in science education.

(continued)



WORKSHOPS

Pre-Registration Required — \$200 w/registration; \$250 workshop only

#8 Innovative Teaching With Active Learning Methods — Implementation in Forensic Science Education

Program Description cont.:

The active learning methods presented are applicable to undergraduate and graduate-level forensic science programs, educational workshops for forensic science practitioners, and forensic laboratory trainees. Active learning methods improve a student's critical thinking skills, problem-solving abilities, and long-term retention of the material. Such methods include flipped classroom techniques, large lecture teaching methods, service-based learning, gamed-based learning, direct experimentation, and a writing-based approach to scientific learning. Each discussion will include actual classroom examples of how the teaching method is implemented within the forensic curriculum and how to apply the teaching methods to any discipline.

Program:

8:30 a.m. - 8:40 a.m.	Welcome and Introduction <i>Amy N. Brodeur, MFS</i>
8:40 a.m. - 9:35 a.m.	Principles of Learning <i>Mark Windschitl, PhD</i>
9:35 a.m. - 10:30 a.m.	Flipped Classroom <i>Sandra Haddad, PhD</i>
10:30 a.m. - 10:45 a.m.	Break
10:45 a.m. - 11:40 a.m.	Large Lecturing Teaching <i>Gina Londino-Smolar, MS</i>
11:40 a.m. - 1:00 p.m.	Lunch
1:00 p.m. - 1:55 p.m.	Service-Based Learning <i>Mark R. McCoy, EdD; Caitlin E. Porterfield, MS</i>
1:55 p.m. - 2:50 p.m.	Game-Based Learning <i>Catherine G. Rushton, EdD</i>
2:50 p.m. - 3:00 p.m.	Break
3:00 p.m. - 3:55 p.m.	Directed Experimentation <i>John A. Williams, PhD</i>
3:55 p.m. - 4:50 p.m.	A Writing-Based Approach <i>Adrienne L. Brundage, PhD</i>
4:50 p.m. - 5:00 p.m.	Closing Remarks <i>Matthew R. Wood, PhD</i>

Targeted Audience: All Disciplines

Knowledge Level Required: Basic (little to no knowledge of subject presented)

Expected Handout Length: 100 Pages

WORKSHOPS



Pre-Registration Required — \$200 w/registration; \$250 workshop only

#9 Putting the Expert on Trial

Monday, February 19, 2018

8:30 a.m. – 5:00 p.m.

6.75 CE Hours

Educational Objective(s): After attending this presentation, attendees will: (1) recognize and understand the significance of various pediatric injuries; (2) understand the process of discerning inflicted from accidental injuries causing death; (3) appreciate the effective use of consultants in certain pediatric deaths; (4) realize the potential legal risks of providing opinions as practitioners and consultants; and, (5) be informed about appropriate practices to follow in the event of subsequent allegations of improperly practicing the forensic sciences and providing opinions.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by clarifying the recognition and significance of various pediatric injuries, improving the determination of inflicted from accidental injuries, and preparing practitioners and experts for potential litigation against them for providing their opinions.

Chair:

Joyce L. deJong, DO

Western Michigan University
Homer Stryker MD School of Medicine
Department of Pathology
Kalamazoo, MI

Co-Chair:

Rudy J. Castellani, MD

Center for Neuropathology
Kalamazoo, MI

Faculty:

Carl J. Schmidt, MD

Wayne County MEO
University of Michigan
Detroit, MI

Michael L. VanErp, JD

Johnson & Wyngaarden, PC
Okemos, MI

Program Description: Through the thorough analysis of the traumatic death of a child, this session will provide a review of common injuries in fatal child abuse, the determination of inflicted injuries, the effective use of consultants, and recommendations for the provision of informal and formal opinions to the legal and law enforcement community. Using the same case, this session will provide a careful analysis of subsequent litigation against the experts who formulated and provided their opinions, when the accused filed a civil lawsuit against these experts after authorities dropped the criminal charges.

Program:

8:30 a.m.	-	8:45 a.m.	Welcome and Introductions <i>Joyce L. deJong, DO</i>
8:45 a.m.	-	9:45 a.m.	Pediatric Death: The Investigation and Autopsy <i>Joyce L. deJong, DO</i>
9:45 a.m.	-	10:45 a.m.	Neuropathology and Ocular Pathology Findings: The Current Case and a Review of Inflicted Pediatric Head and Eye Trauma <i>Rudy J. Castellani, MD</i>
10:45 a.m.	-	11:00 a.m.	Break

(continued)



WORKSHOPS

Pre-Registration Required — \$200 w/registration; \$250 workshop only

#9 Putting the Expert on Trial

Program cont.:

11:00 a.m. - 12:00 p.m.	Inflicted Injuries: Features of Inflicted Injuries, Determination of Manner of Death, and Injury Timing <i>Carl J. Schmidt, MD</i>
12:00 p.m. - 1:00 p.m.	Lunch
1:00 p.m. - 2:00 p.m.	Events: Opinions, Conversations, Emails, Preliminary Testimony, <i>Daubert</i> Hearing, Consultants, Depositions, Department of Human Services (DHS) Hearing, and Decisions to Dismiss <i>Joyce L. deJong, DO; Rudy J. Castellani, MD; Carl J. Schmidt, MD</i>
2:00 p.m. - 3:00 p.m.	A Civil Lawsuit Against the Physicians: A Complaint in the United States District Court for the Western District of Michigan, Initial Disclosure of Information, Fact Witness Depositions, Expert Consults, Expert Depositions, and Motion for Dismissal <i>Michael L. VanErp, JD</i>
3:00 p.m. - 3:15 p.m.	Break
3:15 p.m. - 4:15 p.m.	Lessons Learned: Appropriated Practices to Avoid Being Sued and Guidance on How to Proceed if You Are <i>Michael L. VanErp, JD</i>
4:15 p.m. - 5:00 p.m.	Questions and Answers <i>Joyce L. deJong, DO; Rudy J. Castellani, MD; Carl J. Schmidt, MD; Michael L. VanErp, JD</i>

Targeted Audience: Anthropology, Criminalistics, Engineering Sciences, General, Jurisprudence, Odontology, Pathology/Biology, Psychiatry & Behavioral Science, Toxicology

Knowledge Level Required: Basic (little to no knowledge of subject presented)

Expected Handout Length: 30 Pages

WORKSHOPS



Pre-Registration Required — \$200 w/registration; \$250 workshop only

#10 A Multidisciplinary Approach to Dogfighting Cases

Monday, February 19, 2018

8:30 a.m. – 5:20 p.m.

7.25 CE Hours

Educational Objective(s): After attending this presentation, attendees will: (1) possess a basic understanding of dogfighting within the United States, including the breeds of dogs utilized, housing, breeding, training and conditioning of dogs, the rules and procedures of a fight, and recognition of paraphernalia associated with this crime; (2) be familiar with investigative techniques specific to dogfighting; (3) recognize the unique aspects of dogfighting crime scenes; (4) understand evidence analyses typically associated with dogfighting case work; (5) recognize the pattern of injury and animal behavior consistent with dogs utilized in organized dogfighting; (6) understand the link between dogfighting and other violent crimes; and, (7) better understand major legal issues in dogfighting investigations and prosecutions.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by enabling recognition of this clandestine crime and elucidating the most current research and techniques utilized when investigating and prosecuting dogfighting. Additionally, this presentation will illustrate the benefits of a multidisciplinary approach for the most favorable outcome to dogfighting criminal cases.

Chair:

Rachel Touroo, DVM
Gainesville, FL

Co-Chair:

Amanda Fitch, MS
American Society for Prevention of Cruelty to Animals
Gainesville, FL

Faculty:

Jennifer Chin, JD
American Society for Prevention of Cruelty to Animals
New York, NY

Terry Mills
American Society for Prevention of Cruelty to Animals
New York, NY

Randall Lockwood, PhD
American Society for Prevention of Cruelty to Animals
Falls Church, VA

Pamela Reid, PhD
American Society for Prevention of Cruelty to Animals
New York, NY

Program Description: This session will enable participants to: (1) recognize the clandestine crime of dogfighting; (2) highlight the most current research and techniques utilized in investigating and prosecuting this crime; and, (3) illustrate the benefits of a multidisciplinary approach.

Program:

8:30 a.m. - 9:30 a.m.	Introduction to Dogfighting and Investigative Techniques <i>Terry Mills</i>
9:30 a.m. - 10:00 a.m.	Dogfighting Paraphernalia <i>Randall Lockwood, PhD; Terry Mills</i>
10:00 a.m. - 10:15 a.m.	Break
10:15 a.m. - 11:35 a.m.	Documentation and Evidence Analyses for Dogfighting Crime Scenes <i>Amanda Fitch, MS</i>

(continued)



WORKSHOPS

Pre-Registration Required — \$200 w/registration; \$250 workshop only

#10 A Multidisciplinary Approach to Dogfighting Cases

Program cont.:

11:35 a.m. - 12:05 p.m.	The Role of the Forensic Veterinarian and Behaviorist on Scene <i>Rachel Touroo, DVM; Pamela Reid, PhD</i>
12:05 p.m. - 1:05 p.m.	Lunch
1:05 p.m. - 2:05 p.m.	Veterinary Forensic Medical Examination of Fighting Dogs <i>Rachel Touroo, DVM</i>
2:05 p.m. - 3:05 p.m.	Forensic Behavioral Evaluation of Fighting Dogs <i>Pamela Reid, PhD</i>
3:05 p.m. - 3:20 p.m.	Break
3:20 p.m. - 4:20 p.m.	Dogfighting Investigations and Prosecutions: Legal Perspectives <i>Jennifer Chin, JD</i>
4:20 p.m. - 5:20 p.m.	Federal Bureau of Investigation (FBI) Tracking of Organized Animal Abuse and the LINK <i>Randall Lockwood, PhD</i>

Targeted Audience: General, Jurisprudence, Pathology/Biology, Psychiatry & Behavioral Science

Knowledge Level Required: Basic (little or no knowledge of subject presented)

Expected Handout Length: 150 Pages

WORKSHOPS



Pre-Registration Required — \$200 w/registration; \$250 workshop only

#11 Some Like It Hot: A Forensic Analysis of Burnt Remains

Monday, February 19, 2018

8:30 a.m. – 5:45 p.m.

7.5 CE Hours

Educational Objective(s): After attending this presentation, attendees will: (1) be introduced to fire scene investigation involving burnt human remains and their recovery; (2) recognize the micro- and macroscopical changes undergone by the body, skeletal, and dental hard tissues when subjected to fire; (3) understand the different techniques, approaches, and challenges for the identification of burnt human remains, including the practical issues; (4) learn what additional information about the incineration event can be gained through burnt bone analysis; and, (5) gain insights through the discussion of forensic casework.

Impact on the Forensic Science Community: This presentation will impact the forensic science community through the presentation of multidisciplinary and innovative approaches to tackle complex cases of burnt human remains with a more holistic approach to not only facilitate the identification of remains, but to also glean insight into the reconstruction of the incineration conditions.

Chair:

Sara C. Zapico, PhD

Florida International University
Department of Chemistry and Biochemistry
Miami, FL

Co-Chair:

Sarah Ellingham, PhD

International Committee of the Red Cross
Baghdad Delegation
Baghdad, IRAQ

Faculty:

Joe Adserias-Garriga, DDS, PhD

Barcelona, SPAIN

Steven A. Symes, PhD

Mississippi Medical Examiner's Office
Crime Laboratory
Pearl, MS

John Berketa, PhD

University of Adelaide
Norwood, AUSTRALIA

Douglas H. Ubelaker, PhD

Smithsonian Institution
Department of Anthropology
Washington, DC

Ericka N. L'Abbe, PhD

University of Pretoria
Pretoria, SOUTH AFRICA

Christopher W. Schmidt, PhD

University of Indianapolis
Department of Anthropology
Indianapolis, IN

Program Description: This workshop will illustrate the multidisciplinary process of identification of burnt remains and fire scene reconstruction. This will be explained from the recovery of burnt human remains from the scene as well as the analysis of these remains at different levels: macroscopic, microscopic/biochemical, and genetic in order to facilitate the identification of the victims by applying anthropological, odontological, and genetic techniques to finally illustrate the discussed approach and challenges through practical case studies.

Program:

8:30 a.m. - 8:45 a.m.

Welcome and Introduction

Sara C. Zapico, PhD; Sarah Ellingham, PhD; Joe Adserias-Garriga, DDS, PhD

8:45 a.m. - 9:45 a.m.

Biochemical and Structural Changes to the Bone Matrix When Exposed to Fire

Sarah Ellingham, PhD

(continued)



WORKSHOPS

Pre-Registration Required — \$200 w/registration; \$250 workshop only

#11 Some Like It Hot: A Forensic Analysis of Burnt Remains

Program cont.:

9:45 a.m. - 10:00 a.m.	Break
10:00 a.m. - 11:00 a.m.	Practical Aspects in the Recovery of Burnt Human Remains From the Fire Scene to Maximize Postmortem Information <i>John Berketa, PhD</i>
11:00 a.m. - 11:45 a.m.	Forensic Analysis of Incinerated Bones and Teeth <i>Joe Adserias-Garriga, DDS, PhD</i>
11:45 a.m. - 12:45 p.m.	Lunch
12:45 p.m. - 2:45 p.m.	Fleshed, Wet, and Dry Burn Patterns to Bone <i>Steven A. Symes, PhD; Ericka N. L'Abbe, PhD; Christopher W. Schmidt, PhD</i>
2:45 p.m. - 3:00 p.m.	Break
3:00 p.m. - 3:45 p.m.	Using Analytical Techniques to Determine the Exposure Temperature From Burnt Bone <i>Sarah Ellingham, PhD</i>
3:45 p.m. - 4:30 p.m.	Genetic Analysis of Burnt Human Remains: Issues, Challenges, and Approaches <i>Sara C. Zapico, PhD</i>
4:30 p.m. - 5:30 p.m.	Analysis of Burnt Remains: Case Applications <i>Douglas H. Ubelaker, PhD</i>
5:30 p.m. - 5:45 p.m.	Closing Remarks <i>Sara C. Zapico, PhD; Sarah Ellingham, PhD; Joe Adserias-Garriga, DDS, PhD; Douglas H. Ubelaker, PhD; John Berketa, PhD; Steven A. Symes, PhD; Ericka N. L'Abbe, PhD; Christopher W. Schmidt, PhD</i>

Targeted Audience: Anthropology, Criminalistics, Odontology, Pathology/Biology

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

Expected Handout Length: 50 Pages

WORKSHOPS



Pre-Registration Required — \$150 w/registration; \$175 workshop only

#12 Eric Zimmerman's Open Source Forensic Tools Library

Monday, February 19, 2018

1:00 p.m. – 4:00 p.m.

2.0 CE Hours

Educational Objective(s): After participating in this workshop, attendees will better understand the challenges facing digital forensic software developers to both design and maintain open source tools and will understand how to prepare and use an open source digital forensic toolkit to conduct examinations. Attendees will better understand the relative advantages of commercial forensic packages and open source tools and where they can be used in concert to impact the work of digital forensic examiners. Those attending will learn the specific capabilities and methods of use of one of the most well-known open source libraries of digital forensic software. Issues vital to those who would develop and maintain forensic software, such as architecting through plugins to evolve functionality as opposed to monolithic executables, will be discussed as well as how that architecture can allow forensic examiners to expand the tools' capabilities by developing plugins to meet their particular casework needs and challenges. Finally, this session will help forensic examiners better understand how growing complexity and evidence volumes are making the ability to perform triage and focus on those elements most likely to be relevant to the investigation. This session will help the forensic community understand the balance between thoroughness and timeliness that is the hallmark of real-world cases that our examiner community faces every day.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by demonstrating that freely available, open source forensic tools and forensic libraries can help both public and private sector organizations.

Chair:

Alan E. Brill, MBA
Kroll Cyber Security
Secaucus, NJ

Co-Chair:

Marla E. Carroll, BS
Forensic Video & Audio Associates, Inc.
Plantation, FL

Faculty:

Eric Zimmerman, BS
Kroll Associates, Inc.
New York, NY

Program Description: This workshop will be presented in two parts. The first part will be discussion of the challenges facing examiners and the need to strike a balance between thoroughness and timeliness, and how open source software may be key in improving our ability to conduct investigative triage in the real world of personnel and financial limitations on examiners and their organizations. The second part of the session will focus on a toolset that participants and their organizations can investigate and use (at no cost) to improve their ability to meet their investigative objectives.

Program:

1:00 p.m. - 1:30 p.m.	Introduction <i>Alan E. Brill, MBA</i>
1:30 p.m. - 2:00 p.m.	Introduction to the Toolset, Setup, and General Principles of Use <i>Alan E. Brill, MBA; Eric Zimmerman, BS</i>
2:00 p.m. - 2:30 p.m.	Demonstrations of the Toolset Elements: Part 1 <i>Alan E. Brill, MBA; Eric Zimmerman, BS</i>
2:30 p.m. - 3:00 p.m.	Break

(continued)



WORKSHOPS

Pre-Registration Required — \$150 w/registration; \$175 workshop only

#12 Eric Zimmerman's Open Source Forensic Tools Library

Program cont.:

3:00 p.m. - 3:30 p.m.	Demonstrations of the Toolset Elements: Part 2 <i>Alan E. Brill, MBA; Eric Zimmerman, BS</i>
3:30 p.m. - 4:00 p.m.	Using the Tools on Participant-Provided Data and Discussion <i>Alan E. Brill, MBA; Eric Zimmerman, BS</i>

Targeted Audience: Digital & Multimedia Sciences, General, Jurisprudence

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

Expected Handout Length: 20 Pages

Participants are encouraged to bring sample drives to discuss and in some cases (depending on time) evaluate using the tools.

WORKSHOPS



Pre-Registration Required — \$100 w/registration; \$125 workshop only

#13 Moving From the Combined Probability of Inclusion (CPI) to Probabilistic Genotyping for DNA Mixture Interpretation

Monday, February 19, 2018

1:00 p.m. – 6:00 p.m.

4.5 CE Hours

Educational Objective(s): After attending this presentation, attendees will understand the current limitations of interpreting DNA mixtures using “binary” approaches in which alleles are either “included” or “excluded” from analysis. Attendees will develop an understanding and overview of probabilistic approaches that consider missing data (allele drop-out) or spurious alleles (allele drop-in) to interpret DNA profiles.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing an overview of the limitations of current statistical approaches and promises for the future of DNA mixture interpretation for forensic DNA analysts, DNA technical leaders, laboratory directors, prosecutors, defense attorneys, and judges.

Chair:

Michael D. Coble, PhD

National Institute of Standards and Technology
Gaithersburg, MD

Co-Chair:

Daniele S. Podini, PhD

Department of Forensic Science
Washington, DC

Program Description: This session will provide information about the limitations of the current methods of DNA mixture interpretation and introduce probabilistic approaches to mixture interpretation. The targeted audience for this session is the laboratory that has not yet committed to a mixture software program, but would like to have an introduction to improve their knowledge base.

Program:

1:00 p.m.	-	1:10 p.m.	Introduction and Welcome <i>Michael D. Coble, PhD; Daniele S. Podini, PhD</i>
1:10 p.m.	-	2:00 p.m.	Probability Review and Bayes' Theorem <i>Michael D. Coble, PhD</i>
2:00 p.m.	-	3:00 p.m.	The Likelihood Ratio (LR) and Setting Proposition <i>Michael D. Coble, PhD</i>
3:00 p.m.	-	3:20 p.m.	Break
3:20 p.m.	-	4:30 p.m.	Hands-On Exercise With LR Calculations <i>Michael D. Coble, PhD; Daniele S. Podini, PhD</i>
4:30 p.m.	-	5:00 p.m.	Limitations of Current DNA Mixture Statistics <i>Michael D. Coble, PhD</i>
5:00 p.m.	-	5:45 p.m.	Probabilistic Genotyping <i>Michael D. Coble, PhD</i>
5:45 p.m.	-	6:00 p.m.	Questions and Discussions <i>Michael D. Coble, PhD; Daniele S. Podini, PhD</i>

Targeted Audience: Criminalistics, Jurisprudence

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

Expected Handout Length: 125 Pages

Restricted Audience Size: 125



WORKSHOPS

Pre-Registration Required — \$125 w/registration; \$150 workshop only

#14 Pharmacogenomics — Uses in Forensic and Clinical Toxicology

Monday, February 19, 2018

1:00 p.m. – 6:05 p.m.

4.75 CE Hours

Educational Objective(s): After attending this presentation, attendees will be able to develop effective approaches for the development and validation of genetic assays for drug monitoring applications, identify the benefits associated with pharmacogenetic testing and understand their relevance to the practice of medicine, and utilize toxicology and pharmacogenetic test results in conjunction with other case histories for decisions regarding cause- and manner-of-death determinations.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by illustrating the benefits and utility of pharmacogenetic testing. Case studies will be provided to assist attendees with the interpretation of toxicology and pharmacogenetic test results and explain how these findings can impact death investigation outcomes.

Chair:

Laura M. Labay, PhD
NMS Labs
Willow Grove, PA

Co-Chair

William H. Anderson, PhD
NMS Labs
Willow Grove, PA

Faculty:

Wendy R. Adams, PhD
NMS Labs
Willow Grove, PA

Gwendolyn McMillin, PhD
ARUP Laboratories, Inc
Salt Lake City, UT

Jeffrey M. Jentzen, MD
University of Michigan
Ann Arbor, MI

Alan H. Wu, PhD
San Francisco General Hospital
San Francisco, CA

Jorge McCormack, MD
Pediatric Cardiology Associates
Mednax Medical Group
St. Petersburg, FL

Program Description: The purpose of this session is to familiarize participants with the study of pharmacogenomics and to cultivate knowledge regarding how genes affect an individual's response to drugs. It is challenging to predict who will benefit from a medication, who will not respond at all, and who will experience adverse drug reactions. Speakers will detail the development and utility of predictive tests, address how genetic makeup influences drug metabolism, disease states and their progression, and describe how test results can have implications for cause- and manner-of-death determinations.

Program:

1:00 p.m. - 1:40 p.m.	Introduction to Genetics, Pharmacogenetics, and Pharmacogenomics <i>Laura M. Labay, PhD</i>
1:40 p.m. - 2:30 p.m.	Pharmacogenetic Testing and Development of Predictive Tests for Drug Testing <i>Gwendolyn McMillin, PhD</i>
2:30 p.m. - 2:45 p.m.	Break

WORKSHOPS



Pre-Registration Required — \$125 w/registration; \$150 workshop only

#14 Pharmacogenomics — Uses in Forensic and Clinical Toxicology

2:45 p.m. - 3:35 p.m.	Genetics of Drug Metabolism and Drug-Drug Interactions <i>Wendy R. Adams, PhD</i>
3:35 p.m. - 4:25 p.m.	Genetics of Medical Complications and Disease <i>Jorge McCormack, MD</i>
4:25 p.m. - 5:15 p.m.	Personalized and Predictive Medicine <i>Alan H. Wu, PhD</i>
5:15 p.m. - 6:05 p.m.	Implications for Cause- and Manner-of-Death Determinations <i>Jeffrey M. Jentzen, MD</i>

Targeted Audience: Pathology/Biology, Toxicology

Knowledge Level Required: Basic (little to no knowledge of subject presented)

Expected Handout Length: 120

Restricted Audience Size: 150



WORKSHOPS

Pre-Registration Required — \$100 w/registration; \$125 workshop only

#15 Postmortem Monocular Indirect Ophthalmoscopy (PMIO)

Tuesday, February 20, 2018

8:30 a.m. – 12:30 p.m.

3.75 CE Hours

Educational Objective(s): After attending this presentation, attendees will be able to: (1) differentiate between direct and indirect ophthalmoscopy, noting advantages and limitations of each technique for the postmortem detection of retinal hemorrhages; (2) discuss the fundal location of retinal hemorrhages relative to their projected aerial image during monocular indirect ophthalmoscopy; and, (3) accurately draw retinal abnormalities observed during monocular indirect ophthalmoscopy on a fundal diagram and capture the projected aerial image with a smartphone.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing an overview of PMIO, promoting skill acquisition, evaluating practical training, and facilitating imaging techniques with fundal diagrams and a smartphone.

Chair:

Patrick E. Lantz, MD

Wake Forest University School of Medicine

Department of Pathology

Winston-Salem, NC

Co-Chair:

Candace H. Schoppe, MD

Southwestern Institute of Forensic Sciences

Dallas, TX

Program Description: PMIO permits examination of the decedent's posterior fundus and portions of the peripheral retina without relying on ocular enucleation. The required equipment necessary for PMIO is relatively inexpensive. PMIO readily detects retinal hemorrhages and folds using a focal light source and an aspheric, convex condensing lens.

Learning how to perform and become proficient at PMIO can be perplexing and intimidating. Most pathology residents and forensic pathology fellows have limited exposure to indirect ophthalmoscopy. This hands-on session will facilitate the learning of PMIO: positioning the light source, correctly holding the indirect lens, and recording fundal abnormalities by drawing on fundal diagrams or image capture with a smartphone.

Program:

8:30 a.m.	-	8:35 a.m.	Welcome <i>Patrick E. Lantz, MD</i>
8:35 a.m.	-	9:05 a.m.	PMIO Introduction <i>Patrick E. Lantz, MD</i>
9:05 a.m.	-	9:25 a.m.	A Demonstration of PMIO Using a Headlamp and Smartphone <i>Candace H. Schoppe, MD</i>
9:25 a.m.	-	10:25 a.m.	PMIO Hands-On Training <i>Patrick E. Lantz, MD; Candace H. Schoppe, MD</i>
10:25 a.m.	-	10:40 a.m.	Break
10:40 a.m.	-	12:10 p.m.	PMIO Hands-On Training <i>Patrick E. Lantz, MD; Candace H. Schoppe, MD</i>

WORKSHOPS



Pre-Registration Required — \$100 w/registration; \$125 workshop only

#15 Postmortem Monocular Indirect Ophthalmoscopy (PMIO)

12:10 p.m. - 12:25 p.m.	Optical PMIO Self-Assessment <i>Patrick E. Lantz, MD; Candace H. Schoppe, MD</i>
12:25 p.m. - 12:30 p.m.	PMIO Summary and Attendee Feedback <i>Patrick E. Lantz, MD; Candace H. Schoppe, MD</i>

Targeted Audience: Pathology/Biology

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

Expected Handout Length: 25 pages

Restricted Audience Size: 32



WORKSHOPS

Pre-Registration Required — \$150 w/registration; \$175 workshop only

#16 Forensic Image Processing

Tuesday, February 20, 2018

8:30 a.m. – 12:45 p.m.

4.0 CE Hours

Educational Objective(s): The goal of this presentation is to provide a working knowledge of forensic image processing to enable an analyst to apply the optimum image processing algorithms to surveillance video and digital photography.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing basic forensic image processing skills for the analyst. Surveillance video is nearly ubiquitous and a successful analyst is one who is familiar with forensic image processing and how to use it.

Chair:

Richard Vorder Bruegge, PhD
Federal Bureau of Investigation
Operational Technology Division
Quantico, VA

Co-Chair:

Zeno J. Geradts, PhD
Netherlands Forensic Institute
Den Haag, NETHERLANDS

Faculty:

Marcus Borengasser, PhD
United States Department of Defense
Melbourne, FL

Kathleen L. Rettich, MS
Melbourne, FL

Program Description: This half-day workshop will cover the theory and implementation of forensic image processing by providing an introduction to forensic image processing concepts and application through a series of presentations and exercises. A series of lectures will present processing and enhancement algorithms that can be applied to surveillance video and digital photography. Concepts will be explored via “hands-on” exercises after each lecture. Students can bring laptop computers with open source image processing software already installed or they can contact the instructor for open source software recommendations. Prior knowledge of image processing is not required.

Program:

8:30 a.m.	-	9:05 a.m.	Forensic Image Processing Concepts <i>Marcus Borengasser, PhD</i>
9:05 a.m.	-	9:25 a.m.	Hands-On Exercise <i>Marcus Borengasser, PhD</i>
9:25 a.m.	-	10:00 a.m.	An Introduction to Digital Filters <i>Marcus Borengasser, PhD</i>
10:00 a.m.	-	10:20 a.m.	Hands-On Exercise <i>Marcus Borengasser, PhD</i>
10:20 a.m.	-	10:35 a.m.	Break

WORKSHOPS



Pre-Registration Required — \$150 w/registration; \$175 workshop only

#16 Forensic Image Processing

10:35 a.m. - 11:10 a.m.	Histogram Analysis <i>Marcus Borengasser, PhD</i>
11:10 a.m. - 11:30 a.m.	Hands-On Exercise <i>Marcus Borengasser, PhD</i>
11:30 a.m. - 12:05 p.m.	Feature Extraction <i>Marcus Borengasser, PhD</i>
12:05 p.m. - 12:25 p.m.	Hands-On Exercise <i>Marcus Borengasser, PhD</i>
12:25 p.m. - 12:45 p.m.	Questions and Answers <i>Marcus Borengasser, PhD</i>

Targeted Audience: Criminalistics, Digital & Multimedia Sciences, Engineering Sciences, General

Knowledge Level Required: Basic (little to no knowledge of subject presented)

Expected Handout Length: 16 Pages

Participants can bring laptop computers with open source image processing software already installed or they can contact the instructor for open source software recommendations. Prior knowledge of image processing is not required



WORKSHOPS

Pre-Registration Required — \$200 w/registration; \$250 workshop only

#17 An Introduction to Lean Fundamentals and Six Sigma Operational Improvement

Tuesday, February 20, 2018

8:30 a.m. – 4:30 p.m.

6.0 CE Hours

Educational Objective(s): After attending this presentation, attendees will better understand the common tools and techniques used in a Lean Six Sigma (LSS) project to increase productivity and efficiency of the laboratory without increasing employees or purchasing new equipment or software.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by introducing participants to a logical, step-wise procedure to greatly improve the understanding (through actual data collection) of the current laboratory system and to provide a structured method to eliminate waste and make improvements for a more efficient and effective laboratory process.

Chair:

Joanie Brocato, PhD
Baton Rouge, LA

Co-Chair:

Linda Razzano, MS
Department of Forensic Biology
New York, NY

Faculty:

Timothy D. Kupferschmid, MFS, MBA
Office of the Chief Medical Examiner
New York, NY

Program Description: Attendance at this full-day workshop will introduce the participants to the LSS philosophy of continuous improvement and its methodology to achieve rapid and lasting process improvements while producing a positive culture change.

Program:

8:30 a.m. - 10:00 a.m.	Introduction to LSS <i>Timothy D. Kupferschmid, MFS, MBA</i>
10:00 a.m. - 10:15 a.m.	Break
10:15 a.m. - 11:00 a.m.	Lean Fundamentals <i>Linda Razzano, MS</i>
11:00 a.m. - 12:00 p.m.	Push vs. Pull Exercise <i>Timothy D. Kupferschmid, MFS, MBA; Joanie Brocato, PhD; Linda Razzano, MS</i>
12:00 p.m. - 1:30 p.m.	Lunch
1:30 p.m. - 2:30 p.m.	Push vs. Pull Exercise <i>Timothy D. Kupferschmid, MFS, MBA; Joanie Brocato, PhD; Linda Razzano, MS</i>
2:30 p.m. - 2:45 p.m.	Break

WORKSHOPS



Pre-Registration Required — \$200 w/registration; \$250 workshop only

#17 An Introduction to Lean Fundamentals and Six Sigma Operational Improvement

2:45 p.m. - 3:30 p.m.	Louisiana State Police Crime Laboratory's Experience With LSS <i>Joanie Brocato, PhD</i>
3:30 p.m. - 4:15 p.m.	NYC Office of Chief Medical Examiner Forensic Biology Laboratory's Experience With LSS <i>Linda Razzano, MS</i>
4:15 p.m. - 4:30 p.m.	Wrap-Up <i>Timothy D. Kupferschmid, MFS, MBA</i>

Targeted Audience: Anthropology, Criminalistics, Digital & Multimedia Sciences, General, Questioned Documents, Toxicology

Knowledge Level Required: Basic (little to no knowledge of subject presented)

Expected Handout Length: 100 Pages

Restricted Audience Size: 60



WORKSHOPS

Pre-Registration Required — \$200 w/registration; \$250 workshop only

#18 Domestic Violence and Child Abuse Deaths

Tuesday, February 20, 2018

8:30 a.m. – 5:00 p.m.

6.0 CE Hours

Educational Objective(s): After attending this presentation, attendees will understand the biomechanics of accelerative/blunt force injury in infants and children; the dynamics of Munchausen Syndrome by Proxy; multiple descriptions of child interview techniques; psychological analysis, which can be conducted in child death investigations; and the Fatality Review Board (FRB) process within the United States Department of Defense. This session will also include homicide presentations by special agents and crime scene investigators who process domestic violence and child abuse death crime scenes.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing insight into the many disciplines utilized in domestic violence deaths. The presentations will leave a lasting impact on attendees through the intricate details of each topic, discussing the criminal, physiological, and psychological aspects of domestic violence.

Chair:

Brian L. Janysek, MFS
Oakton, VA

Co-Chair:

David J. Zelff, MFS
Stafford, VA

Faculty:

Donald Hayden, MFS
Richmond Hill, GA

Edward Mazuchowski II, MD, PhD
Dover AFB, DE

Rick Malone, MD
FPO, AP
JAPAN

Michelle Miller, PsyD
United States Army CID
Springfield, VA

Sarah Mannix
United States AFOSI
Springfield, VA

Jessica Ann Veltri, MS
United States Army Criminal Investigation Command
22nd Military Police Battalion
Joint Base Lewis-McChord, WA

Program Description: Medical examiners, psychologists, special agents, and crime scene investigators will present an array of topics from domestic violence to child deaths. Experts in their field will detail topics such as the biomechanics of accelerative/blunt force injury in infants and children, Munchausen Syndrome by Proxy, child interview techniques, 911 call and psychological analysis, FRB processes within the United States Department of Defense, as well as homicide presentations that illustrate various approaches to processing domestic violence and child abuse death crime scenes.

Program:

8:30 a.m. - 8:45 a.m.	Introductions <i>Brian L. Janysek, MFS</i>
8:45 a.m. - 9:45 a.m.	Munchausen Syndrome by Proxy <i>Rick Malone, MD</i>
9:45 a.m. - 10:00 a.m.	Break

WORKSHOPS



Pre-Registration Required — \$200 w/registration; \$250 workshop only

#18 Domestic Violence and Child Abuse Deaths

10:00 a.m. - 10:30 a.m.	The Murder of a 14-Month-Old Boy <i>Donald Hayden, MFS</i>
10:30 a.m. - 11:00 a.m.	Fatality Review Board <i>David J. Zeliff, MFS</i>
11:00 a.m. - 12:00 p.m.	Child Interview Techniques <i>Donald Hayden, MFS</i>
12:00 p.m. - 1:30 p.m.	Lunch
1:30 p.m. - 2:30 p.m.	Accelerative/Blunt Force Trauma and Sudden Unexplained Infant Death <i>Edward Mazuchowski II, MD, PhD</i>
2:30 p.m. - 2:45 p.m.	Break
2:45 p.m. - 3:45 p.m.	Double Murder and Suicide <i>Sarah Mannix</i>
3:45 p.m. - 4:00 p.m.	Break
4:00 p.m. - 5:00 p.m.	The Death of a 28-Day-Old Infant: Describing the Mother's Pre-Incident Behaviors, Analysis of the 911 Call, and Reenactments <i>Michelle Miller, PsyD; Jessica Ann Veltri, MS</i>

Targeted Audience: Criminalistics, General, Jurisprudence, Pathology/Biology, Psychiatry & Behavioral Science, Toxicology

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

Expected Handout Length: 40 Pages



WORKSHOPS

Pre-Registration Required — \$200 w/registration; \$250 workshop only

#19 The Evolution of Fire Investigation From the Perspective of Science: Why Science Matters in the Search for Justice

Tuesday, February 20, 2018

8:30 a.m. – 5:00 p.m.

6.25 CE Hours

Educational Objective(s): After attending this presentation, attendees will have an understanding of how: (1) past anecdotally based methods resulted in potentially erroneous convictions; (2) scientific research discredited those methods; (3) applicable standards have evolved as a result; and, (4) science-based research in many disciplines continues to improve our understanding of fire science and its proper application in fire investigation.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by explaining the importance of empirical scientific research as well as how and why the results of such research must be applied when investigating fire scenes, analyzing fire debris and other evidence, and crafting valid conclusions in any investigative discipline.

Chair:

Paul Messner, JD
Dry Ridge, KY

Co-Chair:

John J. Lentini, BA
Scientific Fire Analysis, LLC
Islamorada, FL

Faculty:

George A. Coddling, JD
International Association of Arson Investigators
Boulder, CO

Daniel Madrzykowski, MS
Underwriters Laboratory Firefighter Safety Research Institute
Columbia, MD

Terry-Dawn Hewitt, LLM
McKenna Hewitt
Denver, CO

Program Description: This workshop will look at the methods, processes, and reasoning used in past problematic fire investigations and compare them to modern countervailing science-based analyses developed since those investigations and that were relied upon in post-conviction appeals. Included are discussions of interpretation of burn patterns and evidence, investigator and witness biases, methodology and reasoning issues, and analytical complexities occasioned by the wide variety of potential fire causes.

Program:

8:30 a.m.	-	9:00 a.m.	Opening Remarks <i>Paul Messner, JD; John J. Lentini, BA; George A. Coddling, JD</i>
9:00 a.m.		9:30 a.m.	Setting the Stage — The Adam Gray Case: The Fire Scene, Investigation, and Evidence Discovered (or Not) <i>George A. Coddling, JD</i>
9:30 a.m.	-	10:15 a.m.	Analysis and Interpretation of the Adam Gray Case: The Selection and Identification of Evidence <i>John J. Lentini, BA; George A. Coddling, JD</i>
10:15 a.m.	-	10:30 a.m.	Break

WORKSHOPS



Pre-Registration Required — \$200 w/registration; \$250 workshop only

#19 The Evolution of Fire Investigation From the Perspective of Science: Why Science Matters in the Search for Justice

10:30 a.m. - 11:15 a.m.	The Courtroom — The Weight of the Evidence: Gray; Willis; Garcia; Bunch; Han Tak Lee; et. al <i>Paul Messner, JD</i>
11:15 a.m. - 12:00 p.m.	The Evolution of the Profession Since 1992: Changes to Practices, Knowledge, and Reasoning Through Research <i>John J. Lentini, BA</i>
12:00 p.m. - 1:15 p.m.	Lunch
1:15 p.m. - 2:00 p.m.	Changing the Process Through Standards Development <i>Terry-Dawn Hewitt, LLM</i>
2:00 p.m. - 2:45 p.m.	Current Research to Support the Science of Fire Patterns and Their Interpretation <i>Daniel Madrzykowski, MS</i>
2:45 p.m. - 3:00 p.m.	Break
3:00 p.m. - 3:45 p.m.	Origin and Cause Determination — How Hard Can It Be? Real-World Experiences <i>Daniel Madrzykowski, MS</i>
3:45 p.m. - 4:15 p.m.	Human Bias: Effects on First Responders, Witnesses, Investigators, and the Scientific Community <i>George A. Coddling, JD</i>
4:15 p.m. - 5:00 p.m.	Are We Still Getting Things Wrong? One State's Response and Other Solutions <i>Paul Messner, JD; John J. Lentini, BA</i>

Targeted Audience: Criminalistics, Engineering Sciences, General, Jurisprudence, Psychiatry & Behavioral Science

Knowledge Level Required: Basic (little to no knowledge of subject presented)

Expected Handout Length: 25 Pages



WORKSHOPS

Pre-Registration Required — \$200 w/registration; \$250 workshop only

#20 Fentalogs: The Chemistry, Pharmacology, and Toxicology of Illicit Fentanyl and Emerging Opioids

Tuesday, February 20, 2018

8:30 a.m. – 5:00 p.m.

6.75 CE Hours

Educational Objective(s): After attending this presentation, attendees will be able to describe the origination of fentanyl and fentanyl analogs and describe their pharmacology as well as identify and implement methods for the safe handling of these compounds. In addition, attendees will be able to describe methods used to profile and disseminate information on emerging opioids, assess the findings of fentanyl and fentanyl analogs in casework, and implement appropriate analytical techniques used in their identification

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing current information on the opioid epidemic with a specific focus on fentanyl and fentanyl analogs and their chemistry, pharmacology, and toxicology seen in forensic casework.

Chair:

Amanda L.A. Mohr, MSFS

The Center for Forensic Science Research & Education
Willow Grove, PA

Co-Chair:

Barry K. Logan, PhD

NMS Labs/
The Center for Forensic Science Research & Education
Willow Grove, PA

Faculty:

Alex J. Krotulski, MS

The Center for Forensic Science Research & Education
Willow Grove, PA

Audrey M. Williams, PhD

Livermore, CA

Robert A. Middleberg, PhD

NMS Labs
Willow Grove, PA

Eric Wish, PhD

National Drug Early Warning System
College Park, MD

Lionel Raymon, PhD

Homestead, FL

Erin M. Worrell, BSc

Cuyahoga County Medical Examiner's Office
Cleveland, OH

Paul Wax, MD

University of Texas Southwestern
Dallas, TX

Nicole A. Yarid

King County Medical Examiner's Office
Seattle, WA

Timothy Wiegand, MD

University of Rochester Medical Center
Rochester, NY

Program Description: This workshop will focus on the opioid epidemic related to fentanyl and fentanyl analogs, providing information associated with the origination of these illicit substances, pharmacology and potency, safe handling of suspected fentanyl analogs, monitoring and early detection systems, analytical approaches in forensic investigation casework, and case reports.

WORKSHOPS



Pre-Registration Required — \$200 w/registration; \$250 workshop only

#20 Fentalogs: The Chemistry, Pharmacology, and Toxicology of Illicit Fentanyl and Emerging Opioids

Program:

8:30 a.m. - 8:35 a.m.	Welcome and Introduction <i>Amanda L.A. Mohr, MSFS</i>
8:35 a.m. - 9:15 a.m.	History and Chemistry of Illicit Opioids <i>Barry K. Logan, PhD</i>
9:15 a.m. - 10:00 a.m.	The Pharmacology of Illicit Opioids (Remote Presentation) <i>Lionel Raymon, PhD</i>
10:00 a.m. - 10:15 a.m.	Break
10:15 a.m. - 10:40 a.m.	Safe Handling of Seized Material Containing Heroin, Fentanyl, and Illicit Opioids <i>Robert A. Middleberg, PhD</i>
10:40 a.m. - 11:20 a.m.	Illicit Fentanyl Synthesis and the Use of Chemical Signatures to Identify the Source and Route of Manufacture of Fentanyl and Its Analogs <i>Audrey M. Williams, PhD</i>
11:20 a.m. - 12:00 p.m.	National Drug Early Warning System (NDEWS) — Early Warning Systems for Identifying Emerging Novel Opioids <i>Eric Wish, PhD</i>
12:00 p.m. - 1:15 p.m.	Lunch
1:15 p.m. - 2:00 p.m.	Medical Toxicology of Fentanyl and Opioid Intoxication: Experience in the Emergency Room <i>Timothy Wiegand, MD</i>
2:00 p.m. - 2:40 p.m.	Carfentanil Use at the Moscow Theater Siege <i>Paul Wax, MD</i>
2:40 p.m. - 2:55 p.m.	Break
2:55 p.m. - 3:25 p.m.	Scene and Circumstances: Investigation of Scenes of Death Involving Novel Opioids <i>Erin M. Worrell, BSc</i>
3:25 p.m. - 3:50 p.m.	Autopsy Findings in Opioid- and Fentanyl-Related Deaths <i>Nicole A. Yarid</i>
3:50 p.m. - 4:30 p.m.	Analytical Approaches for Identifying and Confirming Novel Opioids <i>Alex J. Krotulski, MS</i>
4:30 p.m. - 5:00 p.m.	Toxicology Data Related to Fentalogs <i>Amanda L.A. Mohr, MSFS</i>

Targeted Audience: Criminalistics, General, Pathology/Biology, Toxicology

Knowledge Level Required: Basic (little to no knowledge of subject presented)

Expected Handout Length: 300 Pages



WORKSHOPS

Pre-Registration Required — \$200 w/registration; \$250 workshop only

#21 Macromorphoscopic (MMS) Traits: Data Collection and Analysis

Tuesday, February 20, 2018

8:30 a.m. – 5:00 p.m.

7.25 CE Hours

Educational Objective(s): After attending this presentation, attendees will: (1) understand the history and theoretical concepts of ancestry estimation via cranial morphology, particularly in reference to MMS traits; (2) have gained experience scoring macromorphoscopic traits in human crania using recently developed software; (3) have learned the basic strategies of various statistical procedures to estimate ancestry with MMS trait scores; and, (4) have acquired working knowledge of the application of MMS trait data in casework.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing up-to-date methodologies and theoretical considerations in ancestry estimation using MMS trait data. Additionally, attendees will learn how to record, analyze, and report MMS trait data using the appropriate statistical framework. Attendees will be introduced to a worldwide reference dataset that permits ancestry estimations beyond the historical three-group classifications used in ancestry estimation from cranial morphology.

Chair:

Joseph T. Hefner, PhD
Michigan State University
Department of Anthropology
East Lansing, MI

Co-Chair:

Kelly R. Kamnikar, MA
Michigan State University
East Lansing, MI

Faculty:

Amber M. Plemons, MA
Michigan State University
Department of Anthropology
East Lansing, MI

Program Description: Estimating ancestry from the skull need not be difficult. In much the same way students first learn metric analysis (e.g., “GOL is measured between these two landmarks and entered into a computer program to obtain an estimate”), macromorphoscopic trait analysis requires visual learning and a hands-on approach. The goal of this session is to increase the utilization of an empirical method to ancestry estimation via cranial morphological traits in the forensic sciences by training a subset of the community to correctly perform the method. In turn, this information can then be disseminated to colleagues and students.

Program:

8:30 a.m.	-	8:45 a.m.	Welcome <i>Joseph T. Hefner, PhD</i>
8:45 a.m.	-	9:45 a.m.	An Introduction to Macromorphoscopic Traits <i>Joseph T. Hefner, PhD</i>
9:45 a.m.	-	10:00 a.m.	Break
10:00 a.m.	-	10:45 a.m.	Observer Error in MMS Trait Analysis <i>Kelly R. Kamnikar, MA</i>
10:45 a.m.	-	11:15 a.m.	The Macromorphoscopic Databank <i>Amber M. Plemons, MA</i>

WORKSHOPS



Pre-Registration Required — \$200 w/registration; \$250 workshop only

#21 Macromorphoscopic (MMS) Traits: Data Collection and Analysis

11:15 a.m. - 11:30 a.m.	Break
11:30 a.m. - 12:15 p.m.	Analytical Methods for MMS Data <i>Joseph T. Hefner, PhD; Amber M. Plemons, MA</i>
12:15 p.m. - 1:30 p.m.	Lunch
1:30 p.m. - 2:00 p.m.	Analytical Methods for MMS Data (cont.) <i>Joseph T. Hefner, PhD; Kelly R. Kamnikar, MA</i>
2:00 p.m. - 3:30 p.m.	Hands-On Exercises <i>Joseph T. Hefner, PhD; Kelly R. Kamnikar, MA; Amber M. Plemons, MA</i>
3:30 p.m. - 3:45 p.m.	Break
3:45 p.m. - 4:45 p.m.	Hands-On Exercises <i>Joseph T. Hefner, PhD; Kelly R. Kamnikar, MA; Amber M. Plemons, MA</i>
4:45 p.m. - 5:00 p.m.	Adjournment <i>Joseph T. Hefner, PhD</i>

Targeted Audience: Anthropology, General, Pathology/Biology

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

Expected Handout Length: 60 Pages



WORKSHOPS

Pre-Registration Required — \$200 w/registration; \$250 workshop only

This program is presented by the Forensic Sciences Foundation, Inc.



#22 Science Matters to Everyone: Victims, Offenders, and the Public

Tuesday, February 20, 2018

8:30 a.m. – 5:00 p.m.

6.5 CE Hours

Educational Objective(s): The goal of this presentation is to educate attendees regarding systemic issues in forensic science and the strides being taken to address them.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by exploring how the criminal justice system can or should respond in the face of backlogs, lab scandal, error, and publicity involving forensic science.

Chair:

Anjali A. Ranadive, JD
SciLawForensics, Ltd
Brookings, SD

Co-Chair:

Pamela A.W. King, JD
Rochester, MN

Faculty:

Rebecca Campbell, PhD
Michigan State University
Department of Psychology
East Lansing, MI

Gerald M. LaPorte, MSFS
National Institute of Justice
Office of Investigation & Forensic Science
Washington, DC

Joanna L. Collins, MFS
LINUS Investigations & Consulting
San Antonio, TX

John J. Lentini, BA
Scientific Fire Analysis, LLC
Islamorada, FL

James Downs, MD
forensX, LLC
Savannah, GA

Gary McDonald, JD
Dallas County Criminal District Attorney's Office
Dallas, TX

John P. Kenney, DDS, MS
Park Ridge, IL

Judy Melinek, MD
PathologyExpert, Inc
San Francisco, CA

Linda Kenney Baden, JD
New York, NY

Program Description: This workshop will cover multiple areas in forensic science where more inquiry is needed, including the testing of sexual assault kits, conviction integrity units, and what happens when an expert changes his testimony after the fact.

Program:

8:30 a.m. - 8:45 a.m.	Introduction and Opening Remarks <i>Anjali A. Ranadive, JD; Joanna L. Collins, MFS</i>
8:45 a.m. - 9:45 a.m.	Tapestry of Trials — Aaron Hernandez Case <i>Linda Kenney Baden, JD</i>
9:45 a.m. - 10:30 a.m.	Tapestry of Trials — When the Science Doesn't Match the Testimony <i>Judy Melinek, MD</i>

WORKSHOPS



Pre-Registration Required — \$200 w/registration; \$250 workshop only

#22 Science Matters to Everyone: Victims, Offenders, and the Public

10:30 a.m. - 10:45 a.m.	Break
10:45 a.m. - 11:45 a.m.	Tapestry of Trials — Odontology <i>John P. Kenney, DDS, MS</i>
11:45 a.m. - 12:45 p.m.	Lunch
12:45 p.m. - 1:30 p.m.	Discipline-Specific Errors: Arson <i>John J. Lentini, BA</i>
1:30 p.m. - 2:30 p.m.	Sexual Assault Kit Testing Research <i>Rebecca Campbell, PhD</i>
2:30 p.m. - 3:15 p.m.	Sexual Assault Kit Testing <i>Gerald M. LaPorte, MSFS</i>
3:15 p.m. - 3:45 p.m.	Break
3:45 p.m. - 4:45 p.m.	Conviction Integrity Units <i>Gary McDonald, JD</i>
4:45 p.m. - 5:00 p.m.	Questions and Answers <i>James Downs, MD; Pamela A.W. King, JD</i>

Targeted Audience: Criminalistics, General, Jurisprudence, Odontology, Pathology/Biology

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

Expected Handout Length: 100 Pages

Proceeds from this workshop will benefit the Forensic Sciences Foundation, Inc.





WORKSHOPS

Pre-Registration Required — \$100 w/registration; \$125 workshop only

#23 Cardiovascular Pathology for Medical Examiners and Coroners: Basic and Advanced Techniques for the Investigation of Sudden Cardiac Death

Tuesday, February 20, 2018

1:00 p.m. – 5:00 p.m.

3.5 CE Hours

Educational Objective(s): After attending this presentation, attendees will: (1) understand basic cardiac anatomy relevant to the investigation of sudden cardiac death; (2) be able to apply basic and select advanced cardiac dissection techniques useful for the investigation of sudden cardiac death; (3) identify situations in which postmortem genetic testing may be useful; (4) appreciate the challenges of interpretation of genetic testing results with respect to determining mechanism of death, underlying cause of death, and contributory cause of death; and, (5) recognize situations in which consultation with a cardiovascular pathologist is warranted.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing up-to-date knowledge and practical techniques in cardiovascular pathology and molecular genetics that will assist medical examiners, coroners, death scene investigators, and others involved in the investigation of sudden death.

Chair:

Peter T. Lin, MD
Rochester, MN

Co-Chair:

Ross Reichard, MD
Mayo Clinic
Division of Anatomic Pathology
Rochester, MN

Faculty:

Marie Christine Aubry, MD
Mayo Clinic
Rochester, MN

Joseph J. Maleszewski, MD
Mayo Clinic
Rochester, MN

Program Description: This workshop is intended to be a practical introduction to the investigation of sudden cardiac death. The presenters include practicing cardiovascular and forensic pathologists with extensive experience in autopsy pathology, death investigation, surgical cardiovascular pathology, and molecular genetics. The basic foundations of cardiovascular pathology, including normal cardiac anatomy and histology, normal anatomic variants and standard cardiac dissection methods, will be reviewed. Advanced dissection techniques will also be taught, including long-axis cuts (four-chamber and left ventricular outflow cuts), base of heart dissection for demonstrating valvular heart disease, gross dissection and histologic examination of the cardiac conduction system, and histologic examination of valves, myocardium, and aorta. Both common and rare entities in the differential diagnosis for sudden cardiac death will be discussed, including atherosclerotic coronary artery disease, hypertensive heart disease, hypertrophic cardiomyopathy, dilated cardiomyopathy, arrhythmogenic cardiomyopathy, inherited arrhythmia syndromes, and inherited aortopathy syndromes.

The role of genetic testing in the diagnosis of inherited cardiomyopathy, arrhythmia, and aortopathy syndromes will also be discussed, including the challenges associated with the interpretation of genetic test results that are equivocal for pathogenicity, or when pathogenic variants are discovered in the setting of alternative and equally compelling causes of deaths. A framework for communication of results to families will also be provided. Guidelines for specimen retention and cardiovascular pathology subspecialist consultation will also be discussed. This session will incorporate didactic lectures, informal question-and-answer sessions with questions solicited from the audience, and hands-on tutorials utilizing 3D scanned and printed models.

WORKSHOPS



Pre-Registration Required — \$100 w/registration; \$125 workshop only

#23 Cardiovascular Pathology for Medical Examiners and Coroners: Basic and Advanced Techniques for the Investigation of Sudden Cardiac Death

Program:

1:00 p.m.	-	1:15 p.m.	Introduction <i>Peter T. Lin, MD</i>
1:15 p.m.	-	2:00 p.m.	Normal Cardiac Anatomy and Variants, Conduction System, Coronary Artery Disease, and Hypertension <i>Marie Christine Aubry, MD</i>
2:00 p.m.	-	2:15 p.m.	Discussion
2:15 p.m.	-	3:00 p.m.	Cardiomyopathies, Inherited Arrhythmia Syndromes, and Genetic Testing <i>Joseph J. Maleszewski, MD</i>
3:00 p.m.	-	3:15 p.m.	Break
3:15 p.m.	-	4:00 p.m.	Myocarditis, Endocarditis, and Aortopathies: Cardiovascular Pathology Pitfalls for Forensic Pathologists <i>Peter T. Lin, MD</i>
4:00 p.m.	-	4:15 p.m.	Discussion
4:15 p.m.	-	5:00 p.m.	Questions and Answers: Tutorial Sessions With 3D Printed Models <i>Joseph J. Maleszewski, MD; Marie Christine Aubry, MD; Peter T. Lin, MD</i>

Targeted Audience: General, Pathology/Biology

Knowledge Level Required: Basic (little to no knowledge of subject presented)

Expected Handout Length: 20 Pages

Restricted Audience Size: 100



WORKSHOPS

Pre-Registration Required — \$100 w/registration; \$125 workshop only

#24 Think Tank on the Leading Edge of Forensic Science: Drones, Autonomous Vehicles, Big Data/Big Problems, National Security Globalization Into Protrusionism Privacy, Dirty Bombs, and Microbial Forensics

Tuesday, February 20, 2018

1:00 p.m. – 5:30 p.m.

4.0 CE Hours

Educational Objective(s): After attending this presentation, attendees will understand how the rapid rate of change in society may impact several fields in forensic science.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by demonstrating how the rate of change in society provides new challenges for forensic science. The development of designer drugs as well as the rapid development of methods to extract information from large amounts of data should be considered and perhaps prompt needed changes in laws. The issues with investigation of Chemical, Biological, Radiological, and Nuclear (CBRN) as well as driverless cars, drones, and the insights of cybercrimes and globalization with privacy issues will be discussed.

Chair:

Laura L. Liptai, PhD
BioMedical Forensics
Moraga, CA

Co-Chair:

Zeno J. Geradts, PhD
Netherlands Forensic Institute
Den Haag, NETHERLANDS

Faculty:

Ivo Alberink, PhD
Netherlands Forensic Institute
The Hague, NETHERLANDS

Kimho Himberg, PhD
Police University College
Tampere, FINLAND

David O. Carter, PhD
Chaminade University of Honolulu
Forensic Sciences Unit
Division of Natural Sciences and Mathematics
Honolulu, HI

Jeffery K. Tomberlin, PhD
Texas A&M University
Department of Entomology
College Station, TX

Carlos Fraga, PhD
Pacific Northwest National Laboratory
Richland, WA

Erwin Van Eijk, MS
Netherlands Forensic Institute
Den Haag, NETHERLANDS

Reza R.R. Gerretsen, MD
Netherlands Forensic Institute
The Hague, NETHERLANDS

Eduard Van Zalen, MSc
Netherlands Forensic Institute
The Hague, NETHERLANDS

Program Description: This workshop will provide insight on forensic science leading-edge topics and the impacts that the rapid rate of change have on the field.

WORKSHOPS



Pre-Registration Required — \$100 w/registration; \$125 workshop only

#24 Think Tank on the Leading Edge of Forensic Science: Drones, Autonomous Vehicles, Big Data/Big Problems, National Security Globalization Into Protrusionism Privacy, Dirty Bombs, and Microbial Forensics

Program:

1:00 p.m.	-	1:10 p.m.	Opening Remarks <i>Laura L. Liptai, PhD; Zeno J. Geradts, PhD</i>
1:10 p.m.	-	1:40 p.m.	Autonomous Cars <i>Laura L. Liptai, PhD</i>
1:40 p.m.	-	2:20 p.m.	National Security Globalization Into Protrusionism Privacy Issues <i>Kimho Himberg, PhD</i>
2:20 p.m.	-	2:50 p.m.	Big Data Forensics and Multimedia Deep Learning <i>Erwin Van Eijk, MS</i>
2:50 p.m.	-	3:05 p.m.	Break
3:05 p.m.	-	3:35 p.m.	Likelihood Ratios and Anthropology With Carbon 14 and Magnetic Resonance Imaging <i>Ivo Alberink, PhD; Reza R.R. Gerretsen, MD</i>
3:35 p.m.	-	4:05 p.m.	Nuclear Forensics and CBRN <i>Eduard Van Zalen, MSc; Carlos Fraga, PhD</i>
4:05 p.m.	-	4:35 p.m.	Chemical Forensics International Technical Working Group: Striving to Prevent and Deter Chemical Attacks <i>Carlos Fraga, PhD</i>
4:35 p.m.		5:15 p.m.	Microbial Forensics <i>David O. Carter, PhD; Jeffery K. Tomberlin, PhD</i>
5:15 p.m.		5:30 p.m.	Closing <i>Laura L. Liptai, PhD; Zeno J. Geradts, PhD</i>

Targeted Audience: All Disciplines

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

Expected Handout Length: 80 Pages



NATIONAL ASSOCIATION OF MEDICAL EXAMINERS

2018 Interim Scientific Program

Grand Hyatt Seattle

A separate registration fee, payable to the National Association of Medical Examiners (NAME), is required to attend this scientific program. To join or to attend, contact Denise McNally, NAME Executive Director, at (660) 734-1891 or at name@thename.org.

Emerging Infectious Diseases (EID) and the Medical Examiner

Tuesday, February 20, 2018

1:00 p.m. – 5:00 p.m.

This program will include discussions regarding EID, which are infectious diseases that are newly recognized as occurring in humans; one that has been recognized before but is newly appearing in a different population or geographic area than previously affected; one that is newly affecting many more individuals; and/or one that has developed new attributes (e.g., resistance or virulence). Please contact NAME for links to relevant articles for each discussion.

Program:

1:00 p.m. - 1:05 p.m.	Welcome <i>Erin G. Brooks, MD</i>
1:05 p.m. - 2:00 p.m.	Zika Virus, Coronavirus, and Other EID: Pathology From the Pandemics <i>Sherif R. Zaki, MD</i>
2:00 p.m. - 2:05 p.m.	Questions and Answers
2:05 p.m. - 2:40 p.m.	Newer Infectious Disease Diagnostic Modalities, Including Bacterial Gene Sequencing: A Toolkit for Medical Examiners <i>Andrew Bryan, MD, PhD</i>
2:40 p.m. - 2:45 p.m.	Questions and Answers
2:45 p.m. - 3:00 p.m.	Break
3:00 p.m. - 3:35 p.m.	Wisconsin 2016 <i>Elizabethkingia Anophelis</i> Outbreak: Lessons Learned <i>Erin G. Brooks, MD</i>
3:35 p.m. - 3:40 p.m.	Questions and Answers
3:40 p.m. - 4:15 p.m.	EID and the Role of Medical Examiner Surveillance Systems <i>Sarah Lathrop, DVM, PhD</i>
4:15 p.m. - 4:20 p.m.	Questions and Answers
4:20 p.m. - 4:55 p.m.	Infectious Disease Death Clusters Among Injection Drug Users: The King County Medical Examiner Office Experience <i>Richard C. Harruff, MD, PhD</i>
4:55 p.m. - 5:00 p.m.	Questions and Answers

NATIONAL ASSOCIATION OF MEDICAL EXAMINERS



Emerging Infectious Diseases (EID) and the Medical Examiner

CME STATEMENTS FOR JOINTLY SPONSORED ACTIVITIES

This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint sponsorship of MedChi, The Maryland State Medical Society, and the National Association of Medical Examiners. MedChi is accredited by the ACCME to provide continuing medical education for physicians.

MedChi designates this live activity for a maximum of 3.5 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Continuing Education Administration Fee

There is an administrative charge (\$75 pre-registration, \$100 on-site registration) for persons wishing to receive this credit. It will be necessary for you to complete a program evaluation as well as pay the administrative fee to receive CME credit for this meeting.

Self-Assessment Module

The American Board of Pathology has deemed the National Association of Medical Examiners to be an approved provider of Self-Assessment Modules (SAMs) for the Life-Long Learning and Self-Assessment Requirement (Part II) for Maintenance of Certification in Forensic Pathology. This activity has been planned and implemented in accordance with those guidelines and qualifies for a maximum of 3.5 hours of SAMs. There is an administrative charge of \$35 for Members and \$105 for Non-Members.

Registration Fee

The pre-registration fee for members is \$150 and \$200 for on-site registration. The pre-registration fee for non-members is \$200 and \$250 for on-site registration. Registration for this event is separate from the AAFS registration process. Contact Denise McNally at (660) 734-1891 or email name@thename.org to receive a registration form.



NATIONAL INSTITUTE OF JUSTICE

Forensic Science Research and Development Symposium

American Academy of Forensic Sciences 70th Annual Scientific Meeting

The National Institute of Justice (NIJ) Forensic Science Research and Development Symposium is a *free* and *open* meeting where attendees can learn about NIJ-funded research across a variety of forensic science areas. Feel free to stop by and listen to specific presentations or stay all day and learn about the diverse NIJ forensic science R&D portfolio.

Registration information will be available at www.forensicCOE.org.

Tuesday, February 20, 2018

8:30 a.m. – 5:10 p.m.

Program:

8:30 a.m. - 8:40 a.m. Welcome and Opening Remarks
Gerald M. LaPorte, MSFS

Morning Session I — Forensic Anthropology

Moderated by Danielle L. McLeod-Henning, MFS

8:40 a.m. - 9:05 a.m. The Macromorphoscopic Databank: A New Tool for Forensic Anthropologists
Joseph T. Hefner, PhD – 2015-DN-BX-K012

9:05 a.m. - 9:30 a.m. Modeling Surface Morphology of the Pubic Symphysis: Quantitative Methods and Computational Tools for the Objective Estimation of Age at Death for Modern Populations
Jieun Kim, PhD; Detelina Stoyanova, PhD – 2015-DN-BX-K010

9:30 a.m. - 9:55 a.m. Building a Science of Adult Cranial Fracture
Todd W. Fenton, PhD; Mariyam I. Isa, MA – 2015-DN-BX-K013

9:55 a.m. - 10:20 a.m. Standardizing Data for a Large-Scale, Whole Body Computerized Tomography (CT) Image Database
Heather J.H. Edgar, PhD – 2016-DN-BX-0144

10:20 a.m. - 10:35 a.m. Break

Morning Session II — Controlled Substances and Toxicology

Moderated by Frances Scott, PhD

10:35 a.m. - 11:00 a.m. Liver “Doesn’t DIE,” or at Least Its Enzymes, and Other Useful Information Discovered While Evaluating the Effect of Sample Preparation Techniques on Matrix Effects and Absolute Recovery of Opiates in Liver Tissue Using Ultra-Performance Liquid Chromatography-Tandem Mass Spectrometry (UPLC-MS/MS)
Carl E. Wolf II, PhD – 2016-DN-BX-0148

11:00 a.m. - 11:25 a.m. Evaluating Trends in Novel Psychoactive Substances Using a Sentinel Population of Electronic Dance Music Festival Attendees
Amanda L.A. Mohr, MSFS – 2015-IJ-CX-K012

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Forensic Science Research and Development Symposium

Program cont.:

11:25 a.m. - 11:50 a.m. Assessing the Impact of Implementing Portable Mass Spectrometers for On-Site Drug Evidence Processing
Jamie R. Wieland, PhD – 2015-IJ-CX-K011

11:50 a.m. - 12:15 p.m. Rapid Peptide Analysis Utilizing Matrix-Assisted Inlet Ionization and Paper Spray Ionization Mass Spectrometry
Kyle E. Vircks, MS – 2013-DN-BX-K020

12:15 p.m. - 1:35 p.m. Lunch

Afternoon Session I — Trace Microbiome

Moderated by Gregory Dutton, PhD

1:35 p.m. - 2:00 p.m. Developing Reliable Methods for Microbial Fingerprinting of Soil Evidence: Collection, Contamination, Storage, and Analysis
David R. Foran, PhD – 2015-DN-BX-K031

2:00 p.m. - 2:25 p.m. Evaluating the Skin Microbiome as Trace Evidence on Common Surface Types
David O. Carter, PhD – 2014-R2-CX-K411

2:25 p.m. - 2:50 p.m. The Forensic Geosourcing Potential of the Human Microbiome
Lauren Brinkac Leone – 2015-R2-CX-K036

2:50 p.m. - 3:15 p.m. Candidates of Skin Microbiomes for Human Identification
Bruce Budowle, PhD – 2015-NE-BX-K006

3:15 p.m. - 3:30 p.m. Break

Afternoon Session II — Forensic Biology/DNA

Moderated by Gregory Dutton, PhD

3:30 p.m. - 3:55 p.m. Multi-Locus Match Probability Dependencies
Bruce S. Weir, PhD – 2014-DN-BX-K028

3:55 p.m. - 4:20 p.m. Record Linkage of Combined DNA Index System (CODIS) Profiles With Single Nucleotide Polymorphisms (SNPs) Genotypes
Michael D. Edge – 2014-DN-BX-K015

4:20 p.m. - 4:45 p.m. Microhaplotypes Analyzed by Massively Parallel Sequencing Are Valuable Forensic Tools
Kenneth Kidd, PhD – 2015-DN-BX-K023

4:45 p.m. - 5:10 p.m. The Production of High-Fidelity Electropherograms Results in Improved and Consistent Match-Statistics: Standardizing Forensic Validation by Coupling Laboratory-Specific Experimental Data With an *In Silico* DNA Pipeline
Catherine M. Grgicak, PhD – 2014-DN-BX-K026

AMERICAN ACADEMY OF FORENSIC SCIENCES

2018 ANNUAL SCIENTIFIC MEETING

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ADVANCE PROGRAM

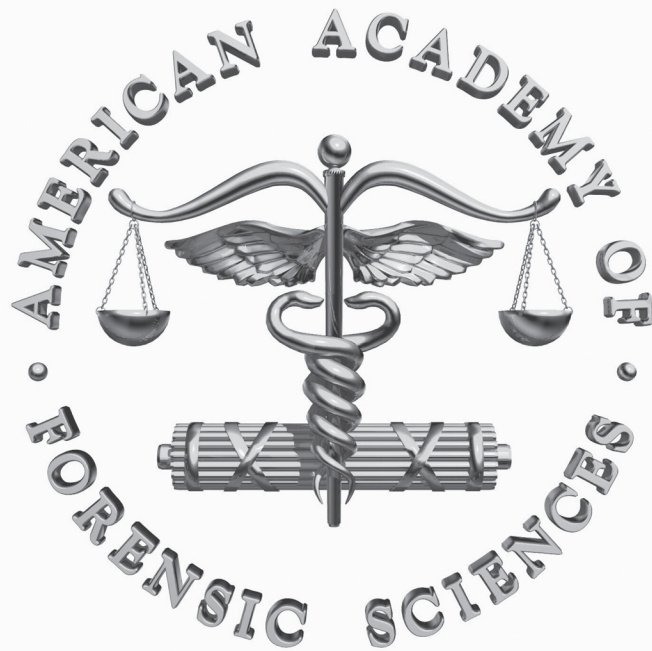
SCIENCE MATTERS

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Due to potential changes in the program, the AAFS encourages you to access the most up-to-date schedule on the AAFS website at www.aafs.org.



ANTHROPOLOGY



Wednesday

Poster Session

11:30 a.m. - 1:00 p.m.	A1	Investigating the Accuracy of Additive Manufacturing Skeletal Samples for Evidence Reconstruction <i>Rachael M. Carew, MSc*; Ruth M. Morgan, PhD; Carolyn Rando, PhD</i>
11:30 a.m. - 1:00 p.m.	A2	Radiographic Image Analysis and the Estimation of Age at Death in Adult Males <i>Andrew C. Seidel, MA*; Laura C. Fulginiti, PhD; Joel K. Simcoe</i>
11:30 a.m. - 1:00 p.m.	A3	Landmark and Measurement-Based Data Assistant (LAMbDA): A Pedagogical Tool for Cranial Landmark Data Collection <i>Kelly R. Kamnikar, MA*; Amber M. Plemons, MA; Alexis C. Goots, MA</i>
11:30 a.m. - 1:00 p.m.	A4	A Test of Quantitative Age-at-Death Estimation of the Pubic Symphysis Using the forAge Program <i>Audrey D. Schaefer, BA*; Jessica Galea, BA</i>
11:30 a.m. - 1:00 p.m.	A5	The Glenoid Cavity in Sex Estimation Among Contemporary Filipinos: Preservation and Accuracy Rates <i>Matthew C. Go, MA*; Jana Andrea D.S. Santos, BA*; Anne Marie R. Valera, BA*; Giswinne van de Wijdeven, MS*; Nicole Marie C. Vesagas, BA*</i>
11:30 a.m. - 1:00 p.m.	A6	Reliability and Validity of the Walker and Kiales, et al. Methods <i>Mackenzie Walls*; Alexandra R. Kiales, PhD; Kate M. Lesciotto, JD, MS; Timothy P. Gocha, PhD; Heather M. Garvin, PhD</i>
11:30 a.m. - 1:00 p.m.	A7	Dirt Matters: Case Studies in Forensic Archaeological Stratigraphy <i>Sabrina C. Ta'ala, MA*; Laurel E. Freas, PhD; Dane Terence Magoon, MA; Kelley S. Esh, MA; Owen L. O'Leary, PhD; Gregory E. Berg, PhD; Alexander F. Christensen, PhD</i>
11:30 a.m. - 1:00 p.m.	A8	Analysis of Inter- and Intra-Observer Error Associated With the Use of 3D Laser Scan Data of the Pubic Symphysis <i>Jieun Kim, PhD*; Bridget F.B. Algee-Hewitt, PhD; Detelina Stoyanova, PhD; Cristina Figueroa-Soto, MA; Dennis E. Slice, PhD</i>
11:30 a.m. - 1:00 p.m.	A9	Analysis of Osteon Pull-Out and Collagen Degradation to Establish Fracture Timing <i>James Luong, MSc*; Sadaf Fakhra, MSc; Natalie R. Langley, PhD; Beatrix Dudzik, PhD; MariaTeresa A. Tersigni-Tarrant, PhD</i>
11:30 a.m. - 1:00 p.m.	A10	Quantitative Population Differences in Anterior Zygomatic Projection (ZP) <i>Chelsea C. Cataldo-Ramirez, BA*; Heather M. Garvin, PhD; Luis L. Cabo, MS</i>
11:30 a.m. - 1:00 p.m.	A11	The Use of the Mastoid Triangle for Sex Estimation <i>Natalie L. Andras*</i>
11:30 a.m. - 1:00 p.m.	A12	The Impact of Asymmetrical Leg Lengths on Adult Stature Estimation <i>Megan E. Ingvaldstad, PhD*</i>



ANTHROPOLOGY

11:30 a.m. - 1:00 p.m.	A13	The Utility of Postcranial Non-Metric Traits in Ancestry Analysis <i>Micayla C. Spiros, MSc*; Carolyn Rando, PhD</i>
11:30 a.m. - 1:00 p.m.	A14	Testing the Reliability of Ancestry-Specific Juvenile Age Estimation Methods Using the Diaphyseal Length of the Humerus <i>Hugo Cardoso, PhD*; Laure Spake, MA*; Luis Rios, MA; John Albanese*</i>
11:30 a.m. - 1:00 p.m.	A15	A Revision of the Histological Age Estimation Formula From Stout for Sternal Rib Ends <i>Nicole M. Weiss, BS*</i>
11:30 a.m. - 1:00 p.m.	A16	An Examination of Pelvic Scarring as a Determinant of Parturition Status <i>Helen M. Brandt, BA*; Stephen P. Nawrocki, PhD; Krista E. Latham, PhD</i>
11:30 a.m. - 1:00 p.m.	A17	Stature Estimation Using Measurements of the Cranium for Populations in the United States <i>Kelsey Kyllonen, MA*; Terrie L. Simmons-Ehrhardt, MA; Keith L. Monson, PhD</i>
11:30 a.m. - 1:00 p.m.	A18	Histological Variables at Multiple Locations and the Effect on Age Estimation <i>Victoria M. Dominguez, MA; Nicole M. Crowe, BS*; Angela L. Harden, MA; Amanda M. Agnew, PhD</i>
11:30 a.m. - 1:00 p.m.	A19	Using Structure From Motion Photogrammetry to Quantify Volume Gain and Loss During the Human Decomposition Process <i>Kathleen Flor-Stagnato, BA*; Susan Sincerbox, BS*; Nicholas P. Herrmann, PhD</i>
11:30 a.m. - 1:00 p.m.	A20	The Use of the Mandibular Symphysis for Estimating Ancestry <i>Ginesse A. Listi, PhD*</i>
11:30 a.m. - 1:00 p.m.	A21	Scavenging Patterns in Hawaii: An Archaeological and Skeletal Case Study <i>Robert Kalani Carreira, BA*; Jennifer F. Byrnes, PhD; William R. Belcher, PhD</i>
11:30 a.m. - 1:00 p.m.	A22	Anatomy and Biological Anthropology: Time for a Family Reunion? <i>Natalie R. Langley, PhD*; Lauren Butaric, PhD</i>
11:30 a.m. - 1:00 p.m.	A23	The Forensic Application of Skeletal Stress Indicators: A Correlation Study of Linear Enamel Hypoplasia (LEH), Harris Lines, Cortical Bone Loss (CBL), and Stature <i>Justin Goldstein, MA*</i>
11:30 a.m. - 1:00 p.m.	A24	The Use of High-Resolution Micro-Computed Tomography (micro-CT) for Quantifying Vascular Pore Networks Across Whole Cross Sections of Human Cortical Bone <i>Mary E. Cole, MA*; Sam D. Stout, PhD</i>
11:30 a.m. - 1:00 p.m.	A25	The Effect of Cranium Orientation on Positive Identification Using Frontal Sinus Radiographs <i>Alyssa R. Harrison, BS*</i>
11:30 a.m. - 1:00 p.m.	A26	A Study on the Asymmetry Between the Left and Right Human Pubic Symphysis for Age-at-Death Estimation Based on 3D Laser Scans and Computational Methods <i>Detelina Stoyanova, PhD*; Bridget F.B. Algee-Hewitt, PhD; Jieun Kim, PhD; Dennis E. Slice, PhD</i>
11:30 a.m. - 1:00 p.m.	A27	Preauricular Sulcus (PAS) and Parity Status: A Possible Correlation? A Test on a Documented British Collection <i>Sarah E. Canty, BSc*; Matteo Borrini, PhD*; Constantine Eliopoulos, PhD; Silvia Gonzalez, PhD</i>

ANTHROPOLOGY



Thursday — Session I

Antemortem and Peri-Mortem Skeletal Trauma

*Moderator: Todd W. Fenton, PhD
Michigan State University
Department of Anthropology
East Lansing, MI*

*Co-Moderator: Katie M. Rubin, MS
University of Florida, CA Pound Human
Identification Laboratory
Gainesville, FL*

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| 8:30 a.m. | - | 8:45 a.m. | A28 | Forensic Fractography of Bone: A New Approach to Skeletal Trauma Analysis
<i>Angi M. Christensen, PhD*; Joseph T. Hefner, PhD; Michael A. Smith, PhD;
Jodi Blakely Webb, MS; Maureen Bottrell, MS; Todd W. Fenton, PhD</i> |
| 8:45 a.m. | - | 9:00 a.m. | A29 | A Retrospective Study of Intentional Body Dismemberment in New York City: 1996-2016
<i>Bradley J. Adams, PhD*; Christopher W. Rainwater, MS; An-Di Yim, MA;
Helen S. Alesbury, BS</i> |
| 9:00 a.m. | - | 9:15 a.m. | A30 | Determining Common Skeletal Injury Locations Based on Manner of Death (MOD)
<i>Cortney N. Hulse, MA*; Kyra E. Stull, PhD; Laura D. Knight, MD</i> |
| 9:15 a.m. | - | 9:30 a.m. | A31 | Butterfly Fractures in Medicolegal Investigations
<i>Steven A. Symes, PhD*; Ericka N. L'Abbe, PhD; Mark M. LeVaughn, MD</i> |
| 9:30 a.m. | - | 9:45 a.m. | A32 | Early Signs of Direct Fracture Repair and Indirect Intramembranous Fracture Repair Without Indications of Endochondral Ossification in the Ribcage
<i>Katie M. Rubin, MS*; Michala K. Stock, MA</i> |
| 9:45 a.m. | - | 10:00 a.m. | A33 | Initiation and Propagation of Fractures in Blunt Impacts to Unconstrained Human Cadaver Heads
<i>Mariyam I. Isa, MA*; Todd W. Fenton, PhD; Alexis C. Goots, MA; Elena O. Watson, BA;
Patrick E. Vaughan, BS; Feng Wei, PhD; Roger C. Haut, PhD</i> |
| 10:00 a.m. | - | 10:15 a.m. | A34 | The Influence of Implement Shape on Fracture Pattern and Defect Size in Experimental Blunt Cranial Impacts
<i>Elena O. Watson, BA*; Todd W. Fenton, PhD; Mariyam I. Isa, MA; Alexis C. Goots, MA;
Patrick E. Vaughan, BS; Feng Wei, PhD; Roger C. Haut, PhD</i> |
| 10:15 a.m. | - | 10:30 a.m. | A35 | Estimating Points of Impact in Multiple Blunt Force Cranial Trauma: Lessons From Experimental Impacts
<i>Alexis C. Goots, MA*; Mariyam I. Isa, MA; Todd W. Fenton, PhD; Elena O. Watson, BA;
Patrick E. Vaughan, BS; Feng Wei, PhD; Roger C. Haut, PhD</i> |
| 10:30 a.m. | - | 10:45 a.m. | | Break |



ANTHROPOLOGY

Biological Profile: Sex Determination

*Moderator: Sean D. Tallman, PhD
Boston University
Departments of Anatomy and Neurobiology
and Anthropology
Boston, MA*

*Co-Moderator: Janet E. Finlayson, MA
University of Florida
Gainesville, FL*

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| 10:45 a.m. - 11:00 a.m. | A36 | Introducing MorphoPASSE: The Morphological Pelvis and Skull Sex Estimation Database
<i>Alexandra R. Kiales, PhD*</i> ; <i>Stephanie J. Cole, MS</i> |
| 11:00 a.m. - 11:15 a.m. | A37 | Computational Anatomy: What Prospects for Forensic Anthropology?
<i>Rémi Agier; Remy Prost, PhD; Razmig Kechichan; Sébastien Valette; Laurent Fanton, MD, PhD; Angelique Franchi, MD*</i> |
| 11:15 a.m. - 11:30 a.m. | A38 | Risen From the Ashes: An Exploratory Study for Developing New Methods of Analyzing Cremated Human Remains
<i>Anthony W. Hudson*</i> |
| 11:30 a.m. - 11:45 a.m. | A39 | Estimating Sex With Outline Shape Analysis of the Trochlear Constriction and the Olecranon Fossa
<i>Saskia Ammer, MSc*</i> ; <i>João Pedro Valente de Oliveira Coelho, MSc</i> |
| 11:45 a.m. - 12:00 p.m. | A40 | The Utility of Clavicular and Humeral Non-Metric Sex Assessment Methods in Japanese and Thai Individuals
<i>Sean D. Tallman, PhD*</i> |
| 12:00 p.m. - 1:45 p.m. | | Lunch |

Poster Session

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| 11:30 a.m. - 1:00 p.m. | A41 | Resolving Commingling and Past Accounting at Cabanatuan Prison Camp Cemetery
<i>Mary S. Megyesi, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | A42 | Procedures for Sorting Small-Scale Cases of Commingled Remains: An Integrative Approach Using Morphological, Metric, and Chemical Methods
<i>Colleen F. Milligan, PhD*</i> ; <i>Eric J. Bartelink, PhD; Alexandra Perrone, MA</i> |
| 11:30 a.m. - 1:00 p.m. | A43 | How Large Is Too Large? The Effect of Assemblage Size in Reassociating Commingled Remains
<i>Kyle A. McCormick, PhD*</i> |
| 11:30 a.m. - 1:00 p.m. | A44 | Commingling Among Unidentified Remains Stored at Mortuary Facilities in Bosnia and Herzegovina (BiH)
<i>D. Sarzinski, MSc*</i> |

ANTHROPOLOGY



11:30 a.m.	-	1:00 p.m.	A45	The Accuracy of Visual Pair Matching of the Humerus of a Large-Scale Commingled Assemblage <i>Carrie B. LeGarde, MA*</i>
11:30 a.m.	-	1:00 p.m.	A46	Osteometric Sorting of Commingled Upper Limb Bones <i>Ioanna Anastopoulou, BSc; Fotios A. Karakostis, MSc; Konstantinos Moraitis, PhD*; Matteo Borrini, PhD*</i>
11:30 a.m.	-	1:00 p.m.	A47	The Use of Portable X-Ray Fluorescence (pXRF) Spectrometry for a Large Commingled Assemblage <i>Larkin F. Kennedy, PhD*; Stephanie Fuehr, MA</i>
11:30 a.m.	-	1:00 p.m.	A48	Estimating the Number of Individuals in a Large Commingled Assemblage of Known Size <i>Andrea Palmiotto, PhD*; Carrie A. Brown, PhD*; Carrie B. LeGarde, MA</i>
11:30 a.m.	-	1:00 p.m.	A49	Using Biological Data to Inform a DNA Sequencing Strategy <i>Carrie A. Brown, PhD*; Jeffrey James Lynch, MSc</i>
11:30 a.m.	-	1:00 p.m.	A50	A Multidisciplinary Approach to Identifying Unaccounted Service Members From the Battle of Tarawa in 1943 <i>Rebecca J. Wilson-Taylor, PhD*; Anthony J. Koehl, PhD; Audrey L. Scott, PhD; Willa R. Trask; Heli Maijanen, PhD</i>
11:30 a.m.	-	1:00 p.m.	A51	A Comparison of Bullet Type on Cranial Gunshot Exit Wounds <i>Elizabeth A. DiGangi, PhD*; Elizabeth A. Evangelou, MA*; Tessa Somogyi, MA*; Jessica E. Sanger, BA; Daniel Castellanos, MA*; Donald Poon, BA*; Kevin E. Sheridan, PhD*</i>
11:30 a.m.	-	1:00 p.m.	A52	Ancestral Variation and Postcranial Metrics for Three United States Populations: Implications for Stature Estimation <i>Bridget F.B. Algee-Hewitt, PhD*</i>
11:30 a.m.	-	1:00 p.m.	A53	A Comparison of Historical and Present-Day Skeletal Analyses of Unidentified Remains Recovered From Europe During World War II <i>Katherine Skorpinski, PhD*; Ian Spurgeon, PhD</i>
11:30 a.m.	-	1:00 p.m.	A54	An Assessment of Ancestry and Sex Estimation Using FORDISC® 3.1 <i>John Albanese*; Abigail Dagdag; Carmen Skalic, BA; Hugo Cardoso, PhD</i>
11:30 a.m.	-	1:00 p.m.	A55	A Multidisciplinary Approach to Identification and Repatriation at Mount Austen, Guadalcanal <i>Megan E. Ingvaldstad, PhD*; Kimberly A. Maeyama, PhD</i>
11:30 a.m.	-	1:00 p.m.	A56	A Test of the (hu)MANid Classification Software on a Sample of United States White and Black Mandibles <i>Kelsey A. Carpenter, MS*; Heather M. Garvin, PhD</i>
11:30 a.m.	-	1:00 p.m.	A57	Comparing Socio-Economic and Population-Level Differences and Quantifying Their Impact on Subadult Age Estimations <i>Samantha M. Gonzalez*; Kyra E. Stull, PhD</i>



ANTHROPOLOGY

11:30 a.m. - 1:00 p.m.	A58	Age Estimation of Hispanic Children Using the London Atlas <i>David C. McCloe, DDS*</i> ; <i>Sakher J. AlQahtani, PhD*</i> ; <i>Marcio da Fonseca, DDS</i> ; <i>Michael D. Colvard, DDS, PhD</i> ; <i>Ian Marion, DDS</i>
11:30 a.m. - 1:00 p.m.	A59	A Geometric Morphometric Analysis of Contemporary Hispanic Populations From Mexico and Colombia <i>Sergio Calle, BA*</i> ; <i>Sean D. Tallman, PhD</i> ; <i>Kate Spradley, PhD</i>
11:30 a.m. - 1:00 p.m.	A60	The Frequency of Asymmetry in Non-Metric Craniofacial Trait Expression and Its Effect on Ancestry Assessment <i>Samantha W. Coberly*</i>
11:30 a.m. - 1:00 p.m.	A61	Non-Metric Traits of the Mandible in Ancestry Estimation <i>Sarah Schwing, BA, BS*</i> ; <i>Michala K. Stock, MA</i>
11:30 a.m. - 1:00 p.m.	A62	Using Basicranial Landmarks to Estimate Ancestry in an American Sample <i>Nicole D. Siegel, DVM*</i> ; <i>Adam Kolatorowicz, PhD</i>
11:30 a.m. - 1:00 p.m.	A63	Craniometric Variation of Modern Asian and Hispanic Individuals Using Multivariate Analysis <i>Nandar Yukyi, MA*</i> ; <i>Kate Spradley, PhD</i>
11:30 a.m. - 1:00 p.m.	A64	Age Estimation From the Measurement of Open Apices in the Developing Permanent Dentition <i>Amanda J. Barville*</i> ; <i>Ambika Flavel, MSc</i> ; <i>Rob Hart, PhD</i> ; <i>Daniel Franklin, PhD</i>
11:30 a.m. - 1:00 p.m.	A65	Sensitivity Analysis of Craniometric Measurements and Modeling Techniques to Assess Impact of Measurement Error on FORDISC® Results <i>Michala K. Stock, MA*</i> ; <i>Katie M. Rubin, MS</i> ; <i>Alexander McGhee, MS</i>
11:30 a.m. - 1:00 p.m.	A66	The Importance of Sitewide Taphonomic Assessments for Highly Fragmented, Comingled, and Heat-Altered Remains From Mass Graves <i>Sean Y. Greer, BA*</i> ; <i>Sarah Baumgarten, MSc*</i> ; <i>Analia G. Simonetto, MS</i> ; <i>Mariana Segura</i> ; <i>Mercedes Doretti</i>

Histology and Quality Assurance

Moderator: MariaTeresa A. Tersigni-Tarrant, PhD
Saint Louis University School of Medicine
Center for Anatomical Science
St. Louis, MO

Co-Moderator: Vincent J. Sava, MA
Defense POW/MIA Accounting
Agency Laboratory
Joint Base Pearl Harbor-Hickam, HI

1:45 p.m. - 2:00 p.m.	A67	The Occurrence of Osteon Banding in Adult Human Cortical Bone <i>Janna M. Andronowski, PhD*</i> ; <i>Isaac V. Pratt, MSc</i> ; <i>David M.L. Cooper, PhD</i>
2:00 p.m. - 2:15 p.m.	A68	Estimation of the Postmortem Interval (PMI) of Skeletonized Human Remains Using Nile Blue and Indophenol Colorimetrics on Femoral Cortical Thin Sections <i>Léa M. Lerchundi, MSc</i> ; <i>Anne Coulombeix, MSc</i> ; <i>Pierre M.M. Guyomarc'h, PhD*</i>

ANTHROPOLOGY



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| 2:15 p.m. - 2:30 p.m. | A69 | Volumetric Histological Age Estimation Utilizing a Geographic Information Systems (GIS) -Based Analytical Approach
<i>Suzanna Michener, MSc*; Lynne S. Bell, PhD; Nadine Schuurman, PhD; David Swanlund, BA</i> |
| 2:30 p.m. - 2:45 p.m. | A70 | Validation, Verification, and Performance Checks of Anthropological Equipment and Software: The Importance of Quality Assurance in Forensic Anthropology Laboratories
<i>Julie M. Fleischman, PhD*; Christian Crowder, PhD; Michal L. Pierce, MS; Kate Spradley, PhD</i> |
| 2:45 p.m. - 3:00 p.m. | A71 | Accreditation of Forensic Anthropology and Practice in the United Kingdom
<i>Catriona M. Davies, PhD*; Lucina Hackman, PhD</i> |
| 3:00 p.m. - 3:15 p.m. | | Break |

Biological Profile: Age Estimation and Ancestry Determination

*Moderator: Joseph T. Hefner, PhD
Michigan State University
Department of Anthropology
East Lansing, MI*

*Co-Moderator: Diana L. Messer, MS
Erie, PA*

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| 3:15 p.m. - 3:30 p.m. | A72 | Validation of the Acetabulum as a Skeletal Indicator of Age at Death
<i>Allysha P. Winburn, PhD*</i> |
| 3:30 p.m. - 3:45 p.m. | A73 | Exploring the Performance of a Global Subadult Age Estimation Model Using Unsupervised Machine Learning Techniques
<i>Kyra E. Stull, PhD*; Michael H. Price, PhD</i> |
| 3:45 p.m. - 4:00 p.m. | A74 | A Multidisciplinary Protocol to Assess Chronological Age of Unidentified Migrants
<i>Francesco Lupariello, MD*; Serena Maria Curti, MD; Davide Santovito, MD; Moreno Bertoni, MD; Giancarlo Di Vella, MD, PhD</i> |
| 4:00 p.m. - 4:15 p.m. | A75 | Dental Morphological Ancestry Estimation in a Self-Identified Biracial Sample
<i>Chaunesey Clemmons, BA*; Daniel J. Wescott, PhD</i> |
| 4:15 p.m. - 4:30 p.m. | A76 | Improvement to the Estimation of Hispanic Ancestry Through the Combination of Cranial and Dental Traits
<i>Christopher A. Maier, PhD*</i> |
| 4:30 p.m. - 4:45 p.m. | A77 | SkullProfiler: A Simple New Capability for the Quantitative Estimation of Ancestry and Sex From Lateral Skull Photographs
<i>Jodi M. Caple, BS*; John E. Byrd, PhD; Carl N. Stephan, PhD</i> |
| 4:45 p.m. - 5:00 p.m. | A78 | Analyzing Morphometric Methods of Race Differentiation in the Human Pelvic Girdle
<i>Laura Yurka, MA*</i> |



ANTHROPOLOGY

Thursday — Session II

Forensic Anthropology: Facilities, Databases, Ethics, and Professionalism

Moderator: Maranda A. Kles, PhD
University of Louisiana at Lafayette
Lafayette, LA

Co-Moderator: Katelyn L. Bolhofner, PhD
Arizona State University
Tempe, AZ

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| 8:30 a.m. | - | 8:45 a.m. | A79 | Masters of Our Own House: The Planning and Construction of the New Defense POW/MIA Accounting Agency (DPAA) Laboratory in Hawaii
<i>Vincent J. Sava, MA*; John E. Byrd, PhD</i> |
| 8:45 a.m. | - | 9:00 a.m. | A80 | Learning From Our Casework: The Society of Forensic Anthropologists (SOFA) Case Database
<i>Cris E. Hughes, PhD*; Chelsey A. Juarez, PhD; Katharine Chapman Pope, MA</i> |
| 9:00 a.m. | - | 9:15 a.m. | A81 | Forensic Research Outdoor Station (FROST): The Implementation of a Cold-Climate Forensic Anthropology Research Facility
<i>Jane Wankmiller, PhD*; Scott Demel, PhD</i> |
| 9:15 a.m. | - | 9:30 a.m. | A82 | The New Revolution of Bone Collection and the Necessity for the International Digital Bone Collection Center (IDBCC)
<i>Yu Ryang Jang, PhD*</i> |
| 9:30 a.m. | - | 9:45 a.m. | A83 | The Ethics of Conducting Research on Human Subjects in Forensic Anthropology
<i>Marin A. Pilloud, PhD*; Nicholas V. Passalacqua, PhD</i> |
| 9:45 a.m. | - | 10:00 a.m. | A84 | Imaging Human Skeletal Remains: Ethical Considerations
<i>David Errickson*</i> |
| 10:00 a.m. | - | 10:15 a.m. | A85 | The Current State of Forensic Anthropology as a Profession
<i>Nicholas V. Passalacqua, PhD*; Marin A. Pilloud, PhD</i> |
| 10:15 a.m. | - | 10:30 a.m. | | Break |

Taphonomy and Postmortem Interval (PMI)

Moderator: Mary S. Megyesi, PhD
Defense POW/MIA Accounting
Agency Laboratory
Joint Base Pearl Harbor-Hickam, HI

Co-Moderator: Kelly R. Kamnikar, MA
Michigan State University
East Lansing, MI

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| 10:30 a.m. | - | 10:45 a.m. | A86 | The Suitability of Digital Photographs to Evaluate Decomposition of Pig Carcasses in a Tropical Climate: A Preliminary Investigation
<i>Agathe J.G. Ribereau-Gayon, MSc*; Carolyn Rando, PhD; Ruth M. Morgan, PhD; David O. Carter, PhD</i> |
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ANTHROPOLOGY



10:45 a.m. - 11:00 a.m.	A87	Predicting the Postmortem Submersion Interval (PMSI) From the Microbiome of Bone in a Fresh Water Lake <i>Claire M. Cartozzo, MSFS*</i> ; <i>Baneshwar Singh, PhD</i> ; <i>Tal Simmons, PhD</i>
11:00 a.m. - 11:15 a.m.	A88	The Faunal Succession of Forensically Important Arthropods and Large Vertebrate Scavengers in Rural Northwest Florida <i>Kristen M. Grow, BA*</i>
11:15 a.m. - 11:30 a.m.	A89	Analysis of the Interactions Between Taphonomic and Pathological Processes <i>Maria L. Cox, BA*</i>
11:30 a.m. - 11:45 a.m.	A90	A Comparison of Two Methods for Estimating the Postmortem Interval (PMI) From Decomposed Human Remains <i>Mary Studebaker-Reed, BA*</i> ; <i>Deborah C. Pinto, PhD</i> ; <i>Michelle R. Sanford, PhD</i>
11:45 a.m. - 12:00 p.m.	A91	The Differential Effects of Environmental Factors on Immature and Mature Bone Degradation: A Controlled Experiment Using Pig Skeletal Remains <i>Shera Fisk, BSc*</i> ; <i>Francesco Berna, PhD</i> ; <i>Deborah C. Merrett, PhD</i> ; <i>Hugo Cardoso, PhD</i>
12:00 p.m. - 1:45 p.m.		Lunch

Humanitarian Forensic Science

Moderator: Davette N. Gadison, MA
New Orleans, LA

Co-Moderator: Kate Spradley, PhD
Texas State University
Department of Anthropology
San Marcos, TX

1:45 p.m. - 2:00 p.m.	A92	Science as a Human Right: Using DNA to Identify Missing Migrants <i>Robin C. Reineke, PhD*</i> ; <i>Mirza M. Monterroso, MA</i>
2:00 p.m. - 2:15 p.m.	A93	The Approach Toward Identification of Deceased Migrants in the United States and European Union: A Comparative Study Between LABANOF (Italy), OpID (Texas), and PCOME (Arizona) Experiences <i>Annalisa Cappella, PhD*</i> ; <i>Timothy P. Gocha, PhD</i> ; <i>Jennifer M. Vollner, PhD</i> ; <i>Debora Mazzarelli, BS</i> ; <i>Lara Olivieri, MSc</i> ; <i>Bruce E. Anderson, PhD</i> ; <i>Kate Spradley, PhD</i> ; <i>Cristina Cattaneo, PhD</i>
2:15 p.m. - 2:30 p.m.	A94	Humanitarian Science in the Texas Borderlands: Incorporating a Sociopolitical Perspective to the Forensic Investigation of Migrant Identification <i>Krista E. Latham, PhD*</i> ; <i>Alyson O'Daniel, PhD</i> ; <i>Kate Spradley, PhD</i>
2:30 p.m. - 2:45 p.m.	A95	Assessing the Spatial Patterns of Undocumented Border Crosser (UBC) Deaths in the Southern Arizona Desert <i>Caitlin C.M. Vogelsberg, MS*</i>
2:45 p.m. - 3:00 p.m.	A96	The Application of Stable Isotopes and Geostatistics to Infer Region of Geographic Residence for Undocumented Migrants <i>Robyn Theresa Kramer, BA*</i> ; <i>Nicholas P. Herrmann, PhD</i> ; <i>Eric J. Bartelink, PhD</i> ; <i>Kate Spradley, PhD</i>
3:00 p.m. - 3:15 p.m.		Break



ANTHROPOLOGY

Forensic Archaeology

*Moderator: Christopher W. Rainwater, MS
Office of the Chief Medical Examiner
New York, NY*

*Co-Moderator: Lauren R. Pharr, PhD
Memphis, TN*

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| 3:15 p.m. - 3:30 p.m. | A97 | Digital Technologies and Forensic Archaeology: Reflections on the Experiences of the Committee of Missing Persons in Cyprus
<i>Caroline L. Sturdy Colls, PhD*</i> ; <i>Dante Abate, PhD</i> ; <i>Noly Moyssi, PhD*</i> ; <i>Demet Karsili, MA*</i> ; <i>Marina Faka, MSc</i> ; <i>Ahmet Anilir, MSc</i> ; <i>Stylianios Manoli</i> ; <i>Sorin Hermon, PhD</i> |
| 3:30 p.m. - 3:45 p.m. | A98 | Broken Link: The Role of Forensic Anthropology in Cultural Resources Management
<i>Rebekah Loveless, MA*</i> ; <i>Brandon C. Linton*</i> |
| 3:45 p.m. - 4:00 p.m. | A99 | Identifying Vulture Scavenging Locations Through Global Positioning Systems (GPS), Geographic Information Systems (GIS), and Remote Sensing
<i>Lauren R. Pharr, PhD*</i> ; <i>Michael Leitner, PhD</i> |
| 4:00 p.m. - 4:15 p.m. | A100 | Staged and Altered Homicide Scenes: An Analysis of Secondary Sites
<i>Erin H. Kimmerle, PhD*</i> |
| 4:15 p.m. - 4:30 p.m. | A101 | The Application of Photogrammetry for Documenting Scenes With Skeletal Remains: Capabilities and Shortcomings for Use in Central Florida
<i>Kevin Gidusko, BA</i> ; <i>John J. Schultz, PhD</i> ; <i>Mason H. Branscome, BA*</i> |
| 4:30 p.m. - 4:45 p.m. | A102 | An Examination of the Relationship Between Intrinsic Properties of Bone and Skeletal Element Recovery
<i>Valerie Sgheiza, BS*</i> |
| 4:45 p.m. - 5:00 p.m. | A103 | The Use of Geographic Information Systems (GIS) to Identify Relationships Between Victim Dispersal Patterns and Skeletal Trauma After a Blast Event
<i>Alice Fazlollah Gooding, PhD*</i> ; <i>Caroline Johnston, BS</i> ; <i>Kendra Thomas, BS</i> ; <i>Michael McClung, BS</i> |

ANTHROPOLOGY



Friday

A Miscellany of Anthropology

*Moderator: Krista E. Latham, PhD
University of Indianapolis
Biology Department
Indianapolis, IN*

*Co-Moderator: Victoria Swenson, MA
Knoxville, TN*

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| 8:30 a.m. | - | 8:45 a.m. | A104 | Variety and Distribution of Orthopedic Devices in the Cyprus Research Reference Collection and Their Relationship to Skeletal Trauma: Preliminary Results
<i>Xenia Paula Kyriakou*, Amy I. Perez; Anna Williams, PhD</i> |
| 8:45 a.m. | - | 9:00 a.m. | A105 | The Application of Consolidation Materials to Burned Bone: A Comparative Approach
<i>Courtney C. Siegert, BA*; Michelle D. Hamilton, PhD; Elizabeth Erhart; Joanne Devlin, PhD</i> |
| 9:00 a.m. | - | 9:15 a.m. | A106 | The Effect of Scanner Performance on Capture Ability and Identification Success on Postmortem Biometric Data
<i>Kelly Sauerwein, MA*; Samantha Upton, BA*; Elizabeth Albee, BA; Anielle Duncan, BA; Dawnie W. Steadman, PhD; David Bolme, PhD</i> |
| 9:15 a.m. | - | 9:30 a.m. | A107 | In Search of Jane Doe: An Analysis of Solvability Factors in Unidentified Remains
<i>Melissa Ann Pope, MA*; Kelsee Hentschel-Fey, MA; Erin H. Kimmerle, PhD</i> |
| 9:30 a.m. | - | 9:45 a.m. | A108 | Changes in DNA Quantity and Quality in the Human Tibia After Short-Term Surface or Subsurface Burial
<i>Zachariah A. Landhuis, BA*; McKenzie R. Siewert, BS; David R. Foran, PhD</i> |
| 9:45 a.m. | - | 10:00 a.m. | A109 | Long-Term Cocaine Use and Its Potential Effect on Bone Morphology
<i>Nicollette S. Appel, MS*; Donald F. Siwek, PhD; Tara L. Moore, PhD</i> |
| 10:00 a.m. | - | 10:15 a.m. | A110 | Mismeasurement of the Tibia and Femur Reconsidered: How Were Measurements Taken at the Central Identification Unit in Kokura, Japan?
<i>Alexander F. Christensen, PhD*</i> |
| 10:15 a.m. | - | 10:30 a.m. | | Break |



ANTHROPOLOGY

Statistics and the Biological Profile

*Moderator: Nicholas P. Herrmann, PhD
Texas State University
Department of Anthropology
San Marcos, TX*

*Co-Moderator: Jennifer F. Byrnes, PhD
University of Hawaii - West O'ahu
Kapolei, HI*

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| 10:30 a.m. - 10:45 a.m. | A111 | A Validation Study of the Langley Decision Tree Model for Sex Estimation
<i>Heather M. Garvin, PhD*; Alexandra R. Klates, PhD</i> |
| 10:45 a.m. - 11:00 a.m. | A112 | Age-Cohort Categorization and Multi-Factorial Age Estimation in Machine Learning Environments
<i>Joseph T. Hefner, PhD*; Nicholas V. Passalacqua, PhD</i> |
| 11:00 a.m. - 11:15 a.m. | A113 | On the Central Importance of Analysis of Covariance (ANCOVA) in Human Skeletal Research
<i>Stephen P. Nawrocki, PhD*; Krista E. Latham, PhD; Madeline Parker, BS</i> |
| 11:15 a.m. - 11:30 a.m. | A114 | Fuzzy Inference System (FIS) as a Novel Statistical Method for Forensic Ancestry Estimation
<i>Donovan M. Adams, MS*; Rebecca L. George, MA</i> |
| 11:30 a.m. - 11:45 a.m. | A115 | Body Mass Estimation: Preliminary Equations for the Undocumented South Texas Migrants Using Bayesian Inference
<i>Elaine Y. Chu, BSc*; Kate Spradley, PhD</i> |
| 11:45 a.m. - 1:30 p.m. | | Lunch |

Poster Session

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| 11:30 a.m. - 1:00 p.m. | A116 | Decomposition Rates: Autopsied vs. Non-Autopsied Human Remains
<i>Cortnee J. Agan*; Christiane Baigent, MSc*; Melissa A. Connor, PhD; Eriek S. Hansen, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | A117 | Testing the Accuracy of the Correlation Between the Condyles of the Distal Femur and Proximal Tibia: A Validation Study
<i>Erin B. Waxenbaum, PhD; Lauren Diaz-Albertini, BA*</i> |
| 11:30 a.m. - 1:00 p.m. | A118 | Using Microbial Clocks in Human Cadaver Ribs as a Postmortem Tool
<i>Jessica L. Metcalf, PhD; Aaron M. Lynne, PhD; Jennifer R. Kiely, BS*</i> |
| 11:30 a.m. - 1:00 p.m. | A119 | Toward a Skeletal Atlas of Elder Abuse: A Pilot Study of Fracture Patterns in Documented Cases
<i>Katelyn L. Bolhofner, PhD*; Laura C. Fulginiti, PhD; Jane E. Buikstra, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | A120 | Results of Testing Inter-/Intra-Observer Error for "Planar" Proxy for Upper Facial Breadth and Novel Measurement of Interorbital Distance
<i>Angeline Smith*; Jacob L. Cheramie; Maranda A. Kles, PhD</i> |

ANTHROPOLOGY



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| 11:30 a.m. | - | 1:00 p.m. | A121 | Challenges in Identifying United States Casualties From Past Conflicts: An Assessment of Lines of Evidence
<i>Heli Maijanen, PhD*</i> ; <i>Andrea Palmiotto, PhD</i> |
| 11:30 a.m. | - | 1:00 p.m. | A122 | The Application of the Megyesi Method and Improved Total Body Scores (TBS) and Accumulated Degree Days (ADD) Equations to Pennsylvania, Ohio, and New York Cases
<i>Dorianis Perez, BS</i> ; <i>Paige A. Lynch, BA*</i> ; <i>Rhian Dunn, BA</i> ; <i>Audrey E. Constantino, BS*</i> ; <i>Luis L. Cabo, MS</i> |
| 11:30 a.m. | - | 1:00 p.m. | A123 | The Human Cadaver Decomposition Island (CDI) and the Vegetation Regrowth Interval
<i>Tonya Parnell, BS</i> ; <i>Katie Tanner, BS</i> ; <i>Stacie G. Gray, BS</i> ; <i>Haeli Kennedy*</i> ; <i>Joan A. Bytheway, PhD</i> |
| 11:30 a.m. | - | 1:00 p.m. | A124 | Modern Variation in Vertebral Column Segmentation and Transitions
<i>Janet E. Finlayson, MA*</i> ; <i>Amanda N. Friend, MA</i> |
| 11:30 a.m. | - | 1:00 p.m. | A125 | Spatial Analysis and Animal Activity: A Taphonomic Study Using Geographic Information Systems (GIS) to Document Animal Modification to Human Bone at Outdoor Crime Scenes
<i>Jessica Yopak, BA*</i> ; <i>Dennis C. Dirkmaat, PhD</i> ; <i>Luis L. Cabo, MS</i> |
| 11:30 a.m. | - | 1:00 p.m. | A126 | The Relative Compositional Changes of Buried Juvenile Porcine Ribs and Ulnae in the Early Postmortem Interval
<i>Luisa Marinho, MSc*</i> ; <i>Shera Fisk, BSc*</i> ; <i>Hugo Cardoso, PhD*</i> |
| 11:30 a.m. | - | 1:00 p.m. | A127 | Seasonal and Spatial Variation in Local Weather Station Data From Knoxville, Tennessee
<i>Kathleen Hauther*</i> ; <i>Derek A. Boyd, MA</i> ; <i>William D. Cawley, BA</i> ; <i>Kelly Sauerwein, MA</i> ; <i>Yangseung Jeong, PhD</i> |
| 11:30 a.m. | - | 1:00 p.m. | A128 | The Influence of Three-Layered Cranial Architecture Development on Non-Accidental Pediatric Cranial Blunt Force Trauma (BFT) Outcomes
<i>Donna C. Boyd, PhD*</i> ; <i>Kimber G. Cheek</i> ; <i>Cliff Boyd, PhD</i> |
| 11:30 a.m. | - | 1:00 p.m. | A129 | Reexamining Differences in the Rate of Decomposition Between Previously Frozen and Never Frozen Human Remains Using the Accumulated Decomposition Score (ADS)
<i>Shelby Garza, BSc*</i> ; <i>Daniel J. Wescott, PhD</i> |
| 11:30 a.m. | - | 1:00 p.m. | A130 | Assessing the Utility of Total Body Score (TBS) and Accumulated Degree Days (ADD) for Estimating Postmortem Interval (PMI) in Clothed Vulture-Scavenged Human Remains
<i>Krystle Lewis, BS*</i> ; <i>Daniel J. Wescott, PhD</i> |
| 11:30 a.m. | - | 1:00 p.m. | A131 | A Quantitative Approach to Estimating the Postmortem Interval (PMI) Using Histotaphonomy
<i>Ann H. Ross, PhD*</i> ; <i>Amanda R. Hale, MA*</i> |



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| 11:30 a.m. - 1:00 p.m. | A132 | Microbiome of Forensically Important Flies (Diptera) Associated With Human Cadavers
<i>Sibyl R. Bucheli, PhD*</i> ; <i>Aaron M. Lynne, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | A133 | The Effects of Hydrochloric Acid on Fleshed Porcine Ribs
<i>Amaretta J. Azevedo, MA*</i> |
| 11:30 a.m. - 1:00 p.m. | A134 | Sex Estimation Based on Analysis of the Enamel Proteome
<i>Julia Yip, BS*</i> ; <i>Michelle Salemi, MS</i> ; <i>Brett Phinney, PhD</i> ; <i>Jelmer Eerkens, PhD</i> ; <i>Glendon Parker, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | A135 | Visualizing Commingling in the Korean War Project Assemblage
<i>Caitlyn Estanique</i> ; <i>Sarah M. Richer, PhD*</i> |
| 11:30 a.m. - 1:00 p.m. | A136 | Microbial Ecology and Soil Geochemistry in a Multi-Individual Grave
<i>Alexandra L. Emmons, MA*</i> ; <i>Sarah W. Keenan, PhD</i> ; <i>Lois S. Taylor, MS</i> ; <i>Jon Davoren</i> ; <i>Jennifer M. DeBruyn, PhD</i> ; <i>Gary Phillips, MS</i> ; <i>Ernest C. Bernard, PhD</i> ; <i>Amy Z. Mundorff, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | A137 | The Effects of Household Corrosive Acids on Restored and Non-Restored Teeth
<i>Brittany M Trapp, BA*</i> ; <i>Sean D. Tallman, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | A138 | Differential Recovery Rates of Skeletonized Human Remains
<i>Rhian Dunn, BA*</i> ; <i>Dorianis Perez, BS*</i> ; <i>Alexandra R. Klaes, PhD</i> ; <i>Dennis C. Dirkmaat, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | A139 | Fracture Pattern Comparison Between Pig and Human Crania Cremated on an Open-Air Pyre
<i>Lisa Monetti*</i> ; <i>Carolyn Rando, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | A140 | Postmortem Interval (PMI) Estimation Using Bone Lipidomics
<i>Beatrix Dudzik, PhD*</i> ; <i>Natalie R. Langley, PhD</i> ; <i>Lee Meadows Jantz, PhD</i> ; <i>Johnny E. Cebak, PhD</i> ; <i>Paul Wood, PhD</i> |

Harnessing More Advanced Technologies

Moderator: Nicholas V. Passalacqua, PhD
Western Carolina University
Cullowhee, NC

Co-Moderator: Amanda N. Friend, MA
University of Florida, CA Pound
Human Identification Laboratory
Gainesville, FL

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| 1:30 p.m. - 1:45 p.m. | A141 | A Method for the 3D Restoration of Fragmented Human Crania for Trauma Analysis
<i>Teresa V. Wilson, PhD*</i> |
| 1:45 p.m. - 2:00 p.m. | A142 | Influence of a 1.5 Tesla (1.5T) Magnetic Resonance Imaging (MRI) on Ferromagnetic Microtraces
<i>Rianne Groot*</i> ; <i>Paul Hofman, PhD</i> ; <i>Reza R.R. Gerretsen, MD</i> ; <i>Mayonne Van Wijk, MSc</i> ; <i>Jeroen Kroll</i> ; <i>Erwin Vermeij</i> ; <i>Steven B.C.G. Chang, MSc</i> |

ANTHROPOLOGY



2:00 p.m. - 2:15 p.m.	A143	The Incorporation of 3D Photogrammetry and Geophysics in the Recovery of a Mass Grave: Six Years of Experiential Learning <i>Stephen J. Yerka, MA*; Joanne Devlin, PhD</i>
2:15 p.m. - 2:30 p.m.	A144	An Analysis of Computerized Tomography (CT) -Derived Bone Density Values and Volumetrics for Age and Sex Estimation From the Proximal Femur <i>Jonathan M. Ford, PhD*; Todd R. Kumm, MD; Summer J. Decker, PhD*</i>
2:30 p.m. - 2:45 p.m.	A145	Using Fourier Transform Infrared-Attenuated Total Reflection (FTIR-ATR) to Measure Bone Degradation and Crystallinity for Forensic Reconstruction <i>Kelsa West, BS*; Eric J. Bartelink, PhD; Christyann M. Darwent, PhD; Nicolas Zwyns, PhD</i>
2:45 p.m. - 3:00 p.m.	A146	The Biomechanics and Composition of Juvenile Pig Ribs in Relation to the Postmortem Interval in a Subaerial Environment <i>Luisa Marinho, MSc*; Alison Galloway, PhD; Stephen N. Robinovitch, PhD; Carolyn J. Sparrey, PhD; Hugo Cardoso, PhD</i>
3:00 p.m. - 3:15 p.m.		Break

Isotopic Analysis

Moderator: Eric J. Bartelink, PhD
California State University, Chico
Department of Anthropology
Chico, CA

Co-Moderator: Allysha P. Winburn, PhD
University of West Florida
Department of Anthropology
Pensacola, FL

3:15 p.m. - 3:30 p.m.	A147	Mitochondrial DNA and Stable Isotope Analyses as Molecular and Chemical Signatures of Identity of Victims: A Combined Approach for Provenancing Unknown Skeletal Remains From India <i>Jagmahender Singh Sehwat, PhD*; Raj Kamal, PhD</i>
3:30 p.m. - 3:45 p.m.	A148	Evidence Recorded in Fingernails: Carbon, Oxygen, and Strontium Isotopes Reveal Diet and Travel Histories <i>Christy J. Mancuso, MS*; James Ehleringer</i>
3:45 p.m. - 4:00 p.m.	A149	Taphonomic Effects on Isotope Ratios of Human Hair <i>Tiffany B. Saul, PhD*; Gwyneth W. Gordon, PhD; Brett J. Tipple, PhD; Lesley A. Chesson, MS; Dawnie W. Steadman, PhD; Daniel J. Wescott, PhD</i>
4:00 p.m. - 4:15 p.m.	A150	Trace Isotope Analysis of Dental Enamel for Micro Regional Geographic Attribution of Human Remains in Virginia <i>Nicole J. Palmer, BS*; Robert H. Stein, MS; Scott Gronert, PhD; Qin Wang, PhD; Tal Simmons, PhD</i>
4:15 p.m. - 4:30 p.m.	A151	The Application of Isotope Analysis to Aid in the Investigation of Unidentified Remains From a Suspected World War II Mass Grave <i>Katharine E. Kolpan, PhD*; Ian Hanson, MSc; George D. Kamenov, PhD; John Krigbaum, PhD</i>



ANTHROPOLOGY

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| 4:30 p.m. - 4:45 p.m. | A152 | Spatial Distributions of Carbon and Nitrogen Isotope Ratios in Human Hair From Central and Southern Mexico — Another Indication of Geographical Origin
<i>Chelsey A. Juarez, PhD*</i> |
| 4:45 p.m. - 5:00 p.m. | A153 | The Application of Multi-Isotope Analysis to Assist With Georeferencing Unidentified Decedents
<i>Liotta N. Dowdy, MA*</i> ; <i>Kirsten A. Verostick, MA</i> ; <i>Erin H. Kimmerle, PhD</i> ;
<i>George D. Kamenov, PhD</i> |
| 5:00 p.m. - 5:15 p.m. | A154 | Multi-Isotope Approaches for Region of Origin Predictions of Unidentified Border Crossers (UBCs) From South Texas
<i>Eric J. Bartelink, PhD*</i> ; <i>Sarah A. Hall, MA</i> ; <i>Lesley A. Chesson, MS</i> ;
<i>Melanie M. Beasley, PhD</i> |

CRIMINALISTICS



Wednesday

Poster Session

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| 11:30 a.m. - 1:00 p.m. | B1 | A Comparative Analysis of Globally Used Forensic Semen Detection Methods and Their Differing Applications
<i>Megan Peters*</i> ; <i>Claire Glynn, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | B2 | A Powder-Free Approach to Extracting DNA From Environmentally Challenged Bone Samples
<i>LeAnn M. Harrel, BS*</i> ; <i>Carrie Mayes, BS</i> ; <i>David A. Gangitano, PhD</i> ;
<i>Sheree R. Hughes-Stamm, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | B3 | Qualitative and Quantitative Analysis of Minute Levels of Saliva in Expirated Blood
<i>Mackenzie E. Whiting*</i> ; <i>Claire Glynn, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | B4 | An Assessment of the PreCR® Repair Mix as a Viable Repair Method for Soil-Degraded DNA
<i>Olivia Negron, BS*</i> ; <i>David San Pietro, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | B5 | An Evaluation of a Novel Massively Parallel Sequencing (MPS) 74-Microhaplotype Panel for Biogeographic Ancestry Prediction
<i>Fabio Oldoni, PhD</i> ; <i>Rebecca Hart, BS*</i> ; <i>Nyra Rashad, BS</i> ; <i>Keylie Gibson</i> ;
<i>Sharon C. Wootton, PhD</i> ; <i>Robert Lagacé, BS</i> ; <i>Ryo Hasegawa, BS</i> ; <i>Joseph P. Chang, BS</i> ;
<i>Moses S. Schanfield, PhD</i> ; <i>Kenneth Kidd, PhD</i> ; <i>Daniele S. Podini, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | B6 | Assessing Alternative Polymerases for Amplifying Mitochondrial DNA From Shed Hairs
<i>Natalie Damaso, PhD*</i> ; <i>Emily Ashe, BS</i> ; <i>Kelly A. Meiklejohn, PhD</i> ;
<i>Mark F. Kavlick, MPhil</i> ; <i>James M. Robertson, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | B7 | Direct Amplification of Sperm Using Laser Microdissection (LMD) and Promega's® PowerPlex® Fusion 6C Amplification Kit
<i>Kelli B. Raley, MSFS*</i> ; <i>Michelle M. Baker, BS*</i> |
| 11:30 a.m. - 1:00 p.m. | B8 | The Evaluation and Implementation of the Promega® Casework Direct Kit for Y-Screening on Sexual Assault Samples
<i>Carmen Young*</i> ; <i>Amy McGuckian, MSFS</i> ; <i>Julie Conover Sikorsky, MS</i> ;
<i>Kelly Beatty, MSFS</i> |
| 11:30 a.m. - 1:00 p.m. | B9 | The Development of a Multianalyte Paper-Based Device for Seriological Measurements
<i>Rosa L. Cromartie, BS*</i> ; <i>George T. Duncan, PhD</i> ; <i>Bruce R. McCord, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | B10 | Botanical Evidence in a Case of Environmental Crime: The Application of Short Tandem Repeat (STR) DNA Markers and Tree Ring Analysis of <i>Eucalyptus Globulus</i> Disks
<i>Jaime H. Solano, PhD</i> ; <i>Leonardo Anabalon</i> ; <i>Alejandra Figueroa, BSc*</i> |



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11:30 a.m.	-	1:00 p.m.	B11	An Evaluation of the Illumina® ForenSeq™ DNA Signature Prep Kit and Promega® PowerPlex® Fusion System in the Evaluation of Degraded Identical Twin Samples <i>Aminna M. McGee, MS*; Abigail S. Bathrick, MFS; Sarah Cavanaugh</i>
11:30 a.m.	-	1:00 p.m.	B12	Oxidative Mitochondrial DNA (mtDNA) Damage and Repair: A Modeling Approach Compared to DNA Recovered From Bullet Cartridge Cases <i>Rachel M. Bonds, BS*; Charity A. Holland, MPH; Mitchell M. Holland, PhD</i>
11:30 a.m.	-	1:00 p.m.	B13	The Development and Optimization of a Direct Polymerase Chain Reaction (PCR) System of Mixtures of Sperm and Epithelial Lysates From Cotton Swabs <i>Meghan Roig, BS*; Vanessa Martinez; Deepthi V. Nori, PhD; Bruce R. McCord, PhD</i>
11:30 a.m.	-	1:00 p.m.	B14	The Limit of Detection Using Protein Extraction of Hair to Aid in the Identification of Humans <i>Kayla C. Lapworth*; Mehdi Moini, PhD</i>
11:30 a.m.	-	1:00 p.m.	B15	Protein-Based Human Identification Using Hair Shafts From Different Body Sites <i>Jennifer A. Milan, BS*; Pei Wen Wu, MS; Michelle Salemi, MS; Brett Phinney, PhD; Robert Rice, PhD; Glendon Parker, PhD</i>
11:30 a.m.	-	1:00 p.m.	B16	Argon Direct Analysis in Real-Time Mass Spectrometry (Ar DART®-MS) for Forensic Analysis of Illicit Drugs <i>Liguo Song, PhD; Wei Chean Chuah*; Xinyi Lu, PhD; John E. Bartmess, PhD</i>
11:30 a.m.	-	1:00 p.m.	B17	Forensic Analysis of Illicit Drugs by Nitrogen Direct Analysis in Real-Time Mass Spectrometry (N2 DART®-MS) <i>Liguo Song, PhD*; Wei Chean Chuah; Jeffrey D. Quick; Sheher Mohsin, PhD; Benjamin Owen, PhD; Edward Remsen, PhD; John E. Bartmess, PhD</i>
11:30 a.m.	-	1:00 p.m.	B18	Structural Elucidation of Synthetic Opioids <i>Julie R. Pallister, MSc*; Cathy Copeland, MSc</i>
11:30 a.m.	-	1:00 p.m.	B19	The Detection of Gamma-Hydroxybutyric Acid (GHB) in Water and Mixed Drinks Without Sample Preparation Using Total Vaporization-Solid Phase Microextraction (TV-SPME) With On-Fiber Derivatization <i>Logan D. Hickey, BSc*; Jordan Ash, MS; Vicky Pai; John V. Goodpaster, PhD</i>
11:30 a.m.	-	1:00 p.m.	B20	The Detection of Phytocannabinoids From Buccal Swabs Using One Vial Headspace Vaporization Derivatization Coupled With Solid-Phase Microextraction-Gas Chromatography/Mass Spectrometry (SPME-GC/MS) <i>Lauren M. Perry, BS; Sun Yi Li, BSc*; Jorn Chi-Chung Yu, PhD</i>
11:30 a.m.	-	1:00 p.m.	B21	The Determination of the Source of Origin for Methomyl in a Fatal Poisoning Case by Gas Chromatography/Isotope Ratio Mass Spectrometry (GC/IRMS) <i>Nam Yee Kim; Hye-Jin Choi*; Byeong-Yeol Song, PhD; Seongshin Gwak, PhD; Geummun Nam, PhD; Young-Shik Choi, PhD</i>
11:30 a.m.	-	1:00 p.m.	B22	A Comparison of Portable Infrared (IR) Spectrometers and the Narcotic Identification Kit (NIK) Field Test for the On-Scene Analysis of Cocaine Hydrochloride (HCl) <i>Dory K. Lieblein*; Meghann McMahon, MS; Pauline E. Leary, BA, MS, PhD; Peter Massey, MS; Brooke W. Kammrath, PhD</i>

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11:30 a.m.	-	1:00 p.m.	B23	An Assessment of Drugs in Syringes From New York City Syringe Exchange Programs <i>Taís R. Fiorentin, PhD*</i> ; <i>Jaclyn Blachman-Forshay</i> ; <i>Alexandra Harocopos</i> ; <i>Denise Paone, EdD</i> ; <i>Zeland Schwartz, PhD</i> ; <i>Barry K. Logan, PhD</i>
11:30 a.m.	-	1:00 p.m.	B24	Narcotic Age and Working Dog Performance: Instrumental Perspectives on Training Aid Lifespan <i>Lauren Alejandro, BSc*</i> ; <i>Paola A. Prada, PhD</i>
11:30 a.m.	-	1:00 p.m.	B25	The Classification of Synthetic Phenethylamines According to Structural Subclass Using Multivariate Statistical Procedures <i>Amanda L. Setser, BS*</i> ; <i>Ruth Waddell Smith, PhD</i>
11:30 a.m.	-	1:00 p.m.	B26	The Development of a Multichannel Paper Microfluidic Device for the Detection of Drugs of Abuse Using Gold Nanoparticle/Aptamer Complexes <i>Ling Wang, MS*</i> ; <i>Bruce R. McCord, PhD</i>
11:30 a.m.	-	1:00 p.m.	B27	The Prevention of Occupational Exposure to Fentanyl and Fentanyl-Like Compounds: Elbow Grease and OxiClean™ <i>Travis J. Worst, PhD*</i> ; <i>Noah M. Froelich</i> ; <i>Jon E. Sprague, PhD</i>
11:30 a.m.	-	1:00 p.m.	B28	Touch DNA in Forensic Science <i>Ashley Hall, PhD*</i>

Thursday — Session I

Mathematics, Mixtures, and Modeling Matters I

Moderator: Craig O. O'Connor, PhD
Office of the Chief Medical Examiner
New York, NY

Co-Moderator: Brian Higgins, MSFS
Forest Park, GA

8:30 a.m.	-	8:45 a.m.	B29	Mathematics Takes a Holiday — The Scientific Working Group on DNA Analysis Methods' (SWGDM's) Imaginative Y-Haplotype Guidelines <i>Charles H. Brenner, PhD*</i>
8:45 a.m.	-	9:00 a.m.	B30	Using Computers to Overcome Forensic DNA Testing Bottlenecks and Improve Recovery From Complex Samples <i>John Donahue*</i> ; <i>Mark W. Perlin, PhD, MD</i>
9:00 a.m.	-	9:20 a.m.	B31	A Comparison of Open-Source Software for Assessing the Weight of Evidence in Forensic DNA Profiles <i>Keith Inman, MCrim*</i> ; <i>Norah Rudin, PhD</i> ; <i>Clare Marsden, PhD</i> ; <i>Kirk E. Lohmueller, PhD</i>
9:20 a.m.	-	9:35 a.m.	B32	The Development of Polymorphic Combined DNA Index System (CODIS) Short Tandem Repeat (STR) Primers for Unbalanced DNA Mixture Analyses <i>Katie Kranz, BS*</i> ; <i>David R. Foran, PhD</i>



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9:35 a.m. - 9:50 a.m.	B33	An Evaluation of DNA·VIEW® Mixture Solutions Beta Software With Two-, Three-, and Four-Person Mixtures for Forensic Applications <i>Timothy J. Graham, BA*</i> ; <i>Drew Badder, BS</i> ; <i>Fabio Oldoni, PhD</i> ; <i>Selena Cisana, PhD</i> ; <i>Charles H. Brenner, PhD</i> ; <i>Daniele S. Podini, PhD</i>
9:50 a.m. - 10:10 a.m.	B34	An Evaluation of DNA Results With Propositions at the Activity Level: How to Identify the Features That Influence the Bayes Factor — An Example With a Stabbing Scenario <i>Lydie Samie*</i> ; <i>Franco Taroni, PhD</i> ; <i>Christophe Champod, PhD</i>
10:10 a.m. - 10:25 a.m.	Break	

Ancestry, Identification, and Kinship Matters

Moderator: Pamela M. Hofsass, MS
Contra Costa County Sheriff's Crime Laboratory
Martinez, CA

Co-Moderator: Tracey Dawson Cruz, PhD
Virginia Commonwealth University
Richmond, VA

10:25 a.m. - 10:40 a.m.	B35	A Cost-Benefit Analysis of Kinship Testing Involving Siblings and Half Siblings <i>Brandi L. Iorio*</i> ; <i>Timothy J. Graham, BA</i> ; <i>Riya Thekdi, BA</i> ; <i>Rachael Holderle, BS</i> ; <i>Brieanne T. Knight, MSc</i> ; <i>Amanda C. Sozer, PhD</i> ; <i>Daniele S. Podini, PhD</i> ; <i>Moses S. Schanfield, PhD</i>
10:40 a.m. - 10:55 a.m.	B36	Science Matters: Using DNA to Solve Missing Persons Cases in New York City <i>Andrew J. Schweighardt, PhD*</i>
10:55 a.m. - 11:10 a.m.	B37	The Evaluation of the Effects of Linked Markers on Kinship Testing <i>Timothy J. Graham, BA*</i> ; <i>Riya Thekdi, BA</i> ; <i>Brandi L. Iorio</i> ; <i>Rachael Holderle, BS</i> ; <i>Brieanne T. Knight, MSc</i> ; <i>Amanda C. Sozer, PhD</i> ; <i>Daniele S. Podini, PhD</i> ; <i>Moses S. Schanfield, PhD</i>
11:10 a.m. - 11:25 a.m.	B38	Short Tandem Repeat (STR) Profiles and Ethnic Affiliation — Chemometric Evaluation <i>Patryk Wlasiuk, MSc</i> ; <i>Eugenio Alladio, PhD*</i> ; <i>Monica Omedei, PhD</i> ; <i>Giuseppina D'amico</i> ; <i>Denise Caneparo, MS</i> ; <i>Marco Vincenti, MS</i> ; <i>Roberto Testi, MD, PhD</i> ; <i>Paolo Garofano, MD, PhD</i> ; <i>Grzegorz Zadora</i>
11:25 a.m. - 11:40 a.m.	B39	A Statistical and Allele Frequency Evaluation on the Methods of Kinship Calculations <i>Riya Thekdi, BA*</i> ; <i>Timothy J. Graham, BA</i> ; <i>Brandi L. Iorio</i> ; <i>Rachael Holderle, BS</i> ; <i>Brieanne T. Knight, MSc</i> ; <i>Amanda C. Sozer, PhD</i> ; <i>Daniele S. Podini, PhD</i> ; <i>Moses S. Schanfield, PhD</i>
11:40 a.m. - 11:55 a.m.	B40	The Development of a Biogeographic Ancestry and Phenotype Single-Nucleotide Polymorphism (SNP) Panel Using Ion Torrent™ Chef System <i>Ozlem Bullbul, PhD*</i> ; <i>Gonul Filoglu</i> ; <i>Faruk Asicioglu, MD, PhD</i>

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11:55 a.m. - 12:10 p.m. **B41** **The Utility of the Precision ID Ancestry Panel for Predicting Ancestry From High-Quality and Forensic-Type Samples**
*Ashley M. Cooley, MS**; *Kelly A. Meiklejohn, PhD*; *Tracey Dawson Cruz, PhD*;
James M. Robertson, PhD

12:10 p.m. - 1:15 p.m. **Lunch**

Poster Session

11:30 a.m. - 1:00 p.m. **B42** **Enhance the Power of Discrimination of Semen Identification by a Combination of Microfluidic Chips and Erase Kits**
*Fang-Chun Chung, MS**; *Chu-Chun Hsu, MS*; *Hua-Sheng Tsai, MS*; *Kuan-Miao Yen, MS*;
Yu-En Chen, MS; *Chun-Yen Lin*

11:30 a.m. - 1:00 p.m. **B43** **Investigating the Impact of Protein and Peroxidase Blood Enhancement Reagents on DNA Recovery From Laundered Clothing**
*Gabrielle A. Hartley**; *Claire Glynn, PhD*

11:30 a.m. - 1:00 p.m. **B44** **Investigating Novel Methods for Estimating Time Since Deposition (TSD) of Bloodstains in Forensic Samples**
*Amanda L.J. Adams**; *Claire Glynn, PhD*

11:30 a.m. - 1:00 p.m. **B45** **Isoalleles Revealed by Massively Parallel Sequencing (MPS) Provide Increased Resolution and Discrimination in Forensic Casework**
*Adam M. Garver, MFS**; *Jocelyn M. Bush, MS*; *Max M. Larijani, MSFS*;
Steven M. Wiechman, BS; *Esley M. Heizer, Jr., PhD*

11:30 a.m. - 1:00 p.m. **B46** **The Development of a Mitochondrial DNA (mtDNA) Assay for Forensic Human Inclusion/Exclusion Screening Using Real-Time Polymerase Chain Reaction High-Resolution Melt (PCR HRM) Analysis**
*Ashley F. Cowan**; *Kelly M. Elkins, PhD**

11:30 a.m. - 1:00 p.m. **B47** **Differentiation of Henna-Based Hair Dyes Using Attenuated Total Reflectance/Fourier Transform Infrared (ATR/FTIR) Spectroscopy**
*Morgan Vesco**; *Kelly M. Elkins, PhD**

11:30 a.m. - 1:00 p.m. **B48** **A Dietary Supplement of Choline and Seminal Choline Crystals: A Consideration for Seminal Fluid Identification by Florence Iodine Reagent**
*Khudooma Saeed Alnuaimi, MSc**

11:30 a.m. - 1:00 p.m. **B49** **The Effect of Body Mass and Cadaveric Bloat on DNA Quantity and Downstream Short Tandem Repeat (STR) Success**
*Madeline G. Roman, BS**; *Amy E. Sorensen, MS*; *David A. Gangitano, PhD*;
Sheree R. Hughes-Stamm, PhD

11:30 a.m. - 1:00 p.m. **B50** **The Collection of DNA From Fingerprints on Weathered Trash Bags**
*Ellen M. Cassidy, BS**; *Shanan S. Tobe, PhD*; *Jillian C. Fesolovich*; *Allen F. Stewart, MS*



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11:30 a.m.	-	1:00 p.m.	B51	Blast Suppression Foam Does Not Inhibit DNA Recovery and Analysis <i>Calvin R. Justus, PhD*</i> ; <i>Kelsey Kyllonen, MA</i> ; <i>Keith L. Monson, PhD</i> ; <i>Mark F. Kavlick, MPhil</i>
11:30 a.m.	-	1:00 p.m.	B52	Preliminary Experiments on Human Bloodstain Age Estimation by ¹H,¹³C Nuclear Magnetic Resonance (NMR) Spectroscopy <i>Roberto Rosa, PhD*</i> ; <i>Erika Ferrari, PhD</i> ; <i>Consuelo Mugoni, PhD</i> ; <i>Paolo Veronesi</i> ; <i>Cristina Leonelli, PhD</i>
11:30 a.m.	-	1:00 p.m.	B53	The Influence of Ceramic Tiles' Surface Characteristics on the Analysis of Bloodstain Patterns <i>Roberto Rosa, PhD*</i> ; <i>Alessio Ferrara, MSc</i> ; <i>Consuelo Mugoni, PhD</i> ; <i>Paolo Veronesi</i> ; <i>Cristina Leonelli, PhD</i>
11:30 a.m.	-	1:00 p.m.	B54	Method Validation for DNA Recovery From Cartridge Casings <i>Mackenzie Matney*</i> ; <i>Mark Powell</i> ; <i>Eleanor J. Salmon, MSFS</i> ; <i>Kelly Beatty, MSFS</i>
11:30 a.m.	-	1:00 p.m.	B55	New Strategies and Recommendations for Front-End Separation of Compromised Biological Mixtures Using Cellular Fluorescence Profiling and Flow Cytometry <i>Emily Brocato*</i> ; <i>Briana Ratchford, BS</i> ; <i>Kate Philpott, JD</i> ; <i>Christopher J. Ehrhardt, PhD</i>
11:30 a.m.	-	1:00 p.m.	B56	Probing Potential Interferences in DNA Extraction of Semen Collected on Surface-Enhanced Raman Spectroscopy (SERS) -Active Forensic Evidence Swabs <i>Katarina G. Ruehl*</i> ; <i>Brittania J. Bintz, MSc*</i> ; <i>Geraldine Monjardez, PhD*</i> ; <i>David D. Evanoff, Jr., PhD*</i>
11:30 a.m.	-	1:00 p.m.	B57	The Optimization of Human Hair Proteomic Processing for Single Hair and Ancestral Analysis <i>Zachary Carl Goecker, MPS*</i> ; <i>Michelle Salemi, MS</i> ; <i>Brett Phinney, PhD</i> ; <i>Glendon Parker, PhD</i> ; <i>Robert Rice, PhD</i>
11:30 a.m.	-	1:00 p.m.	B58	Quantifiler® Trio or PowerQuant® System? Is One Kit Better at Predicting the Success of Short Tandem Repeat (STR) Typing of the Male Component of Sexual Assault Evidence? <i>Danielle K. Gibbes, BS*</i> ; <i>Susan Greenspoon, PhD</i> ; <i>Sarah J. Seashols Williams, PhD</i> ; <i>Bonnie Brown, PhD</i>
11:30 a.m.	-	1:00 p.m.	B59	Ion Mobility Mass Spectrometer (IMMS) — A Useful Confirmatory Tool for Analyzing Drugs and Explosives <i>A. Bakarr Kanu, PhD*</i>
11:30 a.m.	-	1:00 p.m.	B60	A Preliminary Characterization of Sexual Assault Lubricants: A Comparison Between Direct Analysis in Real-Time Time-Of-Flight/Mass Spectrometry (DART®-TOF/MS), Gas Chromatography/Mass Spectrometry (GC/MS), and Fourier Transform Infrared (FTIR) Spectrometry <i>Caterina Vadell-Orsini</i> ; <i>Mark Maric, PhD</i> ; <i>Candice Bridge, PhD</i> ; <i>Brooke Baumgarten, BS*</i>
11:30 a.m.	-	1:00 p.m.	B61	An Analysis of Standard Glass Reference Materials Via Advanced Chemical Techniques for Forensic Applications <i>Kelsey E. Seyfang, BSc*</i> ; <i>Paul Kirkbride, PhD</i> ; <i>Rachel S. Popelka-Filcoff, PhD</i> ; <i>Hilton Kobus, PhD</i>

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11:30 a.m.	-	1:00 p.m.	B62	Quantifying the Uncertainty of Measurement for Gas Chromatography/Mass Spectrometry (GC/MS) Acceptance Criteria <i>J. Tyler Davidson, MS*; Glen P. Jackson, PhD</i>
11:30 a.m.	-	1:00 p.m.	B63	The Characterization of Nylon Fiber Color by Ultra High-Performance Liquid Chromatography-Mass Spectrometry (UHPLC-MS) <i>Vanessa M. Cardona, BS*; Ioan Marginean, PhD</i>
11:30 a.m.	-	1:00 p.m.	B64	A Sticky Situation: How Adhesive Collection of Fibers Affects Analysis <i>Lauren Todd*; Eric J. Hazelrigg, MS</i>
11:30 a.m.	-	1:00 p.m.	B65	The Identification of Fine Plastic Materials by Thermal Desorption and Pyrolysis Combined With Direct Analysis in Real-Time Mass Spectrometry (TDP/DART®-MS) <i>Chikako Takei*; Kenichi Yoshizawa, MPharm</i>
11:30 a.m.	-	1:00 p.m.	B66	The Evidentiary Significance of Automotive Paints From the Northeast: A Study of Red Paint <i>Kaitlin Kruglak*; John A. Reffner, PhD; Virginia M. Maxwell, DPhil; Brooke W. Kammrath, PhD</i>
11:30 a.m.	-	1:00 p.m.	B67	Assessing the Capability of Combining Elemental and Phase Mapping in Automotive Paint Systems Analysis Using Scanning Electron Microscope/Energy Dispersive Spectroscopy (SEM/EDS) <i>Sun Yi Li, BSc*; William M. Davis, PhD; Roger Kahn, PhD</i>
11:30 a.m.	-	1:00 p.m.	B68	The Enhancement of Human Scent Profiles as Forensic Evidence <i>Alice B. Boone, BS*; Howard Holness, MBA; Kenneth G. Furton, PhD</i>
11:30 a.m.	-	1:00 p.m.	B69	Phase Equilibria of Complex Fluid Mixtures: Modeling and Measurements With the Advanced Distillation Curve With Reflux (ADC-R) <i>Megan Harries*; Marcia Huber, PhD; Thomas J. Bruno, PhD</i>

Sequencing: The Next Generation Matters I

*Moderator: Nasir A. Butt, PhD
Cuyahoga County Medical Examiner's Office
Cleveland, OH*

*Co-Moderator: Linda Razzano, MS
Office of the Chief Medical Examiner
Department of Forensic Biology
New York, NY*

1:15 p.m.	-	1:40 p.m.	B70	The Development of the Precision ID GlobalFiler™ Next Generation Sequencing (NGS) Short Tandem Repeat (STR) Panel <i>Joseph P. Chang, BS*; Chien-Wei Chang, PhD; Ryo Hasegawa, BS; Sharon C. Wootton, PhD; Robert Lagacé, BS</i>
1:40 p.m.	-	2:00 p.m.	B71	A Novel Workflow for Identifying Phenotypic Polymorphisms in Detoxification Enzymes Associated With Drug Metabolism <i>Kari A. Graham, BA*; Ryan Gutierrez, BS*; Kyleen Elizabeth Elwick, BA; Sheree R. Hughes-Stamm, PhD; Bobby Larue, Jr., PhD</i>



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2:00 p.m. - 2:15 p.m.	B72	From the Ashes: Genetic Identification of Burned or Cremated Human Skeletal Remains <i>Kelly Grisedale, PhD*</i> ; <i>Brittania J. Bintz, MSc</i> ; <i>Maureen Hickman, MS</i>
2:15 p.m. - 2:30 p.m.	B73	An Analysis of Challenging Forensic Samples Using Probe Capture Next Generation Sequencing (NGS) <i>Symone Watson</i> ; <i>Maria G. Almada, MS</i> ; <i>Cassandra Calloway, PhD</i> ; <i>Shelly Y. Shih, MS*</i>
2:30 p.m. - 2:45 p.m.	B74	An Innovative Massively Parallel Sequencing (MPS) 74-Microhaplotypexplex Forensic Assay for Improved Deconvolution of Mixed DNA Samples <i>Fabio Oldoni, PhD*</i> ; <i>Sharon C. Wootton, PhD</i> ; <i>Robert Lagacé, BS</i> ; <i>Ryo Hasegawa, BS</i> ; <i>Joseph P. Chang, BS</i> ; <i>Kenneth Kidd, PhD</i> ; <i>Daniele S. Podini, PhD</i>
2:45 p.m. - 3:00 p.m.	B75	Massively Parallel DNA Sequencing Applications for Forensic Mixture Analysis <i>Christine H. Baker, MS*</i> ; <i>Jocelyn M. Bush, MS</i> ; <i>Lindsay Catlin, MS</i> ; <i>Esley M. Heizer, Jr., PhD</i> ; <i>Adriana N. Swatzell</i> ; <i>Richard A. Guerrieri, MS</i> ; <i>Mark Wilson, PhD</i> ; <i>Michael L. Dickens, PhD</i>
3:00 p.m. - 3:15 p.m.		Break

Bodily Fluid Matters I

Moderator: Cyndi Hall, MS
Idaho State Police
Forensic Services
Meridian, ID

Co-Moderator: Stacie R. Brenner, MFS
Palm Beach County Sheriff's Office
West Palm Beach, FL

3:15 p.m. - 3:35 p.m.	B76	Enzymatic Cascades for Biochemical Identification From Sweat <i>Mindy Hair*</i> ; <i>Adrianna Mathis</i> ; <i>Erica K. Brunelle, BSc*</i> ; <i>Lenka Halamkova, PhD</i> ; <i>Jan Halánek, PhD*</i>
3:35 p.m. - 3:50 p.m.	B77	A Comparison Study of a Mass Spectrometry (MS) -Based Serological Assay With Existing Casework Models <i>Catherine O. Brown, MSFS*</i> ; <i>Phillip Danielson, PhD*</i> ; <i>Kevin M. Legg, PhD*</i>
3:50 p.m. - 4:10 p.m.	B78	Confirmatory Identification and Genotyping of Human Seminal Fluid Collected on Surface-Enhanced Raman Scattering (SERS) -Active Forensic Evidence Swabs <i>Brittania J. Bintz, MSc*</i> ; <i>Katarina G. Ruehl</i> ; <i>Geraldine Monjardez, PhD</i> ; <i>David D. Evanoff, Jr., PhD*</i>
4:10 p.m. - 4:25 p.m.	B79	Identification of Body Fluid Using Multiplex Polymerase Chain Reaction (PCR) <i>Quentin T. Gauthier, MSFS*</i> ; <i>Joana Antunes, MS</i> ; <i>Bruce R. McCord, PhD</i>
4:25 p.m. - 4:40 p.m.	B80	The Effect of Organic Acid Influenced by Sample pH on False Positive Test Results Using Immunochromatographic Assays <i>Megan M. Foley, MSFS*</i> ; <i>Catherine O. Brown, MSFS</i> ; <i>Christian G. Westring, PhD</i> ; <i>Phillip Danielson, PhD</i> ; <i>Heather E. McKiernan, MSFS</i>
4:40 p.m. - 5:15 p.m.		Discussion

CRIMINALISTICS



Thursday — Session II

Multidisciplinary Session: Criminalistics II/General II/Pathology/Biology I/Toxicology — The Synthetic Opioids Epidemic and Forensic Science

*Moderator: Vincent J. Desiderio, MS
United States Postal Inspection Service
Dulles, VA*

*Co-Moderator: Michael F. Rieders, PhD
NMS Labs
Willow Grove, PA*

- 8:30 a.m. - 10:45 a.m. **B81** **The Growing Phenomenon of the Epidemic of Synthetic Opioids and Forensic Science: Impact and Response**
Vincent J. Desiderio, Jr., MS; Michael F. Rieders, PhD; Brandon Callahan, BA;
Agnes D. Winokur, MS*; Erin M. Worrell, BSc*; John F. Casale, BS*;
Karl E. Williams, MD*; Sherri L. Kacinko, PhD*; Patrick Buzzini, PhD*
- 10:45 a.m. - 11:00 a.m. **Break**

Improving the Practice of Criminalistics Matters

*Moderator: Dennis C. Hilliard, MS
Rhode Island State Crime Laboratory
Kingston, RI*

*Co-Moderator: Matthew J. Gamette, MS
Idaho State Police Forensic Services
Meridian, ID*

- 11:00 a.m. - 11:15 a.m. **B82** **The Data Needed to Realize the Value of Forensic Science**
*Sheila Willis, PhD**
- 11:15 a.m. - 11:30 a.m. **B83** **Criminalist's Ethics in the Era of Social Media**
*Jennifer S. Mihalovich, MPH; Gregory B. Matheson, BS**
- 11:30 a.m. - 11:45 a.m. **B84** **A Report on the Forensic Science Research and Evaluation Workshop: A Discussion on the Fundamentals of Research Design and an Evaluation of Available Literature**
*Edward G. Bartick, PhD**
- 11:45 a.m. - 12:00 p.m. **B85** **FORESIGHT 2020 Project: Connecting Labs, Laboratory Information Management Systems (LIMS), and FORESIGHT for Benchmarking Performance**
*Max M. Houck, PhD**
- 12:00 p.m. - 1:00 p.m. **Lunch**



CRIMINALISTICS

Trace Evidence Matters I

*Moderator: Jack Hietpas, PhD
Penn State University
University Park, PA*

*Co-Moderator: Tranellie Collins, BS
Illinois State Police
Springfield, IL*

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| 1:00 p.m. | - | 1:15 p.m. | B86 | Rates of Loss and Replacement of Very Small Particles (VSP) on the Contact Surfaces of Footwear During Successive Exposures
<i>David A. Stoney, PhD*; Andrew M. Bowen, MS; Madeline Ausdemore, MS; Paul L. Stoney, MBA; Cedric Neumann, PhD</i> |
| 1:15 p.m. | - | 1:30 p.m. | B87 | The Determination of Key Factors in Particle Combination Analysis to Enable Systematic Improvement, Optimization, and Transition to Practice
<i>David A. Stoney, PhD*; Paul L. Stoney, MBA</i> |
| 1:30 p.m. | - | 1:45 p.m. | B88 | A Forensic Comparison of Sandy Soils Using Raman Spectroscopy, X-Ray Diffraction, and Synchrotron Powder Diffraction (PD)
<i>Kari M. Pitts, PhD*; Richard M. Clarke, BSc; Mehrooz Aspiandiar, PhD; John Coumbaros, PhD</i> |
| 1:45 p.m. | - | 2:00 p.m. | B89 | The Use of Scanning Electron Microscopy With Energy-Dispersive X-Ray Spectroscopy (SEM/EDS) for Quantitative Forensic Comparisons of Blue Glass
<i>Thomas Kubic, JD, PhD*; Tiffany J. Millett, MS; Mircea Comanescu, MPhil</i> |
| 2:00 p.m. | - | 2:15 p.m. | B90 | Chemical Pattern Recognition in Glasses: What Can Be Extracted From Spectroscopic Data Sets?
<i>Sergey Mamedov, PhD*</i> |
| 2:15 p.m. | - | 2:30 p.m. | B91 | A Forensic Analysis of Automotive Paint Evidence Using Direct Analysis in Real-Time Mass Spectrometry (DART®-MS)
<i>Mark Maric, PhD*; Robert B. Cody, PhD; Candice Bridge, PhD</i> |
| 2:30 p.m. | - | 2:45 p.m. | B92 | Comparing X-Ray Diffractometry (XRD) and Fourier Transform Infrared (FTIR) Spectrometry for the Analysis of Forensic Evidence
<i>Ke'La Kimble*; Walter F. Rowe, PhD</i> |
| 2:45 p.m. | - | 3:00 p.m. | B93 | The Persistence and Environmental Degradation Patterns of Sexual Lubricants and Personal Hygiene Products (PHPs) Using Direct Analysis in Real-Time Time-Of-Flight/Mass Spectrometry (DART®-TOF/MS) and Gas Chromatography/Mass Spectrometry (GC/MS)
<i>Yasmine Moustafa, MS*; Candice Bridge, PhD</i> |
| 3:00 p.m. | - | 3:15 p.m. | | Break |

CRIMINALISTICS



Fingerprints and Firearms Matter

*Moderator: Eric S. Sahota, BA
Las Vegas, NV*

*Co-Moderator: Philip R. Antoci, MS
New York Police Department Crime Laboratory
Jamaica, NY*

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| 3:15 p.m. - 3:45 p.m. | B94 | Using Eye Tracking to Understand Decisions Made by Forensic Latent Print Examiners
<i>Bradford Ulery, MS; R. Austin Hicklin, MS*; Tom Busey, PhD; Maria A. Roberts; JoAnn Buscaglia, PhD*</i> |
| 3:45 p.m. - 4:05 p.m. | B95 | A Case Impact and Operational Cost Analysis of Blind Verifications in Latent Print Examinations
<i>Thomas Wortman, BS*</i> |
| 4:05 p.m. - 4:25 p.m. | B96 | Statistical Interpretation and Reporting of Fingerprint Evidence at the United States Army Criminal Investigation Laboratory (USACIL)
<i>Henry J. Swofford, MSFS*</i> |
| 4:25 p.m. - 4:40 p.m. | B97 | An Update on the Academy Standards Board (ASB) Firearms and Tool Marks Consensus Body
<i>Gregory E. Laskowski, MPA*</i> |
| 4:40 p.m. - 5:00 p.m. | B98 | An Objective Comparison of Striated Tool Marks Produced From Ten Consecutively Manufactured Cold Chisels Measured by Contact and Optical Surface Profilometry and Comparison Microscopy
<i>Robert M. Thompson, BS*; Junfeng J. Song, MS; Wei Chu</i> |
| 5:00 p.m. - 5:15 p.m. | B99 | The Critical Angle of Bullet Impacts in Common Materials Seen in Forensic Casework
<i>Richard T. Wyant, MS*</i> |

Friday — Session I

Sequencing: The Next Generation Matters II

*Moderator: Jennifer Johnson, MS
Federal Bureau of Investigation
Federal DNA Database Unit
Quantico, VA*

*Co-Moderator: Daniel E. Katz, MFS
Maryland State Police
Forensic Sciences Division
Pikesville, MD*

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| 8:30 a.m. - 8:50 a.m. | B100 | Battelle's Final Report on the National Institute of Justice (NIJ) -Sponsored Initiative: A Feasibility and Guidance Study of Massively Parallel Sequencing (MPS) for Forensic DNA Applications
<i>Richard A. Guerrieri, MS*; Mark Wilson, PhD; Jocelyn M. Bush, MS; Angela Minard-Smith, MS; Michael L. Dickens, PhD</i> |
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CRIMINALISTICS

8:50 a.m. - 9:15 a.m.	B101	Massively Parallel Sequencing (MPS) of Short Tandem Repeats (STRs) and Microhaplotypes for Mixtures <i>Sharon C. Wootton, PhD; Joseph P. Chang, BS*; Ryo Hasegawa, BS; Chien-Wei Chang, PhD; Sheri J. Olson, MS; Daniele S. Podini, PhD; Kenneth Kidd, PhD; Robert Lagacé, BS</i>
9:15 a.m. - 9:40 a.m.	B102	Investigating Rates of Mitochondrial DNA (mtDNA) Heteroplasmy in Different Haplogroups Using Massively Parallel Sequencing (MPS) <i>Emmy L. Demchak*; Jennifer A. McElhoe, DPhil; Mitchell M. Holland, PhD</i>
9:40 a.m. - 9:55 a.m.		Break

DNA Interpretation and Instrumental Matters

*Moderator: Jeannie Fankhauser, BS
Denver Police Department
Crime Laboratory
Denver, CO*

*Co-Moderator: Kelly M. Elkins, PhD
Towson University
Chemistry Department &
Forensic Science Program
Towson, MD*

9:55 a.m. - 10:10 a.m.	B103	Is That Peak Real or Is It a Mis-Type? Only the Profile Donor Knows for Sure <i>Keith Inman, MCrim; Norah Rudin, PhD*</i>
10:10 a.m. - 10:25 a.m.	B104	Genotyping Challenging DNA by the Isolation of Polymerase Chain Reaction Products (IPCRp) <i>Pero Dimsoski, PhD*; Dragan Primorac, MD, PhD; Gordan Lauc, PhD</i>
10:25 a.m. - 10:45 a.m.	B105	Forensic Biology Under the Microscope <i>James Anstead, PhD; Kelsy Lowther, MS; Erica Reynaga, MS; Elizabeth O'Bannon, MS; Sherri Deaton, MS; Brandt G. Cassidy, PhD*</i>
10:45 a.m. - 11:05 a.m.	B106	High Resolution Melt (HRM) Curve Analysis for Preliminary Screening of Short Tandem Repeat (STR) Loci at Quantification — Obtaining More Information Earlier in the DNA Workflow <i>Darianne Cloudy, BS; Hannah Wines, BS*; Kristiana M. Kuehnert, MS; Sarah J. Seashols Williams, PhD; Jordan Cox, MS; Edward Boone, PhD; Tracey Dawson Cruz, PhD</i>
11:05 a.m. - 11:25 a.m.	B107	Maximizing the Amount of DNA Recovered: A Study of Mawi DNA Technologies' iSWAB™-ID Collection Device for Forensic Science Application <i>Michelle K. Gordon, MS*; Robin W. Cotton, PhD</i>
11:25 a.m. - 11:45 a.m.	B108	An Evaluation of QIAGEN® Investigator® 24plex GO! Using Crime Scene Substrates and Direct Amplification <i>Marcel Burton, BS*; Reena Roy, PhD</i>
11:45 a.m. - 12:00 p.m.		Discussion
12:00 p.m. - 1:00 p.m.		Lunch

CRIMINALISTICS



Poster Session

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| 11:30 a.m. - 1:00 p.m. | B109 | An Evaluation of the Quality of Short Tandem Repeat (STR) Profiles Generated by Rapid DNA Instruments
<i>Tetsushi Kitayama, PhD*</i> ; <i>Takashi Fukagawa, PhD</i> ; <i>Haruhiko Watahiki, MS</i> ; <i>Yusuke Mita, PhD</i> ; <i>Koji Fujii, PhD</i> ; <i>Natsuko Mizuno, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | B110 | The Recovery of the Mitochondrial Genome From Cremated Human Remains
<i>Maureen Hickman, MS*</i> ; <i>Mark Wilson, PhD</i> ; <i>Kelly Grisedale, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | B111 | The Development of an X-Chromosome Insertion-Deletion (InDel) Multiplex for Forensic Applications
<i>Gonul Filoglu*</i> ; <i>Selen Ozyer, BSc</i> ; <i>Zulal Uslu, MSc</i> ; <i>Tugba Ünsal, PhD</i> ; <i>Ozlem Bullbul, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | B112 | The Impact of Antioxidant Beverages on the Chemiluminescent Detection of Bloodstains at Crime Scenes
<i>Kelsey D. Bettex*</i> ; <i>Claire Glynn, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | B113 | The Development and Evaluation of Reverse Transcription Loop-Mediated Isothermal Amplification (RT-LAMP) Assay for Forensic Saliva Identification
<i>Chih-Wen Su*</i> ; <i>Kuo-Lan Liu</i> ; <i>Hsing-Mei Hsieh, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | B114 | Identification of Kratom (<i>Mitragyna Speciosa</i>) DNA Using a Real-Time Polymerase Chain Reaction High-Resolution Melt (PCR HRM) Assay
<i>Ashley F. Cowan*</i> ; <i>Kelly M. Elkins, PhD*</i> |
| 11:30 a.m. - 1:00 p.m. | B115 | Internal Validation of a Quantifiler® Trio Setup Method on the Hamilton® Microlab® Sequential Transfer and Aliquotting Robot (STAR)
<i>Kelsey J. Peloso*</i> ; <i>David R. Fisher, MS</i> ; <i>Kyra McKay, MA</i> ; <i>Kelly Beatty, MSFS</i> |
| 11:30 a.m. - 1:00 p.m. | B116 | The Identification of Forensically Relevant Body Fluids Using Methylation-Specific Polymerase Chain Reaction (PCR) and High-Resolution Melt (HRM) Analysis
<i>Rebecca Levine*</i> ; <i>Cynthia B. Zeller, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | B117 | A Comparison of Extraction Methods for Amplification of Nuclear DNA From Hair Shafts Using the InnoTyper 21® DNA Typing Kit
<i>Anna L. Kelleher, BS*</i> ; <i>Robin W. Cotton, PhD</i> ; <i>Sudhir K. Sinha, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | B118 | The Limits of Detection (LODs) of Surface-Enhanced Raman Spectroscopy (SERS) -Active Swabs Used to Screen for Human Bodily Fluids (HBFs)
<i>Geraldine Monjardez, PhD*</i> ; <i>Brittania J. Bintz, MSc*</i> ; <i>Katarina G. Ruehl*</i> ; <i>David D. Evanoff, Jr., PhD*</i> |
| 11:30 a.m. - 1:00 p.m. | B119 | The Extraction of Touch DNA From Chemically Developed, Aged Fingerprints
<i>Amber J. Smith, BA*</i> ; <i>Shanan S. Tobe, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | B120 | The Impact of Length of Time of Personal Contact on Secondary DNA Transfer
<i>Cynthia Cale, BS*</i> ; <i>Krista E. Latham, PhD</i> ; <i>Gay L. Bush, PhD</i> |



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11:30 a.m.	-	1:00 p.m.	B121	Statistical Modeling of the Case Information From Ohio's Sexual Assault Kit (SAK) Testing Initiative <i>Jaimie E. Kerka*, D.J. Heckman, BS; James Albert, PhD; Jon E. Sprague, PhD*; Lewis O. Maddox, PhD*</i>
11:30 a.m.	-	1:00 p.m.	B122	The Development of Epigenetic DNA Methylation Markers to Predict Tobacco Smoking of Unknown Suspects <i>Hussain J.H. Alghanim, MS*; Bruce R. McCord, PhD</i>
11:30 a.m.	-	1:00 p.m.	B123	The Development of a Paper Microfluidic Device for the Detection of Organic Smokeless Powder Residue <i>Kathryn R. Chabaud, BS*; Bruce R. McCord, PhD; Ilaria Pirazzini, MS</i>
11:30 a.m.	-	1:00 p.m.	B124	Determining the Threshold of Identification Via Gas Chromatography/Mass Spectrometry (GC/MS) of Weathered Gasoline Extracted From Nylon Carpet <i>Charlotte Allison Newton*; Ellen Hondrogiannis</i>
11:30 a.m.	-	1:00 p.m.	B125	The Characterization of Propellants in Shotgun Cartridges by Isotope Ratio Mass Spectrometry (IRMS) and X-Ray Fluorescence (XRF) Spectroscopy <i>Nam Yee Kim; Hye-Jin Choi*</i>
11:30 a.m.	-	1:00 p.m.	B126	An Explosives Analysis With Portable Ion-Trap Gas Chromatography/Mass Spectrometry (GC/MS) for Battlefield Forensics <i>Kayla M. Moquin*; Pauline E. Leary, PhD; Brooke W. Kammrath, PhD</i>
11:30 a.m.	-	1:00 p.m.	B127	An Examination of Striations on Bullets Discharged From 3D-Printed Metallic Gun Barrels <i>Jennifer Turner, MS; Robert Baldwin, JD; Scott Golightly, BS; Pamela Zelbst, PhD; Jorn Chi-Chung Yu, PhD*</i>
11:30 a.m.	-	1:00 p.m.	B128	Bridging the Gap Between Categorical and Probabilistic Statements in Fire Debris Analysis <i>Mary R. Williams, MS*; Michael E. Sigman, PhD</i>
11:30 a.m.	-	1:00 p.m.	B129	Useful Characteristics to Assist With Identifying Hornady Bullets® and Their Potential Caliber <i>Renee Hudson, BSc*</i>
11:30 a.m.	-	1:00 p.m.	B130	The Effects of Varying Decomposition Settings on Powder Stippling Patterns on Skin <i>Meaghan C. Dougher, BA*; Ralph R. Ristenbatt III, MS; Jason W. Brooks, VMD, PhD; Peter J. Diaczuk</i>
11:30 a.m.	-	1:00 p.m.	B131	“Free Range” Gunshot Primer Residue: A Study on Multiple Transfers of Gunshot Primer Residue <i>Thomas R. White, BS; Stephanie A. Freiwald, BS; Christopher P. Chany, MS*</i>
11:30 a.m.	-	1:00 p.m.	B132	The Sub-Particle Composition and Morphology of Gunshot Residues (GSR) <i>Nick J. Lucas, MSc*; Kelsey E. Seyfang, BSc; Paul Kirkbride, PhD; Hilton Kobus, PhD</i>
11:30 a.m.	-	1:00 p.m.	B133	The Refinement of a Mathematical Model to Predict Evaporation of Gasoline <i>Natasha K. Eklund, BA*; Victoria L. McGuffin, PhD; Ruth Waddell Smith, PhD</i>

CRIMINALISTICS



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- 11:30 a.m. - 1:00 p.m. **B134** **Assessing Microheterogeneity of Surrogate Post-Detonation Urban Debris (SPUD) Standard Reference Material (SRM) 4600 Using Microbeam X-Ray Fluorescence (μ -XRF)**
*Barbara L. Fallon, MS**; *Kevin Pfeuffer, PhD*; *John L. Malloy, PhD*;
Mark A. Tyra, PhD; *Jacqueline L. Mann, PhD*; *JoAnn Buscaglia, PhD**
- 11:30 a.m. - 1:00 p.m. **B135** **Statistical Characterization of Aluminum (Al) Powders in Explosives Using Automated Particle Micromorphometry**
*JenaMarie Baldaino, MS**; *Danica Ommen, MS*; *Cami Fuglsby*;
Christopher P. Saunders, PhD; *Jack Hietpas, PhD*; *JoAnn Buscaglia, PhD**
- 11:30 a.m. - 1:00 p.m. **B136** **A Case Study: Rubber Buckshot Tissue Penetration Capability**
*Dijana Coric**

Mathematics, Mixtures, and Modeling Matters II

Moderator: Lisa M. Burdett, MS
Kansas Bureau of Investigation
Great Bend, KS

Co-Moderator: David A. Gangitano, PhD
Sam Houston State University
Houston, TX

- 1:00 p.m. - 1:20 p.m. **B137** **Multiple Factors Influencing Probabilistic DNA Mixture Interpretation of Highly Challenging Samples: The Relevance of Deep Validation Studies to Ensure Quality Assurance Requirements in Actual Casework**
*Paolo Garofano, MD, PhD**; *Monica Omedei, PhD*; *Giuseppina D'amico*;
Denise Caneparo, MS; *Marco Vincenti, MS*; *Roberto Testi, MD, PhD*; *Eugenio Alladio, PhD*
- 1:20 p.m. - 1:40 p.m. **B138** **Probabilistic Prediction of the Number of Contributors in DNA Mixtures Using a Machine Learning-Based Approach**
*Michael Marciano, MS**; *Jonathan Adelman, MS**
- 1:40 p.m. - 1:55 p.m. **B139** **Validating TrueAllele® Interpretation of DNA Mixtures Containing up to Ten Unknown Contributors**
*Nasir A. Butt, PhD**; *David W. Bauer, PhD**; *Mark W. Perlin, PhD, MD*

The Wild (DNA) Kingdom Matters

Moderator: David A. Gangitano, PhD
Sam Houston State University
Houston, TX

Co-Moderator: Lisa M. Burdett, MS
Kansas Bureau of Investigation
Great Bend, KS

- 1:55 p.m. - 2:10 p.m. **B140** **Autosomal, Chloroplast, and Mitochondrial Data of a United States Cannabis DNA Database**
*Rachel M. Houston, BS**; *Sheree R. Hughes-Stamm, PhD*; *David A. Gangitano, PhD*
- 2:10 p.m. - 2:25 p.m. **B141** **The RoarPlex – A Novel Tetranucleotide Microsatellite and Sex Identification Panel**
*Colton L. Ames**; *Jan E. Janecka, PhD*; *Nickolas P. Walker*; *Lisa R. Ludvico, PhD*



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2:25 p.m. - 2:45 p.m.	B142	The Development of the Field Isolation and Amplification of DNA Assay (FIA-DNA) Kit: A Revolutionary Method for Species Identification of Unknown Samples <i>Nickolas P. Walker*</i> ; <i>Matthew J. Jevit, MSc</i> ; <i>Colton L. Ames</i> ; <i>Jan E. Janecka, PhD</i> ; <i>Lisa R. Ludvico, PhD</i> ; <i>Mary Janecka, MSc</i>
2:45 p.m. - 3:00 p.m.	B143	The Development and Validation of a Dual-Genus, Multiplex Polymerase Chain Reaction (PCR) Assay for African and Asian Elephants for Forensic Purposes <i>Jillian C. Fesolovich*</i> ; <i>Margret J. Potoczniak, MSFS</i> ; <i>Lawrence Quarino, PhD</i> ; <i>Shanan S. Tobe, PhD</i>
3:00 p.m. - 3:15 p.m.	B144	Public Sequence Databases: An Assessment of Their Reliability for Identifying Non-Human Biological Material <i>Kelly A. Meiklejohn, PhD</i> ; <i>Natalie Damaso, PhD*</i> ; <i>James M. Robertson, PhD</i>
3:15 p.m. - 3:30 p.m.		Break

DNA Recovery Methods Matter

Moderator: Daniele S. Podini, PhD
Department of Forensic Science
Washington, DC

Co-Moderator: Sheree R. Hughes-Stamm, PhD
Sam Houston State University
Department of Forensic Science
Huntsville, TX

3:30 p.m. - 3:45 p.m.	B145	Optimized Recovery of DNA and Protein Components From Contact Traces on Fired and Unfired Cartridge Casings <i>Mechthild K. Prinz, PhD*</i> ; <i>Steven Kranes</i> ; <i>Stacey-Ann Sterling, BS</i> ; <i>Glendon Parker, PhD</i> ; <i>Katelyn Mason, PhD</i> ; <i>Deon Anex, PhD</i> ; <i>Bradley Hart, PhD</i>
3:45 p.m. - 4:00 p.m.	B146	Alternate Proteases and Direct Cell Lysis Methods for the Recovery of Exogenous DNA From Fingernails <i>Caitlin Izzo*</i> ; <i>Robin W. Cotton, PhD</i>
4:00 p.m. - 4:15 p.m.	B147	Increasing DNA Typing Success With Improved Front-End Processing and Alternate Workflow Strategies <i>Allison J. Sherier, TX</i> ; <i>Angie Ambers, PhD</i> ; <i>Rachel E. Wiley, MFS</i> ; <i>Nicole M. Novroski, MS</i> ; <i>Bruce Budowle, PhD*</i>
4:15 p.m. - 4:30 p.m.	B148	The Evaluation and Optimization of DNA Recovery and Amplification From Bullet Cartridge Cases <i>Heather V. Milnthorp, MSFS*</i> ; <i>Heather E. McKiernan, MSFS</i> ; <i>Phillip Danielson, PhD</i>
4:30 p.m. - 4:45 p.m.	B149	Crime Scene Culture: How Inadvertent Collection of Bacteria Affects DNA Profiling Success <i>Robert A. Bever, PhD*</i> ; <i>Sayed Mohammad R. Mosavi, MSc</i> ; <i>Allie Flores, BS</i> ; <i>Jangbir Sangha, MA</i> ; <i>Daniel Watsula, MS</i>
4:45 p.m. - 5:15 p.m.		Discussion

CRIMINALISTICS



Criminalistics Believe It or Not!

*Moderator: Mechthild K. Prinz, PhD
John Jay College of Criminal Justice
Department of Sciences
New York, NY*

7:00 p.m. - 9:00 p.m. **Criminalistics Believe It or Not!**

Believe It or Not! is back this year! During this casual Friday evening session, you will have the pleasure of learning about unusual and challenging cases in which physical evidence played an amazing role. This session is intended to be informal, entertaining, and informational (in that order!). The list of Believe It or Not! speakers, as well as the subject matter of each presentation, will be kept under wraps until the last minute to keep attendees in suspense; however, we want to offer some clues about this session and share a couple of previews.

Join us to hear about the case of the man who killed the “Devil” to get out of prison! Judge Christopher Plourd will recount how crime scene reconstruction and ballistics proved critical to the reopening of a solved murder cold case, ultimately freeing two wrongfully convicted persons. Or, learn how an unbroken bottle of wine became a murder weapon in a real homicide case. Weird! Anyone who has watched a Western movie has probably seen a whiskey bottle used to hit someone over the head, breaking the bottle into a thousand pieces. Not so in real life! Perhaps someone will present a real-life murder case straight from a Hollywood movie. Past years’ speakers have featured odd specimens ranging from chocolate bars to stuffed animals.

Hear about cases with crazy circumstances or bizarre pieces of evidence. Some of your friends and colleagues will be sharing stories that will be even more entertaining than your favorite forensic-themed television shows.

Toward the end of this session, there will be a moment to remember Dr. Richard Saferstein, Retired Fellow of the Criminalistics Section, and a fixture of the annual meetings. Dr. Saferstein’s textbooks are found on many criminalists’ bookshelves today and will be for years to come.

If you’ve ever found yourself with nothing to do on the Friday evening before the end of the annual meeting, if you’ve ever exclaimed, Believe It or Not! (or wish you had), this session is for you!

Friday — Session II

Trace Evidence Matters II

*Moderator: Lori J. Wilson, PhD
Eastern Kentucky University
Department of Chemistry
Richmond, KY*

*Co-Moderator: Robert W. Parsons, MS
Indian River Crime Laboratory
Fort Pierce, FL*

8:30 a.m. - 8:45 a.m. **B150 An Improved Method for the Analysis of Fiber Evidence Using Polarized Light Microscopy (PLM)**
John A. Reffner, PhD; Samuel Kaplan, BS*



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8:45 a.m. - 9:00 a.m.	B151	Microscopical Discrimination of Human Head Hairs Sharing a Mitochondrial Haplogroup <i>Sandra Koch, MS*; Corey Liebowitz, BS; Nina G. Jablonski, PhD; Mark D. Shriver, PhD</i>
9:00 a.m. - 9:15 a.m.	B152	Determining the Effects of Storage Conditions on the Preservation of Ignitable Liquid Residues <i>Clare Fried, MSFS*; Edward Sisco, MS; Marcela Najarro, MFS; Thomas A. Brettell, PhD</i>
9:15 a.m. - 9:30 a.m.	B153	The Identification of Representative Compounds in Ignitable Liquids and Substrates: Classification of Fire Debris Using a Naïve Bayes Approach <i>Anuradha Akmeemana, MS*; Mary R. Williams, MS; Michael E. Sigman, PhD</i>
9:30 a.m. - 9:45 a.m.	B154	The Calculation of Likelihood Ratios in Fire Debris Analysis: Model Effects <i>Michael E. Sigman, PhD*; Mary R. Williams, MS</i>
9:45 a.m. - 10:00 a.m.	B155	The Utilization of Receiver Operator Curves (ROCs) for the Evaluation of Fire Debris: The Influence of Population Distributions on Classifier Performance <i>Alysaa Allen*; Michael E. Sigman, PhD; Mary R. Williams, MS</i>
10:00 a.m. - 10:15 a.m.	B156	A Combined Approach of Gas Chromatography/Mass Spectrometry (GC/MS) and Chemometric Strategies for Fire Debris Investigation Purposes <i>Eugenio Alladio, PhD*; Marco Pazzi, PhD; Laura Pacifici, MSc; Fabrizio Malaspina, MSc; Paolo Garofano, MD, PhD; Marco Vincenti, MS</i>
10:15 a.m. - 10:30 a.m.		Break

Analysis of Seized Drugs Matters I

*Moderator: Thomas M. Blackwell, BS
Drug Enforcement Agency
New York, NY*

*Co-Moderator: Theresa B. Browning, MFS
Springfield, VA*

10:30 a.m. - 10:45 a.m.	B157	The Detection of Toxic Adulterants in Seized Drug Exhibits in Kentucky and Vermont <i>Taís R. Fiorentin, PhD*; David M. Martin, PhD; Thom Browne, Jr.; Jeremy S. Triplett, MS; Trisha L. Conti, PhD; Barry K. Logan, PhD</i>
10:45 a.m. - 11:00 a.m.	B158	An Investigation Into Darknet Markets: Their Use in Predicting Emerging Drug Trends and the Correlation With Discussion on Surface Web Drug Forums <i>Robert Paul Hessler, Jr., BS*; Kathy Macropol, PhD; David Klein, BA; Karen S. Scott, PhD</i>
11:00 a.m. - 11:15 a.m.	B159	Predicting the Origin of Heroin by Analysis of Inorganic Elements and Isotope Ratios of Strontium (Sr) <i>Joshua S. DeBord, MSc*; Ali Pourmand, PhD; Sarah C. Jantzi, PhD; Sini Panicker; Jose R. Almirall, PhD</i>
11:15 a.m. - 11:30 a.m.	B160	The Material Effects of Commercial Swabs on the Extraction of Multiple Drugs Using Microfluidics and Mass Spectrometry <i>Emily Lynn Lichtenberger, BS*; Michael Roberts, BS; Nelson R. Vinueza, PhD</i>

CRIMINALISTICS



11:30 a.m. - 11:45 a.m.	B161	Low-Field Nuclear Magnetic Resonance (NMR) Applications in Forensic Drug Analysis <i>Jonathan J. Duffy, BS*; Aaron Urbas, PhD; Katrice Lippa, PhD; Luke Short, PhD; Ioan Marginean, PhD</i>
11:45 a.m. - 12:00 p.m.	B162	Separation and Identification of Drugs of Abuse by Nano-Liquid Chromatography/Electron Ionization/Mass Spectrometry (nLC/EI/MS) <i>Jocelyn V. Abonamah, BS*; Mehdi Moini, PhD</i>
12:00 p.m. - 1:00 p.m.		Lunch

Multidisciplinary Session: Criminalistics II/General II — Forensic Education Matters

*Moderator: Ann B. Geisendorfer, JD, MS
Hudson Valley Community College
Troy, NY*

*Co-Moderator: A. Bakarr Kanu, PhD
Winston-Salem University
Department of Chemistry
Winston-Salem, NC*

1:00 p.m. - 1:15 p.m.	B163	A Collaboration for Forensic Student Success: Bridging the High School-to-College Transition <i>Jillian C. Fesolovich*; Ashley Hudgins, MS*; Vicki A. Stanavitch, PhD</i>
1:15 p.m. - 1:30 p.m.	E107	Forensic Science Capstone Experience: The Thesis, the Review, and the Practicum <i>Kimberly Nugent, MSc*</i>
1:30 p.m. - 1:45 p.m.	B164	Using Forensic Cases to Improve Ethical Reasoning Skills <i>Lyndsie N. Ferrara, MS*; James B. Schreiber, PhD</i>
1:45 p.m. - 2:00 p.m.	B165	Teaching Ethics in Forensic Science: A Laboratory Approach <i>Douglas A. Ridolfi, MS*</i>
2:00 p.m. - 2:15 p.m.	E108	Minimum Education Requirements for Crime Scene Investigators (CSIs): The Missing Link in Forensic Science <i>Mary Juno, MSc*</i>
2:15 p.m. - 2:30 p.m.	E109	Group Experiential Learning in the Forensic Science Classroom <i>John A. Williams, PhD*</i>
2:30 p.m. - 2:45 p.m.	B166	Supplementing Forensic Science Services With Research, Training, and Mentoring: Employing Quality Management Personnel to Meet an Organization's Continuous Education Program Goals <i>Jasmine M. Jefferson, MS*; Michal L. Pierce, MS; Luis A. Sanchez, MD</i>
2:45 p.m. - 3:00 p.m.	E110	A Study of the Forensic Science Education Programs Accreditation Commission (FEPAC) -Accredited Graduate Forensic Science Programs' Curricula <i>Catherine G. Rushton, EdD*</i>
3:00 p.m. - 3:15 p.m.		Break



CRIMINALISTICS

Advances in Chemical and Instrumental Analyses Matter

*Moderator: Kimberly S. Kobjek, MS
Arizona State University New College
Phoenix, AZ*

*Co-Moderator: Elizabeth A. Gardner, PhD
University of Alabama Department of Justice
Birmingham, AL*

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| 3:15 p.m. - 3:30 p.m. | B167 | Validation of a Portable Direct Analysis in Real-Time Mass Spectrometry (DART®-MS) System for Trace Explosives Detection in the Laboratory or in the Field
<i>Marcela Najarro, MFS*; Edward Sisco, MS; Elizabeth Robinson, MS</i> |
| 3:30 p.m. - 3:45 p.m. | B168 | Chemical Imaging of Cyanoacrylate-Fumed Fingerprints Using Mass Spectrometry Imaging
<i>Kelly C. O'Neill*; Paige L. Hinners, MS; Young-Jin Lee</i> |
| 3:45 p.m. - 4:00 p.m. | B169 | Lifestyle Determination From Chemical Identification in Fingerprints
<i>Paige L. Hinners, MS*; Kelly C. O'Neill; Young-Jin Lee</i> |
| 4:00 p.m. - 4:15 p.m. | B170 | The Identification of Prohibited Treatments on Racing Tires by Solid Phase Microextraction (SPME)
<i>Zackery Roberson*; John V. Goodpaster, PhD</i> |
| 4:15 p.m. - 4:30 p.m. | B171 | Decreasing the Uncertainty of Peak Assignments Using Multidimensional Ultra-High Performance Liquid Chromatography (UHPLC)
<i>Cecilia Marisol Ochoa, BA*; Peter J. Schoenmakers; Claude Mallet, PhD; Ira S. Lurie, PhD</i> |
| 4:30 p.m. - 4:45 p.m. | B172 | Assessing the Forensic Utility of a Silicone Rubber Passive Sampler for the Detection of Pollutants in Aqueous Environments
<i>Jonathan W. Bareford, BS*; Jon Beihoffer, MS; Eric J. Hazelrigg, MS; Christopher J. Ehrhardt, PhD</i> |
| 4:45 p.m. - 5:00 p.m. | B173 | An Investigation of the Correlation Between Human Age and Aspartic Acid and Asparagine Racemization and Isomerization of the Eye Lens Crystallins Proteins
<i>Kaitlin Long*; Mehdi Moini, PhD</i> |

CRIMINALISTICS



Saturday — Session I

Bodily Fluid Matters II

*Moderator: Andrew J. Schweighardt, PhD
Northport, NY*

*Co-Moderator: Lisa Mertz, MS
Office of the Chief Medical Examiner
Department of Forensic Biology
New York, NY*

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| 8:30 a.m. | - | 8:45 a.m. | B174 | Experimental Approaches to Study the Degradation of Messenger RNA (mRNA) in Dried Bloodstains Subjected to Storage in the Laboratory
<i>Jun Fu, PhD; Robert W. Allen, PhD*</i> |
| 8:45 a.m. | - | 9:00 a.m. | B175 | The Characterization and Persistence of Vaginal Bacteria Under Fingernails
<i>An Truong, BS*; George Sensabaugh, DCrim; Cassandra Calloway, PhD</i> |
| 9:00 a.m. | - | 9:15 a.m. | B176 | A Molecular Assessment of DNA Methylation Profiling for Body Fluid Identification in a Forensic Application
<i>Dina A. Shokry, MD*</i> |
| 9:15 a.m. | - | 9:30 a.m. | B177 | Can Detection of Testosterone With Anti-Testosterone Antibody Be Used to Identify Male Cells?
<i>Jennifer Miller, BS*; Christopher J. Ehrhardt, PhD; Vamsi Yadavalli, PhD; Susan Greenspoon, PhD</i> |
| 9:30 a.m. | - | 9:50 a.m. | B178 | Toward Implementation of Improved Body Fluid Identification Methods
<i>Toni M. Diegoli, PhD*; Karen Olson, PhD; Philip Nase, MS; Rachel Creager; Chinye Obata, BS; Joel D. Sutton, MSFS; Henry P. Maynard, MS</i> |
| 9:50 a.m. | - | 10:05 a.m. | | Break |

Management and Philosophy Matters

*Moderator: Kelli B. Raley, MSFS
Arizona Department of Public Safety
Phoenix, AZ*

*Co-Moderator: Sarah Corrigan Serou, MS
Jefferson Parish Sheriff's Office
Harvey, LA*

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| 10:05 a.m. | - | 10:20 a.m. | B179 | Victim Sexual Assault Evidence Kits (SAEKs) — Teamwork Between a Crime Lab, Special Victim's Unit, and District Attorney's Office
<i>Jennifer S. Mihalovich, MPH*; Jill Encinias, BS; Erin Kingsbury, JD</i> |
| 10:20 a.m. | - | 10:35 a.m. | B180 | The Mapping of Drug Users in Philadelphia, Pennsylvania, by Creating DNA Profiles From Trace DNA Evidence Collected From Drug Paraphernalia
<i>Benetta A. George, BA*; Shanan S. Tobe, PhD; Jillian C. Fesolovich; Heather L. Harris, MFS, JD</i> |



CRIMINALISTICS

10:35 a.m. - 10:50 a.m.	B181	The Complexities of Interpreting DNA Evidence Obtained in an Uncontrolled Social Setting <i>Leann G. Rizor, BS*; Jonah W.P. Stone, BSc*; Krista E. Latham, PhD; Cynthia Cale, BS; Gay L. Bush, PhD</i>
10:50 a.m. - 11:05 a.m.	B182	Practical Ways to Address Cognitive Bias in Forensic DNA Decision Making <i>Amy M. Jeanguenat, MFS*; Bruce Budowle, PhD; Itiel Dror, PhD</i>
11:05 a.m. - 11:30 a.m.	B183	Forensic DNA Errors: Lessons From Innocence Network Cases <i>Greg Hampikian, PhD*</i>
11:30 a.m. - 12:00 p.m.		Discussion

Saturday — Session II

Analysis of Seized Drugs Matters II

*Moderator: Agnes D. Winokur, MS
Drug Enforcement Agency Southeast Laboratory
Miami, FL*

*Co-Moderator: Alison P. Kidder-Mostrom, MSFS
Chicago, IL*

8:15 a.m. - 8:45 a.m.	B184	2018 Update From the Scientific Working Group for the Analysis of Seized Drugs (SWGDRUG) <i>Sandra E. Rodriguez-Cruz, PhD*</i>
8:45 a.m. - 9:00 a.m.	B185	What's in the Bag? Screening Trace Drug Contamination in Baggies by Thermal Desorption Combined With Direct Analysis in Real Time-Mass Spectrometry (TD/DART®-MS) <i>Edward Sisco, MS*; Marcela Najarro, MFS; Jennifer R. Verkouteren, MS</i>
9:00 a.m. - 9:15 a.m.	B186	Cannabinoid Vapor Pressure Measurements and Predictions by Porous Layer Open Tubular-Cryoadsorption (PLOT-Cryo) <i>Tara Lovestead, PhD*; Thomas J. Bruno, PhD</i>
9:15 a.m. - 9:30 a.m.	B187	The Identification of Various Controlled Substances by Headspace Chemical Analysis Using Headspace Solid-Phase Microextraction (HS/SPME) and Gas Chromatography/Mass Spectrometry (GC/MS) <i>Justin Day, MS*; Harry R. Ehmman, MS; Jorn Chi-Chung Yu, PhD</i>
9:30 a.m. - 9:45 a.m.	B188	Recent Seizures at the Canadian Border: New Fentanyl Analogues and Other Novel Psychoactive Substances (NPS) <i>Michael McFarlane, MSc*</i>
9:45 a.m. - 10:00 a.m.	B189	The Analytical Profile of Fluorobutyryl Fentanyl Isomers <i>Kelly Song, BS; Adriana M. de Armas, BS*</i>

CRIMINALISTICS



10:00 a.m. - 10:15 a.m.	B190	Separation of Fentanyl Analogues, Homologues, and Positional Isomers by Ultra High-Performance Liquid Chromatography (UHPLC) <i>Carolyn Angi*, Ira S. Lurie, PhD; Ioan Marginean, PhD</i>
10:15 a.m. - 10:30 a.m.	B191	Using Quadropole Time-Of-Flight (qTOF) Liquid Chromatography/Mass Spectrometry (LC/MS) to Distinguish 2- and 3-Furanyl Fentanyl and Other Fentanyl-Related Compounds <i>Sally F. Ho, PhD*</i>
10:30 a.m. - 10:45 a.m.		Break

Gunshot Residue Matters

*Moderator: Tiffany Eckert, MS
United States Army
Criminal Investigation Laboratory
Forest Park, GA*

*Co-Moderator: Catherine R. Dunn, BS
Washington State Patrol Crime Laboratory
Vancouver, WA*

10:45 a.m. - 11:00 a.m.	B192	A 12-Year Study of Brake Dust From 123 Vehicles for Particles Similar to Gunshot Residue <i>Mary Keehan, MS; Douglas DeGaetano, MS*</i>
11:00 a.m. - 11:15 a.m.	B193	A Framework for the Assessment of Gunshot Residue (GSR) Evidence: Transfer, Contamination, and Preservation <i>Nick J. Lucas, MSc*; Michael Cook, BSc; Paul Kirkbride, PhD; Hilton Kobus, PhD</i>
11:15 a.m. - 11:30 a.m.	B194	A Review of Gunshot Residue (GSR) Evidence in Suicide Cases <i>Jason L. Schroeder, MS, MBA*; William M. Davis, PhD; Roger Kahn, PhD</i>
11:30 a.m. - 11:45 a.m.	B195	Novel Capabilities for Forensic Gunshot Residue (GSR) Analysis Through Exploitation of Glass Found in Primer Mixes <i>Kelsey E. Seyfang, BSc*; Nick J. Lucas, MSc; Paul Kirkbride, PhD; Rachel S. Popelka-Filcoff, PhD; Hilton Kobus, PhD; Kahlee E. Redman, BSc</i>
11:45 a.m. - 12:00 p.m.	B196	The Determination of Gunshot Residue (GSR) Settling Velocity <i>Cassidy M. Schultheis*; Stephanie J. Wetzel, PhD; Stephanie Horner, MS; Allison Laneve, MS</i>



DIGITAL & MULTIMEDIA SCIENCES

Wednesday

Poster Session

- 11:30 a.m. - 1:00 p.m. **C1** **The Walls Are Listening: A Forensic Study of Home Personal Assistants**
*Jessica Wright**; Ian Levstein, MS; Dale Mosley; Terry Fenger, PhD
- 11:30 a.m. - 1:00 p.m. **C2** **Observer Agreement in the Identification and Quantification of Dorsal Hand Traits From Digital Images**
*Derek A. Boyd, MA**; Aislynn MacKenzie; Briana M. Turner-Gilmore;
Richard Vorder Bruegge, PhD; Walter Bruehs, MS; Jenna M. Walker, BS

Thursday

Digital and Multimedia Sciences Lab Procedures and Quality Assurance

Moderator: Jason Lewis, PhD
University of the Virgin Islands
Department of Computer & Computational Sciences
St. Thomas, VI

Co-Moderator: Patrick A. Eller, MS
United States Army Criminal
Investigation Division Command
Quantico, VA

- 8:30 a.m. - 9:00 a.m. **C3** **United States Army Criminal Investigation Command (USACIDC) Digital Forensics: A Program Overview**
*Patrick A. Eller, MS**; Joseph Levi White, MS*
- 9:00 a.m. - 9:20 a.m. **C4** **Scientific Working Group on Digital Evidence (SWGDE) and Its Current Efforts in Digital Forensics and Forensic Audio**
*Mary F. Horvath, MFS**; Steven B. Watson, BA*; Jeff M. Smith, MS*;
Marla E. Carroll, BS*
- 9:20 a.m. - 9:45 a.m. **C5** **Current Efforts in Video Forensics, Image Analysis, and Photography as It Relates to Digital Evidence From the Scientific Working Group on Digital Evidence (SWGDE)**
*Mary F. Horvath, MFS**; Jesus R. Valenzuela, BA*; Marla E. Carroll, BS*;
Kimberly Meline, BS*
- 9:45 a.m. - 10:05 a.m. **C6** **Testing Digital Forensic String Search Tools**
*James R. Lyle, PhD**; Barbara Guttman, BA
- 10:05 a.m. - 10:30 a.m. **C7** **Validating Mobile Forensics Tools in Your Lab With the National Institute of Standards and Technology's (NIST) Federated Testing**
Barbara Guttman, BA; James R. Lyle, PhD; Benjamin R. Livelsberger, MS;
Richard Ayers, MS; Jenise Reyes-Rodriguez, BS*
- 10:30 a.m. - 10:45 a.m. **Break**

Audio and Video Forensics

*Moderator: Alex J. Nelson, PhD
National Institute of Standards and Technology
Gaithersburg, MD*

*Co-Moderator: Walter T. Hart, MBA
San Francisco, CA*

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| 10:45 a.m. - 11:05 a.m. | C8 | An Audio Enhancement Framework for Forensic Purposes
<i>Catalin Grigoras, PhD; Jeff M. Smith, MS; James Zjalic, BSc*</i> |
| 11:05 a.m. - 11:30 a.m. | C9 | Time Domain Analysis of Lossy Compression Decoding Artifacts
<i>Catalin Grigoras, PhD*; Jeff M. Smith, MS</i> |
| 11:30 a.m. - 11:55 a.m. | C10 | Analyzing Video Evidence in Officer-Involved Shooting Cases
<i>Parris Ward, JD*</i> |
| 11:55 a.m. - 12:15 p.m. | C11 | Video Datasets for Developing Image Forensic Techniques
<i>Manato Hirabayashi, MS*; Kenji Kurosawa, PhD; Norimitsu Akiba, PhD;
Daisuke Imoto, MS; Hidetoshi Kakuda, PhD; Ken'ichi Tsuchiya, PhD; Kenro Kuroki, PhD</i> |
| 12:15 p.m. - 1:15 p.m. | | Lunch |

Image Analysis and Camera Identification

*Moderator: Christina A. Malone, MSFS
Defense Forensic Science Center
Forest Park, GA*

*Co-Moderator: Joseph Levi White, MS
United States Army
Criminal Investigation Laboratory
Forest Park, GA*

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| 1:15 p.m. - 1:40 p.m. | C12 | Another Forensic Image Data Set (AFIDS)
<i>Mark D. Guido, MS*; Michael McCarrin, PhD*</i> |
| 1:40 p.m. - 2:00 p.m. | C13 | Digital Image Recompression Analysis: Twitter®
<i>Gretchel Lomboy*; Catalin Grigoras, PhD; Jeff M. Smith, MS</i> |
| 2:00 p.m. - 2:25 p.m. | C14 | Deep Learning With Camera Identification
<i>Eleni Athanasiadou, BSc; Zeno J. Geradts, PhD*; Erwin Van Eijk, MS</i> |
| 2:25 p.m. - 2:50 p.m. | C15 | Curating Forensic Image Collection Using Machine Learning
<i>Wangcheng Yan, BS; Audris Mockus, PhD*; Tiffany B. Saul, PhD;
Dawnie W. Steadman, PhD</i> |
| 2:50 p.m. - 3:10 p.m. | C16 | Source Camera Comparison Using Photo Response Non-Uniformity (PRNU) on WhatsApp
<i>Christiaan Meij, BSc; Zeno J. Geradts, PhD*</i> |
| 3:10 p.m. - 3:30 p.m. | | Break |



DIGITAL & MULTIMEDIA SCIENCES

Cell Phone Analysis and Procedures

*Moderator: Mary F. Horvath, MFS
Ft. Myers, FL*

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| 3:30 p.m. | - | 3:55 p.m. | C17 | Forensic Identification of the Source Smartphone Camera From a Digital Image
<i>Rajesh Kumar, PhD*; Arvind Mudaliyar, MSc; ShantiKumar Gupta, PhD</i> |
| 3:55 p.m. | - | 4:20 p.m. | C18 | A Case Study: Ransomware Containing Child Pornography Observed on an Android™ Mobile Device
<i>Joseph Levi White, MS*</i> |
| 4:20 p.m. | - | 4:45 p.m. | C19 | Android™ Thumbnails: Is There More? An In-Depth Analysis of the Android™ Photo Gallery and Camera Processes Looking for Metadata
<i>Mary F. Horvath, MFS*; Steven B. Watson, BA*</i> |
| 4:45 p.m. | - | 5:10 p.m. | C20 | An Analysis of Apple® Mobile Devices to Support or Refute Claims of Spoliation of Data
<i>Andrew N. Crouse, BA*; Samuel I. Brothers, BBA*</i> |

Friday

Chat, Skimmers, and the Darknet

*Moderator: Aisha Ali-Gombe, PhD
Towson University
Towson, MD*

*Co-Moderator: Jason M. Paroff, JD
Epiq Ediscovery Solutions, Inc
New York, NY*

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| 8:30 a.m. | - | 8:55 a.m. | C21 | Snapchat® Data Recovery Capabilities
<i>Joseph Levi White, MS*; Christina A. Malone, MSFS</i> |
| 8:55 a.m. | - | 9:20 a.m. | C22 | Skimmer Forensics: The Identification, Seizure, and Analysis of These Problematic Little Devices
<i>James Darnell, BS*; John Simonello, MSc</i> |
| 9:20 a.m. | - | 9:45 a.m. | C23 | Darknet Investigation and Forensic Techniques
<i>Sarah Cortes, PhD*</i> |
| 9:45 a.m. | - | 10:10 a.m. | C24 | A Freedom Hosting Darknet Case Study: Anatomy of a Takedown
<i>Sarah Cortes, PhD*; Gareth Owenson, PhD*</i> |
| 10:10 a.m. | - | 10:35 a.m. | C25 | A Digital Forensics Tool for the Language-Based Analysis of Child Sex Offender Chats
<i>Kathryn C. Seigfried-Spellar, PhD*; Marcus Rogers, PhD*</i> |
| 10:35 a.m. | - | 10:45 a.m. | | Break |

Smart Home, Vehicles, Drones, and Advanced Analyses

*Moderator: James R. Lyle, PhD
National Institute of Standards and Technology
Gaithersburg, MD*

*Co-Moderator: Carl R. Kriigel, MA
United States Army
Criminal Investigation Laboratory
Forest Park, GA*

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| 10:45 a.m. - 11:05 a.m. | C26 | Defining a Taxonomy of Digital Evidence Artifacts Available From Small Unmanned Aircraft Systems
<i>Steven B. Watson, BA*; David Rathbone</i> |
| 11:05 a.m. - 11:25 a.m. | C27 | Vehicle Forensics: A Method of Validation for Infotainment System Tracklog Maps Using Java™ OpenStreetMap Editor®
<i>Christopher D. Jenkins*; John E. Sammons, MS; Ian Levstein, MS; Terry Fenger, PhD</i> |
| 11:25 a.m. - 11:50 a.m. | C28 | Is Your Home Secretly a Confidential Informant for the Police? The Potential of Smart Home Devices to Serve as Evidence in Criminal Cases
<i>Jason Lewis, PhD*; Arl Polydore; Lawrence White; Jair Smith; K'Mari McClean; Roberto Tirado</i> |
| 11:50 a.m. - 12:15 p.m. | C29 | Smart Home (Home Automation) Forensics: An Analysis of an Amazon® Echo™
<i>Carl R. Kriigel, MA*; Joseph Levi White, MS; Christina A. Malone, MSFS</i> |
| 12:15 p.m. - 1:15 p.m. | | Lunch |

Poster Session

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| 11:30 a.m. - 1:00 p.m. | C30 | The Virtual Crime Scene: The Role of 3D Motion Capture and 3D Model Buildings for the Reconstruction of Dynamics and Reproduction of Settings in a Case of Murder
<i>Isabella Aquila, MD*; Alfredo Manca; Giuseppe Ivan Aquila; Roberto Raffaele*; Giuseppe Capoccia; Manolo Vozza; Antonio Rocca; Salvatore Gagliano; Matteo Antonio Sacco, MD; Santo Gratteri, MD*; Pietrantonio Ricci</i> |
| 11:30 a.m. - 1:00 p.m. | C31 | Overcoming the Hurdles of Imaging, Storing, and Archiving Digital Evidence
<i>Kristy Tredway*</i> |



DIGITAL & MULTIMEDIA SCIENCES

Multidisciplinary Session: Digital & Multimedia Sciences/Engineering Sciences — Electrical Interferences With Forensic Data and Analyses

*Moderator: Mary F. Horvath, MFS
Ft. Myers, FL*

*Co-Moderator: David Pienkowski, PhD
University of Kentucky
Albert B. Chandler Hospital
Lexington, KY*

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| 1:15 p.m. - 1:30 p.m. | D32 | Data Center Failures and Outages
<i>Helmut G. Brosz, BASc, PEng*</i> |
| 1:30 p.m. - 1:45 p.m. | D33 | Forensic Image Processing
<i>Marcus Borengasser, PhD*</i> |
| 1:45 p.m. - 2:05 p.m. | C32 | Measuring the Hygroscopic Capacity of Integrated Circuit Packages and Circuit Boards
<i>Steven B. Watson, BA*; David Rathbone</i> |
| 2:05 p.m. - 2:25 p.m. | C33 | Electromagnetic “Soundscapes” and Their Relevance in Media Forensics
<i>Eddy B. Brixen, BA*</i> |

ENGINEERING SCIENCES



Wednesday

Poster Session

- 11:30 a.m. - 1:00 p.m. **D1** **Quantifying 3D Gait Reconstruction With a Single Camera**
*Jungbin Lee, BS**; *Cong-Bo Phan*; *Seungbum Koo, PhD*
- 11:30 a.m. - 1:00 p.m. **D2** **The Advancement of the Evaluation Method of Fracture Risk by a Blow Using Computer Simulation-Calibration by an Actual Fracture Experiment**
*Tatsuya Fukuoka**; *Yasumi Ito, PhD*; *Momoko Watanabe*; *Yoshiyuki Kagiya, PhD*; *Tetsuya Nemoto, PhD*

Thursday

Forensic Applications of Fire Science

Moderator: David Pienkowski, PhD
University of Kentucky
Albert B. Chandler Hospital
Lexington, KY

Co-Moderator: Kurt D. Weiss, MS
Automotive Safety Research
Santa Barbara, CA

- 8:30 a.m. - 8:50 a.m. **D3** **Fulgurites in Litigation**
*Christopher S. Palenik, PhD**
- 8:50 a.m. - 9:05 a.m. **D4** **The Role of Engineering Sciences in Forensic Fire Investigation**
*S.B. Addison Larson, MS**
- 9:05 a.m. - 9:20 a.m. **D5** **The Impact of Ventilation on Fire Damage Patterns From Room Fires in Full-Scale Structures**
*Daniel Madrzykowski, MS**; *Craig G. Weinschenk, PhD*
- 9:20 a.m. - 9:30 a.m. **Break**

Etiology of Vehicle Mishaps Clarified Via Forensic Engineering Analyses

Moderator: David Pienkowski, PhD
University of Kentucky
Albert B. Chandler Hospital
Lexington, KY

Co-Moderator: S.B. Addison Larson, MS
Sherman, CT

- 9:30 a.m. - 9:45 a.m. **D6** **Steering Failure in a Triple Fatality Crash**
*David Hallman, MS**



ENGINEERING SCIENCES

9:45 a.m. - 10:05 a.m.	D7	A Forensic Engineering Review of the TAU Phenomenon (Looming) and a Cautionary Application to Crashes <i>Adam Aleksander, PhD*</i>
10:05 a.m. - 10:35 a.m.	D8	The Pursuit of a Stolen Patrol Car <i>Kurt D. Weiss, MS*</i>
10:35 a.m. - 10:50 a.m.	D9	Limit Performance and Controllability Testing of Vehicles Towing Utility Trailers <i>Robert L. Anderson, MS*</i>
10:50 a.m. - 11:20 a.m.	D10	Tow Hitch Failure <i>Harold Franck, MSEE*; Darren Franck, MSME*</i>
11:20 a.m. - 11:30 a.m.		Break

Injury Potential of Edged Instruments: Are You Sharp Enough to Get the Point?

Moderator: David Pienkowski, PhD
University of Kentucky
Albert B. Chandler Hospital
Lexington, KY

Co-Moderator: John Nixon, CEng, MBA
Athena Research & Consulting, LLC
Bippus, IN

11:30 a.m. - 11:45 a.m.	D11	On the Injury Potential of Fidget Spinners <i>Sarah V. Hainsworth, PhD*; Michael E. Fitzpatrick, PhD</i>
11:45 a.m. - 12:00 p.m.	D12	A Critical Assessment of Cutting — Slicing, Stabbing, Sawing, and Chopping: The Mechanisms of Separating and Penetrating Biomaterials and the Relevance of Sharpness <i>Sarah V. Hainsworth, PhD*; Guy N. Rutty, MD</i>
12:00 p.m. - 1:00 p.m.		Lunch

Who's Driving: Forensic Methods of Vehicle Operator Identification

Moderator: Michelle R. Hoffman, MS
Forensic Injury Analysis, LLC
Tempe, AZ

Co-Moderator: Darren Franck, MSME
Advanced Engineering Associates, Inc
Charleston, WV

1:00 p.m. - 1:15 p.m.	D13	Who's Driving? <i>David Pienkowski, PhD*</i>
1:15 p.m. - 1:45 p.m.	D14	An Overview of Physical Evidence to Assist With Driver Identification in Vehicle Collisions <i>Kurt D. Weiss, MS*</i>
1:45 p.m. - 2:30 p.m.	D15	Determination of Driver Identity: Effective Scientific Investigation, Comparison and Contrast of Forensic Evidence, and Its Spoliation in Various Cases <i>Mark C. Pozzi, MS*</i>

ENGINEERING SCIENCES



2:30 p.m.	-	3:00 p.m.	D16	Vehicle System Forensics and Determining Who Was Driving at the Time of a Crash <i>Wesley Vandiver*</i>
3:00 p.m.	-	3:15 p.m.		Break
3:15 p.m.	-	3:35 p.m.	D17	If the Shoe Fits, Wear It — Using Injury Patterns, Forensic Science, and Impact Biomechanics to Identify the Driver in a Fatal Vehicle Crash <i>Billy S. Cox, Jr.*</i>
3:35 p.m.	-	3:55 p.m.	D18	Follow the Broken Bones — Using Injury Patterns, Forensic Science, and Impact Biomechanics to Identify the Driver in a Multi-Occupant, Double-Fatality Vehicle Crash <i>Billy S. Cox, Jr.*</i>
3:55 p.m.	-	4:40 p.m.	D19	A Rollover Off a Cliff With No Witnesses, No Vehicle, and Nothing But Unreliable Information: The Use of Forensic Evidence, Vehicle Crashworthiness, and Human Factors Testing to Prove Driver Identity <i>Mark C. Pozzi, MS*</i>
4:40 p.m.	-	5:00 p.m.		Discussion

Friday

Forensic Analyses of Helmets and Head Injuries

Moderator: David Pienkowski, PhD
University of Kentucky
Albert B. Chandler Hospital
Lexington, KY

Co-Moderator: Michelle R. Hoffman, MS
Forensic Injury Analysis, LLC
Tempe, AZ

8:30 a.m.	-	8:45 a.m.	D20	Forensic Analysis and Testing to Evaluate Football Helmet Environmental Degradation and the Effects of Repeat Impacts <i>Mark C. Pozzi, MS*; Kenneth J. Saczalski, PhD*; Mark N. West, BS;</i> <i>Luis Frausto, MS; Todd Saczalski, BSMET</i>
8:45 a.m.	-	9:00 a.m.	D21	Differential Protective Effects of Motorcycle Helmets Against Head Injury <i>Michael Singleton, PhD*</i>
9:00 a.m.	-	9:15 a.m.	D22	Real-World Football Helmet Performance Versus Certification Testing, Refurbishment, and Inspection <i>Mark C. Pozzi, MS*; Kenneth J. Saczalski, PhD*</i>
9:15 a.m.	-	9:30 a.m.		Break



ENGINEERING SCIENCES

Misconduct and Ethics Violations in Forensic Investigations

*Moderator: David Pienkowski, PhD
University of Kentucky
Albert B. Chandler Hospital
Lexington, KY*

*Co-Moderator: Darren Franck, MSME
Advanced Engineering Associates, Inc
Charleston, WV*

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|------------|---|------------|------------|---|
| 9:30 a.m. | - | 9:50 a.m. | D23 | Does Size Really Matter — Or Is How You Manipulate It More Important?
A Review of Data Analysis and Presentation Tips and Tricks
<i>John Nixon, CEng, MBA*</i> |
| 9:50 a.m. | - | 10:15 a.m. | D24 | It's a Fair System, Isn't It? Facts, Alternative Facts, and Other Litigation Influencers
<i>John Nixon, CEng, MBA*</i> |
| 10:15 a.m. | - | 10:40 a.m. | D25 | Ethical Conflicts in Science and Engineering: The Theft of Scientific Records,
Marginal Practices, and Breach of Confidentiality in the Peer-Review Process
<i>Mark C. Pozzi, MS*; Kenneth J. Saczalski, PhD*</i> |
| 10:40 a.m. | - | 10:45 a.m. | | Break |

Forensic Analysis of Engineered Structures, Devices, and Methods

*Moderator: David Pienkowski, PhD
University of Kentucky
Albert B. Chandler Hospital
Lexington, KY*

*Co-Moderator: S.B. Addison Larson, MS
Sherman, CT*

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|------------|---|------------|------------|--|
| 10:45 a.m. | - | 11:00 a.m. | D26 | Forensic Microscopy in Determining Historical 1960s and 1970s
Asbestos Exposures to Cutting Asbestos/Cement (A/C) Pipe
<i>James Millette, PhD*</i> |
| 11:00 a.m. | - | 11:15 a.m. | D27 | A Forensic Performance Analysis of Load-Limiting Devices in Automotive
Seat Belt Retractors
<i>Louis Daulerio, BA; Gary Whitman, BS*; Alan Cantor, BS; Larry Sicher, BS;
Mike Markushewski, BS</i> |
| 11:15 a.m. | - | 11:30 a.m. | D28 | Autonomous Vehicle Control Systems and Human Factors
<i>Stephanie Domitrovich, JD, PhD*; Laura L. Liptai, PhD*</i> |
| 11:30 a.m. | - | 11:45 a.m. | D29 | What Confidence Do We Have in Confidence Intervals?
<i>Willem A. Schreuder, PhD*</i> |
| 11:45 a.m. | - | 12:00 p.m. | D30 | The Effect of Microscopic Surface Coatings and Residues on the Size
and Shape of Bloodstains
<i>Samira Shiri*; Kenneth F. Martin, MS; James Bird, PhD</i> |

ENGINEERING SCIENCES



12:00 p.m. - 12:15 p.m. **D31** **Forensic Confrontation in the Engineering Sciences: An International Murder Prosecution Involving American Embassy Military Personnel**
Joshua M. Toman, LL.M.; Laura L. Liptai, Ph.D.**

12:15 p.m. - 1:15 p.m. **Lunch**

Multidisciplinary Session: Digital & Multimedia Sciences/Engineering Sciences — Electrical Interferences With Forensic Data and Analyses

*Moderator: Mary F. Horvath, MFS
Ft. Myers, FL*

*Co-Moderator: David Pienkowski, Ph.D.
University of Kentucky
Albert B. Chandler Hospital
Lexington, KY*

1:15 p.m. - 1:30 p.m. **D32** **Data Center Failures and Outages**
*Helmut G. Brosz, B.A.Sc., P.Eng.**

1:30 p.m. - 1:45 p.m. **D33** **Forensic Image Processing**
*Marcus Borengasser, Ph.D.**

1:45 p.m. - 2:05 p.m. **C32** **Measuring the Hygroscopic Capacity of Integrated Circuit Packages and Circuit Boards**
Steven B. Watson, B.A.; David Rathbone*

2:05 p.m. - 2:25 p.m. **C33** **Electromagnetic “Soundscapes” and Their Relevance in Media Forensics**
*Eddy B. Brixen, B.A.**



GENERAL

Wednesday

Poster Session

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|------------------------|------------|--|
| 11:30 a.m. - 1:00 p.m. | E1 | The Challenge of Diagnosing Sexual Abuse in Children: A Matter for Experts
<i>Francesco Lupariello, MD*</i> ; <i>Serena Maria Curti, MD</i> ; <i>Caterina Petetta, MD</i> ;
<i>Elena Coppo, MD</i> ; <i>Giancarlo Di Vella, MD, PhD*</i> |
| 11:30 a.m. - 1:00 p.m. | E2 | Cupping Therapy Practiced on Children: Maltreatment or Alternative Therapeutic Procedure?
<i>Serena Maria Curti, MD*</i> ; <i>Francesco Lupariello, MD</i> ; <i>Caterina Petetta, MD</i> ;
<i>Sara Simona Racalbuto, PsyD</i> ; <i>Elena Coppo, MD</i> ; <i>Giancarlo Di Vella, MD, PhD*</i> |
| 11:30 a.m. - 1:00 p.m. | E3 | Two Cases of Acute Drug Poisoning in Children: A Form of Life-Threatening Neglect
<i>Caterina Petetta, MD*</i> ; <i>Serena Maria Curti, MD</i> ; <i>Francesco Lupariello, MD</i> ;
<i>Sara Simona Racalbuto, PsyD</i> ; <i>Elena Coppo, MD</i> ; <i>Janet B. Duval, MSN</i> ;
<i>Giancarlo Di Vella, MD, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | E4 | Child Sexual Abuse: The Importance of the Forensic Medical Examination in the Judicial Decisions
<i>Patricia Jardim</i> ; <i>Ricardo Jorge Dinis-Oliveira, PhD</i> ; <i>Teresa Magalhães, PhD*</i> |
| 11:30 a.m. - 1:00 p.m. | E5 | An Experimental Evaluation of Participant Recall as One Indicator of the Reliability of Infant Death Doll Reenactments
<i>Jason M. Wiersema, PhD*</i> ; <i>Larissa Ybanez</i> ; <i>Allison Woody</i> ; <i>Si Gao, MS</i> ;
<i>Stephanie Miller, BA</i> ; <i>Christian Crowder, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | E6 | A Growth Chart Review in Sudden Unexpected Infant Death (SUID)
<i>Bailey D. Lyttle, BA*</i> ; <i>Marco Ross, MD</i> |
| 11:30 a.m. - 1:00 p.m. | E7 | The Sensitivity of Pediatric Organ Donation: Ways to Decrease the Decline Rate From Coroners/Medical Examiners
<i>Tyrish Y. Page, MA*</i> ; <i>Nicholas I. Batalis, MD*</i> |
| 11:30 a.m. - 1:00 p.m. | E8 | The Expanded Application of Forensic Science and Law Enforcement Methodologies in Army Counterintelligence
<i>Braden Stockham, MFS*</i> ; <i>Ismail M. Sebetan, MD, PhD*</i> ; <i>Paul Stein, PhD*</i> |
| 11:30 a.m. - 1:00 p.m. | E9 | Crime Fear Comparison Based on Residence Selection: Gated Communities vs. Apartments
<i>Sevil Atasoy, PhD</i> ; <i>Kadri Dalgic*</i> ; <i>Betul Kilinc</i> ; <i>Oktay Cavus*</i> |
| 11:30 a.m. - 1:00 p.m. | E10 | The Spanish Police Intervention Unit Inside the Chaos: Crime Scene Protection Cases
<i>Carlos J. Lopez-Gobernado, PhD*</i> |

GENERAL



11:30 a.m.	-	1:00 p.m.	E11	A Usual Cause of Hospitalization and an Unusual Cause of Death <i>Giuseppe Bertozzi, MD*</i> ; <i>Francesca Maglietta, MD</i> ; <i>Giuseppe Davide Albano, Mauro A. Ciavarella; Gabriela Perilli, MD; Dania De Carlo, MD; Irene Riezzo, MD, PhD</i>
11:30 a.m.	-	1:00 p.m.	E12	Examining the Heritability Effects of Latino Youth Violence <i>Elvis Sevilla; Ashraf Mozayani, PharmD, PhD*</i>
11:30 a.m.	-	1:00 p.m.	E13	Dog Bite-Related Accidents: A New Forensic Approach <i>Francesco Sessa, MS*</i> ; <i>Vera Filetti, MSc; Fabrizio Iarussi, DVM; Valerio Iarussi, MD; Marcello Rendine; Mauro A. Ciavarella; Giuseppe Davide Albano; Irene Riezzo, MD, PhD</i>
11:30 a.m.	-	1:00 p.m.	E14	Science Matters: Putting Light on Facial Approximations <i>Sandra R. Enslow, BA*</i>
11:30 a.m.	-	1:00 p.m.	E15	Accuracy Assessment of Korean Craniofacial Reconstructions Applying the Face Pool Comparison Method <i>Su-Min Kim*; Won-Joon Lee, MD*</i>
11:30 a.m.	-	1:00 p.m.	E16	Forensic Awareness of Emergency Service Nurses in Turkey <i>Merve Eyüp, BSc*</i> ; <i>Inci Yagmur Tezbasan, BSc; Hatice Yilmaz, BSc; Sevil Atasoy, PhD</i>

Thursday — Session I

Moderator: Precious JeanBatiste, MS
United States Army Criminal
Investigation Division Command
Fort Hood, TX

Co-Moderator: Karen A. Wiggins, MA
Washington, DC

8:30 a.m.	-	8:45 a.m.	E17	Forensic Science in Austria: Insights on Working Processes and Result Communication Concerning DNA, Fingermarks, and Handwriting <i>Aline Girod-Frais*; Christian Grafl</i>
8:45 a.m.	-	9:00 a.m.	E18	Raman Microspectroscopy and Advanced Statistics for Detection and Characterization of Gunshot Residue (GSR) <i>Igor K. Lednev, PhD*</i> ; <i>Shelby R. Khandasammy, BS; Justin Bueno, MS</i>
9:00 a.m.	-	9:15 a.m.	E19	Analysis of Blood Traces by Attenuated Total Reflection (ATR) Fourier Transform Infrared (FTIR) Spectroscopy for Species Identification <i>Ewelina M. Mistek*; Igor K. Lednev, PhD</i>
9:15 a.m.	-	9:30 a.m.	E20	Universal Detection of Body Fluid Traces <i>In Situ</i> With Raman Hyperspectroscopy for Forensic Purposes <i>Gregory Mclaughlin, PhD; Marisia A. Fikiet, MS*</i> ; <i>Masahiro Ando, PhD; Hiro-o Hamaguchi, PhD; Igor K. Lednev, PhD</i>
9:30 a.m.	-	9:45 a.m.	E21	Bioaffinity-Based Concepts in Forensic Serology <i>Jan Halámek, PhD*</i> ; <i>Juliana Agudelo, BSc; Erica K. Brunelle, BSc*</i> ; <i>Crystal Huynh, BS*</i> ; <i>Lenka Halamkova, PhD; Leif McGoldrick, BS*</i>



GENERAL

9:45 a.m. - 10:00 a.m.	E22	DNA in the Air: The Recovery of DNA Samples From Residential HVAC Air Return Filters Using the Single 4N6FLOQSwab™ Method <i>Maheer Nouredine, PhD*; James A. Bailey, PhD</i>
10:00 a.m. - 10:15 a.m.	E23	A Universal Method for Biological Stain Characterization Using Raman Spectroscopy: From Body Fluid Identification to Phenotype Profiling <i>Igor K. Lednev, PhD*</i>
10:15 a.m. - 10:30 a.m.		Break

*Moderator: Armando B. Dela Rosa, MA
United States Army Criminal
Investigation Division Command
North Charleston, SC*

*Co-Moderator: Kimberly Rhoton, MSN
Charleston County Coroner's Office
Quantico, VA*

10:30 a.m. - 10:45 a.m.	E24	The Rapid Online Wildlife Identification Network (ROWIN): A Bioinformatic Analysis Pipeline Developed for Wildlife DNA Forensics <i>James P. Creecy, PhD*</i>
10:45 a.m. - 11:00 a.m.	E25	A Different Kind of DNA Casework: When It Barks or Purrs <i>Teri Kun, BS*; Christina D. Lindquist, MS</i>
11:00 a.m. - 11:15 a.m.	E26	A Different Kind of DNA Casework: When It Has Fangs or Antlers <i>Kimberly Frazier, MS*; Christina D. Lindquist, MS</i>
11:15 a.m. - 11:30 a.m.	E27	A Different Kind of DNA Casework: When It Has Antlers <i>Brandt G. Cassidy, PhD*; James Anstead, PhD; Kelsy Lowther, MS; Erica Reynaga, MS; Elizabeth O'Bannon, MS; Sherri Deaton, MS; Christina D. Lindquist, MS</i>
11:30 a.m. - 11:45 a.m.	E28	A Different Kind of DNA Casework: When It Has Fins <i>Piper Schwenke, MS*; Kathy Moore, MS; Trey Knott, MS; Linda Park, PhD; Christina D. Lindquist, MS</i>
11:45 a.m. - 12:00 p.m.	E29	A Different Kind of DNA Casework: When It Has Horns or Tusks <i>Mary K. Burnham-Curtis, PhD*; Barry Baker, MA; Gabriela Chavarria, PhD; Edgard O. Espinoza, PhD; Christina D. Lindquist, MS</i>
12:00 p.m. - 1:15 p.m.		Lunch

Poster Session

11:30 a.m. - 1:00 p.m.	E30	The Risk for Immersion Pulmonary Edema (IPE) From Scuba Diving <i>Benjamin Mokdad*; Isabelle Le Blanc, MD; Gilles Tournel, PhD; Sophie Thureau, MD; Anne-Claire Lhoumeau, MD</i>
11:30 a.m. - 1:00 p.m.	E31	A Study of Death by Firearm Injury <i>Mobin Ul Islam, MD, MPH*</i>

GENERAL



11:30 a.m. - 1:00 p.m.	E32	Revisiting the Question of Yellow Discoloration of the Skull Bones and Diabetes Mellitus in an Autopsy Population <i>Angeline Eliasson, MD*</i> ; <i>Carl Johan Wingren, PhD*</i>
11:30 a.m. - 1:00 p.m.	E33	Standardizing a Large-Scale, Whole Body Computed Tomography (CT) Image Database <i>Heather J.H. Edgar, PhD*</i> ; <i>Shamsi Berry, PhD</i>
11:30 a.m. - 1:00 p.m.	E34	Stabbing Exploration: An Essential Duality <i>Anne-Claire Lhoumeau, MD*</i> ; <i>Sophie Thureau, MD</i> ; <i>Cyril Gricourt</i> ; <i>Benjamin Mokdad</i> ; <i>Isabelle Le Blanc, MD</i> ; <i>Florence Vincent</i> ; <i>Jean-Nicolas Dacher</i> ; <i>Gilles Tournel, PhD</i>
11:30 a.m. - 1:00 p.m.	E35	A Case Report of a Peculiar Bullet Track: Trajectory Making the Defense Unfeasible <i>Ivan D. Miziara, MD, PhD*</i> ; <i>Nelson Bruni, MD</i> ; <i>Carmen Silvia M. Miziara, MD, PhD</i>
11:30 a.m. - 1:00 p.m.	E36	When a Man Kills a Woman — Femicide in Clark County, Nevada: An Overview of Intimate Partner Homicide (IPH) and Intimate Partner Homicide Followed by Suicide (IPHFS) <i>Cristina Tica, MA*</i> ; <i>Caryn E. Tegtmeyer, MA</i>
11:30 a.m. - 1:00 p.m.	E37	A Homicide by Shotgun: The Other Side of a Widespread Weapon <i>Mauro A. Ciavarella*</i> ; <i>Giuseppe Davide Albano</i> ; <i>Giuseppe Bertozzi, MD</i> ; <i>Francesca Maglietta, MD</i> ; <i>Benedetta Di Battista, MD</i> ; <i>Furio Martino Patete</i> ; <i>Monica Salerno, MD, PhD</i>
11:30 a.m. - 1:00 p.m.	E38	The Characterization of Volatile Organic Compounds (VOCs) Present in the Headspace of Decomposing Animal and Human Remains <i>Hyun Jee Kim</i> ; <i>Seh Yeon Park</i> ; <i>Jisook Min, PhD*</i>
11:30 a.m. - 1:00 p.m.	E39	Collaboration of Forensic Disciplines Used to Solve a 13-Year-Old Homicide <i>Sandra E. Jones*</i> ; <i>Deborah Radisch, MD</i> ; <i>Clyde B. Gibbs</i>
11:30 a.m. - 1:00 p.m.	E40	Suture Embolism to the Left Superior Lobar Pulmonary Artery: A Case Report and Review of the Literature <i>Janice S. Ahn, MD*</i> ; <i>Joy Grise, MS*</i> ; <i>Joseph A. DelTondo, DO*</i>
11:30 a.m. - 1:00 p.m.	E41	The Risk of Selfie-Related Deaths: A Case Report on the Dangerous “Daredevil Selfie” Phenomenon <i>Isabella Aquila, MD*</i> ; <i>Matteo Antonio Sacco, MD</i> ; <i>Valerio Riccardo Aquila</i> ; <i>Roberto Raffaele*</i> ; <i>Santo Gratteri, MD*</i> ; <i>Paola Frati, PhD</i> ; <i>Vittorio Fineschi, MD, PhD</i> ; <i>Pietrantonio Ricci</i>
11:30 a.m. - 1:00 p.m.	E42	A Nunchaku Strangled Woman: A Case Report <i>Giuseppe Davide Albano*</i> ; <i>Mauro A. Ciavarella</i> ; <i>Francesca Maglietta, MD</i> ; <i>Giuseppe Bertozzi, MD</i> ; <i>Natascha Pascale, MD</i> ; <i>Benedetta Di Battista, MD</i> ; <i>Dania De Carlo, MD</i>
11:30 a.m. - 1:00 p.m.	E43	The American Board of Forensic Taphonomy (ABFTaph): A Multidisciplinary Approach to Decomposition <i>Amanda L. Roe, PhD*</i> ; <i>Leon G. Higley, PhD</i> ; <i>Tal Simmons, PhD</i> ; <i>Neal H. Haskell, PhD</i>



GENERAL

11:30 a.m. - 1:00 p.m.	E44	The Application of Eukaryotic Community Succession on Porcine Remains for Postmortem Interval (PMI) Estimation <i>Luisa Forger*</i> ; <i>Michael Shane Woolf, MS</i> ; <i>Tal Simmons, PhD</i> ; <i>Jenise Swall, PhD</i> ; <i>Catherine Cupples Connon, PhD</i> ; <i>Baneshwar Singh, PhD</i>
11:30 a.m. - 1:00 p.m.	E45	The Taphonomic Effects of Differential Burial Practices and Environment in Recently Discovered World War II Cemeteries <i>Hillary R. Parsons, PhD*</i> ; <i>Heather Backo, PhD</i>
11:30 a.m. - 1:00 p.m.	E46	Veteran Suicides in Harris County, Texas <i>Bethany L. Bless, MS*</i>
11:30 a.m. - 1:00 p.m.	E47	A Multidisciplinary Search for Missing People: Psychology, Canine Units, and Forensic Archaeology <i>Simone Montaldo*</i> ; <i>Luca Daveri</i> ; <i>Matteo Borrini, PhD*</i>

*Moderator: Mark Vecellio, MFS
Sanford, NC*

*Co-Moderator: Mitchell D. Sigal, MFS
Orange County Sheriff-Coroner
Santa Ana, CA*

1:15 p.m. - 1:30 p.m.	E48	The Current State of Illicit Drugs, Counterfeit Pharmaceuticals, and New Psychoactive Substances in West Asia — Particularly Turkey <i>Sevil Atasoy, PhD*</i>
1:30 p.m. - 1:45 p.m.	E49	Medicolegal Death Investigation in the Changing Face of Drug Overdoses <i>Erin M. Worrell, BSc*</i> ; <i>Thomas P. Gilson, MD</i>
1:45 p.m. - 2:00 p.m.	E50	Attacking the Epidemic: Methods and Considerations for Detection of Fentanyl and Novel Psychoactive Substances (NPS) by Thermal Desorption Direct Analysis in Real-Time Mass Spectrometry (DART®-MS) <i>Edward Sisco, MS*</i>
2:00 p.m. - 2:15 p.m.	E51	Side Effects of Anabolic Androgenic Steroids Abuse: What About Necrotizing Fasciitis? <i>Giuseppe Bertozzi, MD*</i> ; <i>Mauro A. Ciavarella</i> ; <i>Francesca Maglietta, MD</i> ; <i>Giuseppe Davide Albano</i> ; <i>Santina Cantatore</i> ; <i>Francesco Sessa, MS</i> ; <i>Monica Salerno, MD, PhD</i>
2:15 p.m. - 2:30 p.m.	E52	High Order Trace Transfers: Considerations for the Analysis of Sub-Visible and Nanoparticles <i>Christopher S. Palenik, PhD*</i>
2:30 p.m. - 2:45 p.m.	E53	Teaching Forensic Image Processing <i>Marcus Borengasser, PhD*</i>
2:45 p.m. - 3:00 p.m.	E54	The Opportunity of a Lifetime: The Educational Outreach Program at the Defense Forensic Science Center (DFSC) <i>Rachel Creager*</i> ; <i>Henry P. Maynard III, MSFS</i>
3:00 p.m. - 3:15 p.m.		Break

GENERAL



*Moderator: Kimberlee Sue Moran, MSc
Rutgers University – Camden
Camden, NJ*

*Co-Moderator: Carraugh R. Nowak, MFS
Hilbert College
Hamburg, NY*

- 3:15 p.m. - 3:30 p.m. **E55** **Fingerprint Analysis: Determination of Biological Sex Via Enzymatic Assay**
Crystal Huynh, BS; Erica K. Brunelle, BSc*; Mindy Hair*; Lenka Halamkova, PhD;
Jan Halámek, PhD**
- 3:30 p.m. - 3:45 p.m. **E56** **Data-Driven Decisions in Latent Print Examination to Improve Quality**
*Anthony Koertner, MS**
- 3:45 p.m. - 4:00 p.m. **E57** **3D Imaging Technology to Uncover Changes in Latent Fingerprint Topography in Four Dimensions**
Josep De Alcaraz-Fossoul, PhD; Michelle Mancenido Mancenido, PhD;
Jennifer Broatch, PhD; Emmanuel Soignard, PhD; Lindsey J. Porter;
Brandon Shelton; Nathaniel Silverman; Sara R. Anderson*
- 4:00 p.m. - 4:15 p.m. **E58** **Score-Based Likelihood Ratio**
Elham Tabassi, MS; Larry Tang, PhD*
- 4:15 p.m. - 4:30 p.m. **E59** **The Impact of DNA Swabbing Collection Methods on Latent Print Evidence**
*Monica J. Kupsco, MS**
- 4:30 p.m. - 4:45 p.m. **E60** **Size Variations Associated With the Different Methods of Recording Outsole Impressions of Reference Footwear for Comparisons**
Anthony Koertner, MS; Jeremy J. John, MS*
- 4:45 p.m. - 5:00 p.m. **E61** **Bradford Reagent and Ninhydrin: Chemical Approaches for Biological Sex Identification From Fingerprints**
Erica K. Brunelle, BSc; Anh M. Le, BSc; Crystal Huynh, BS*; Kelly Wingfield;
Lenka Halamkova, PhD; Mindy Hair*; Jan Halámek, PhD**

Thursday — Session II

Multidisciplinary Session: Criminalistics II/General II/Pathology/Biology I/Toxicology — The Synthetic Opioids Epidemic and Forensic Science

*Moderator: Vincent J. Desiderio, MS
United States Postal Inspection Service
Dulles, VA*

*Co-Moderator: Michael F. Rieders, PhD
NMS Labs
Willow Grove, PA*

- 8:30 a.m. - 10:45 a.m. **B81** **The Growing Phenomenon of the Epidemic of Synthetic Opioids and Forensic Science: Impact and Response**
Vincent J. Desiderio, Jr., MS; Michael F. Rieders, PhD; Brandon Callahan, BA;
Agnes D. Winokur, MS*; Erin M. Worrell, BSc*; John F. Casale, BS*;
Karl E. Williams, MD*; Sherri L. Kacinko, PhD*; Patrick Buzzini, PhD*



GENERAL

Friday — Session I

*Moderator: Amanda Fitch, MS
American Society for the Prevention of
Cruelty to Animals
Gainesville, FL*

*Co-Moderator: Kimberly Nugent, MSc
University of Ontario Institute of Technology
Faculty of Science
Oshawa, ON, CANADA*

- | | | | | |
|------------|---|------------|------------|---|
| 8:30 a.m. | - | 8:45 a.m. | E62 | The “CSI Effect”: Is It Relevant to You?
<i>Brittany Borzych*</i> |
| 8:45 a.m. | - | 9:00 a.m. | E63 | Comparing the Degree of Force in Infants With Suspected Abusive Head Trauma to Traffic Accidents or High-Altitude Falls Is Not Viable
<i>Jacob Johannes Andersson, MS*; Ingemar Thiblin, PhD</i> |
| 9:00 a.m. | - | 9:15 a.m. | E64 | Expert Decision Making and Visual Analysis: An Empirical Approach to Understand and Advance Examination in the Human Identification Sciences
<i>Sherry Nakhaeizadeh*; Nadine Smit*; Helen Earwaker, PhD; Ruth M. Morgan, PhD; Tim Thompson, PhD</i> |
| 9:15 a.m. | - | 9:30 a.m. | E65 | Testing Unsubmitted Sexual Assault Kits: The National Institute of Justice-Federal Bureau of Investigation (NIJ-FBI) Sexual Assault Kit Partnership Successes and Lessons Learned
<i>Heather E. Waltke, MS*; Heather LaSalle, MS*</i> |
| 9:30 a.m. | - | 9:45 a.m. | E66 | A Case Study: From Maternal Instinct to Staged Domestic Homicide
<i>Eric R. Ruiz Hernandez, MD*</i> |
| 9:45 a.m. | - | 10:00 a.m. | E67 | Utah Quick Kit (UQuiK): A Collaborative Program on the Sexual Assault Kit Analysis Process
<i>Julie L. Valentine, PhD*; Suzanne Miles, BS*</i> |
| 10:00 a.m. | - | 10:15 a.m. | E68 | Big Business, Big Brother, and Genetic Genealogy
<i>Colleen M. Fitzpatrick, PhD*</i> |
| 10:15 a.m. | - | 10:30 a.m. | | Break |

*Moderator: Heather V. Milnthorp, MSFS
The Center for Forensic Science
Research & Education
Willow Grove, PA*

*Co-Moderator: Carlos J. Lopez-Gobernado, PhD
Policia Nacional
Madrid, SPAIN*

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| 10:30 a.m. | - | 10:45 a.m. | E69 | Child Abuse in Northwest Italy: A Five-Year Retrospective Analysis
<i>Serena Maria Curti, MD*; Francesco Lupariello, MD; Caterina Petetta, MD; Elena Coppo, MD; Sara Simona Racalbutto, PsyD; Silvia Murdocca, DSW; Giancarlo Di Vella, MD, PhD*</i> |
| 10:45 a.m. | - | 11:00 a.m. | E70 | Keeping Safe: Understanding Violence Against Law Enforcement by Youth Street Gangs
<i>Cliff Akiyama, MPH, MA*</i> |

GENERAL



11:00 a.m. - 11:15 a.m.	E71	Trauma, Cognition, and the Investigators <i>Amanda L. Farrell, PhD*</i> ; <i>Timothy J. Ainger, PhD*</i>
11:15 a.m. - 11:30 a.m.	E72	A Case Study: A Comparative Analysis of Common Behavioral Evidence in Three Columbian Cases of Domestic Homicides <i>Eric R. Ruiz Hernandez, MD*</i>
11:30 a.m. - 11:45 a.m.	E73	3D Reconstruction of Shooting Incidents Using Laser Scanning and Computer Modeling <i>Parris Ward, JD*</i> ; <i>Frank P. Sheridan</i>
11:45 a.m. - 12:00 p.m.	E74	Bulletproof: Two Incidents of Non-Penetrative Bullet Strikes Inflicted on Soldiers Without Armor During Operation Iraqi Freedom <i>Ryan P. Brokaw, MFS*</i> ; <i>Keith M. McCullen, MFS*</i>
12:00 p.m. - 1:15 p.m.		Lunch

Poster Session

11:30 a.m. - 1:00 p.m.	E75	A Unique Capstone Experience to Assess Student Learning in a Bachelor of Science (BS) Forensic Science Program <i>Lori J. Wilson, PhD*</i>
11:30 a.m. - 1:00 p.m.	E76	Developing an Information Literacy-Intensive Forensic Science Course <i>Laura Sare*</i> ; <i>Sarah Bankston, MS*</i> ; <i>Jeffery K. Tomberlin, PhD*</i>
11:30 a.m. - 1:00 p.m.	E77	Graduate and Undergraduate Education in Forensic Sciences in Turkey <i>Inanç Pastirmaci, BSc</i> ; <i>Kaan Yilancioglu, PhD</i> ; <i>Tugba Ünsal, PhD*</i> ; <i>Sevil Atasoy, PhD</i>
11:30 a.m. - 1:00 p.m.	E78	Language Use Among Forensic Professionals <i>Emily F. Wiegers, MA*</i>
11:30 a.m. - 1:00 p.m.	E79	Evaluation of the Booz Allen Hamilton Tactical Forensic Device: The VAMPIRE™ <i>Jennifer A. Busk*</i> ; <i>Peter Massey, MS</i> ; <i>Timothy M. Palmbach, MS, JD</i>
11:30 a.m. - 1:00 p.m.	E80	Enhanced Postmortem Fingerprinting Techniques <i>Selma Delic, MS*</i>
11:30 a.m. - 1:00 p.m.	E81	Is Latent Print Viability Affected by Heat (Accumulated Degree Hours) From 60-Watt Incandescent Light Bulbs? <i>Olivia K. Colella, BA*</i> ; <i>Marilyn T. Miller, EdD</i> ; <i>Sylvia Buffington-Lester</i> ; <i>Francis J. Curran, BS</i> ; <i>Tal Simmons, PhD</i>
11:30 a.m. - 1:00 p.m.	E82	An Efficient Workflow to Recover Examination-Quality Postmortem Fingerprints From Human Remains <i>Marzena H. Mulawka, MFS*</i> ; <i>Bryan Johnson, MSFS*</i> ; <i>Aaron Uhle, MS</i> ; <i>Gary W. Reinecke, MA*</i> ; <i>David Martinez, BS</i> ; <i>Leah Hogue</i>
11:30 a.m. - 1:00 p.m.	E83	Fire Debris Analysis <i>Abdulrhman M. Dhabbah, PhD*</i>



GENERAL

11:30 a.m. - 1:00 p.m.	E84	Race Differentiation by Raman Spectroscopy of a Bloodstain for Forensic Purposes <i>Ewelina M. Mistek*; Lenka Halamkova, PhD; Kyle C. Doty, BS; Claire Muro, PhD; Igor K. Lednev, PhD</i>
11:30 a.m. - 1:00 p.m.	E85	Nuclear Magnetic Resonance (NMR) Spectroscopy as a Screening Agent for Designer Opioids <i>Nicole Homburger*; Megan Chambers; Ling Huang, PhD</i>
11:30 a.m. - 1:00 p.m.	E86	An 11-Year Review Conducted by the West Tennessee Regional Forensic Center (WTRFC) on Deaths While in an Inpatient Rehabilitation or Counseling Center <i>Braden E. Taylor*; Erica Curry, MD</i>
11:30 a.m. - 1:00 p.m.	E87	The Development of a Protein Extraction Protocol in Burnt Bone <i>Ruben Dario Diaz-Martin, PhD*; Lorena Valencia Caballero, PhD*; Javier Rolando Ambrosio, PhD</i>
11:30 a.m. - 1:00 p.m.	E88	The Effects of Surface Composition and Time Intervals on the Stability of Explosive Residues <i>Jessica Shiffert*; Stephanie J. Wetzel, PhD</i>
11:30 a.m. - 1:00 p.m.	E89	Cytochrome P450 and Chemical Oxidation of Synthetic Cannabinoids JWH-015 and Bay 59-3074 <i>Oluseyi A. Vanderpuye, PhD*; Alexis K. Bailey; Christina Dunn</i>
11:30 a.m. - 1:00 p.m.	E90	Optimal Headspace Extraction for the Detection of Volatile Organic Compounds (VOCs) Released From Triacetone Triperoxide (TATP) Using Solid Phase Micro-Extraction (SPME) <i>Kelvin J. Frank, Jr., BS*</i>
11:30 a.m. - 1:00 p.m.	E91	The Investigation of Ancestral Origins Using Human Cranial Hair <i>Sirena Lam*; Robert H. Powers, PhD; Alyssa L. Marsico, PhD</i>
11:30 a.m. - 1:00 p.m.	E92	The Classification of Forensic Soil Evidences by Application of Thermally Assisted Hydrolysis and Methylation With Pyrolysis-Gas Chromatography/Mass Spectrometry (THM-Py-GC/MS) and Multivariate Analysis <i>Choong Sik Lee, MS*</i>

*Moderator: Cheryl F. Nelson, DVM
Versailles, KY*

*Co-Moderator: Kelly L. Allmeyer, BA
Medical Examiner's Office
St. Louis, MO*

1:15 p.m. - 1:30 p.m. **E93** **A Comparison of Bioelectrical Impedance Analysis Techniques for Estimating Postmortem Interval (PMI)**
Eriek S. Hansen, PhD; Christiane Baigent, MSc; Melissa A. Connor, PhD*

1:30 p.m. - 1:45 p.m. **E94** **Determination of Intent: Accident, Suicide, or Homicide? The Utilization of Social Behavioral Science Within the Medicolegal Death Investigation Process**
*Barbara C. Wolf, MD; Kyle Shaw, MBBS; Brett E. Harding, MBA**

GENERAL



1:45 p.m. - 2:00 p.m.	E95	Forensic Archaeology Matters: Methods, Differentiation From and Contributions to, Other Forensic Strategies in Crime Scene Investigation <i>Sharon K. Moses, PhD*; Kimberlee Sue Moran, MSc*</i>
2:00 p.m. - 2:15 p.m.	E96	Geographic Information Systems (GIS) and Predictive Modeling of Body Disposal Sites <i>Annemarie C. Gundel, MA*</i>
2:15 p.m. - 2:30 p.m.	E97	Deconstructing Desiccation and Decomposition <i>Melissa A. Connor, PhD*; Christiane Baigent, MSc; Eriek S. Hansen, PhD</i>
2:30 p.m. - 2:45 p.m.	E98	A Comparison of Insect Activity on Different Carrion Types at the Anthropological Research Facility (ARF) in Knoxville, Tennessee <i>Kristi Bugajski, PhD*; Angela M. Dautartas, MA*; Lee Meadows Jantz, PhD; Dawnie W. Steadman, PhD</i>
2:45 p.m. - 3:00 p.m.	E99	Taking the Bite Out of Requesting Antemortem Dental Records <i>Tracy A. Brookshire, BS*; David A. Wold, DDS*</i>
3:00 p.m. - 3:15 p.m.		Break

*Moderator: Eriek S. Hansen, PhD
Department Biological Science
Colorado Mesa University
Grand Junction, CO*

*Co-Moderator: Colleen Fitzpatrick, PhD
University of Northern Colorado
Department of Criminology & Criminal Justice
Greeley, CO*

3:15 p.m. - 3:30 p.m.	E100	A Retrospective Study of Homeless Deaths in the County of Santa Clara, California <i>Karin E. Wells, BA*; Michelle A. Jorden, MD</i>
3:30 p.m. - 3:45 p.m.	E101	Chemical Characterization of Tattoo Inks to Aid in the Identification of Highly Decomposed Remains <i>Trevor E. Curtis, MS*; Ruth Waddell Smith, PhD</i>
3:45 p.m. - 4:00 p.m.	E102	A Five-Year Retrospective Study on Suicide and the Use of Antidepressants in Washington, DC <i>Breanna M. Cuchara, BS*; Francisco J. Diaz, MD</i>
4:00 p.m. - 4:15 p.m.	E103	Efforts at the Centers for Disease Control and Prevention (CDC) to Improve Fatality Management and Mortality Reporting Practices During Mass Fatality Incidents at the State and Local Level <i>Rebecca S. Noe, MPH, MN*; DeAndrea Martinez, MPH; Todd Talbert, MA; Stephanie Dopson, ScD</i>
4:15 p.m. - 4:30 p.m.	E104	Disaster-Related Deaths and Data: A New Toolkit and Training to Enhance Death Scene Investigations After Disasters <i>Sarah Davis Redman, PhD*; Catharine Fromknecht, BS; Sarah Hodge, MPH; Stephanie Poland, MA; Anindita Issa, MD; Tesfaye Bayleyegn, MD; Rebecca S. Noe, MPH, MN</i>



GENERAL

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| 4:30 p.m. - 4:45 p.m. | E105 | The Search and Recovery of 43 Victims From the Oso Mudslide in Washington State
<i>Mary E. Cablk, PhD*</i> |
| 4:45 p.m. - 5:00 p.m. | E106 | Rescue the Living, Find the Missing, and Identify the Found: The Identify.Me App
<i>Sakher J. AlQahtani, PhD*; Shada Alsalamah, PhD*; Joe Adserias Garriga, DDS, PhD*; Kenneth W. Aschheim, DDS*; Amber D. Riley, MS*; Ricardo H.A. Silva, PhD*; Emilio Nuzzolese, PhD*</i> |

Friday — Session II

Multidisciplinary Session: Criminalistics II/General II — Forensic Education Matters

Moderator: Ann B. Geisendorfer, JD, MS
Hudson Valley Community College
Troy, NY

Co-Moderator: A. Bakarr Kanu, PhD
Winston-Salem University
Department of Chemistry
Winston-Salem, NC

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| 1:00 p.m. - 1:15 p.m. | B163 | A Collaboration for Forensic Student Success: Bridging the High School-to-College Transition
<i>Jillian C. Fesolovich*; Ashley Hudgins, MS*; Vicki A. Stanavitch, PhD</i> |
| 1:15 p.m. - 1:30 p.m. | E107 | Forensic Science Capstone Experience: The Thesis, the Review, and the Practicum
<i>Kimberly Nugent, MSc*</i> |
| 1:30 p.m. - 1:45 p.m. | B164 | Using Forensic Cases to Improve Ethical Reasoning Skills
<i>Lyndsie N. Ferrara, MS*; James B. Schreiber, PhD</i> |
| 1:45 p.m. - 2:00 p.m. | B165 | Teaching Ethics in Forensic Science: A Laboratory Approach
<i>Douglas A. Ridolfi, MS*</i> |
| 2:00 p.m. - 2:15 p.m. | E108 | Minimum Education Requirements for Crime Scene Investigators (CSIs): The Missing Link in Forensic Science
<i>Mary Juno, MSc*</i> |
| 2:15 p.m. - 2:30 p.m. | E109 | Group Experiential Learning in the Forensic Science Classroom
<i>John A. Williams, PhD*</i> |
| 2:30 p.m. - 2:45 p.m. | B166 | Supplementing Forensic Science Services With Research, Training, and Mentoring: Employing Quality Management Personnel to Meet an Organization's Continuous Education Program Goals
<i>Jasmine M. Jefferson, MS*; Michal L. Pierce, MS; Luis A. Sanchez, MD</i> |
| 2:45 p.m. - 3:00 p.m. | E110 | A Study of the Forensic Science Education Programs Accreditation Commission (FEPAC) -Accredited Graduate Forensic Science Programs' Curricula
<i>Catherine G. Rushton, EdD*</i> |

JURISPRUDENCE



Wednesday

Poster Session

- 11:30 a.m. - 1:00 p.m. **F1** **Cross Examination and Direct Examination in Criminal Procedure Discussions in Turkey**
Hatice Yilmaz, BSc; Sevil Atasoy, PhD*
- 11:30 a.m. - 1:00 p.m. **F2** **Assessment of the Allegations and Evidence in Criminal Proceedings and the Innocence Project in Turkey**
Hatice Yilmaz, BSc; Sevil Atasoy, PhD*

Thursday

Autopsy, Case Studies, and Fingerprints

*Moderator: Michele Vaira, JD
Foggia, ITALY*

*Co-Moderator: Mary F. Dayton, JD
DeKalb County Public Defender/
Georgia State University
Atlanta, GA*

- 8:30 a.m. - 8:50 a.m. **F3** **Evidentiary Neglect: The Failure to Perform an Autopsy**
Stephanie Domitrovich, JD, PhD; Jeffrey M. Jentzen, MD**
- 8:50 a.m. - 9:20 a.m. **F4** **The Aaron Hernandez Verdict: Hard Work and Critical Analysis Secure Acquittal**
Linda Kenney Baden, JD; James Downs, MD**
- 9:20 a.m. - 9:40 a.m. **F5** **Care Decisions in Desperate Cases in Infancy: *Parens Patriae* or Birth Parents' Responsibility — Lessons From the Case of Charlie Gard**
*Alexander Robert W. Forrest, LLM**
- 9:40 a.m. - 10:10 a.m. **F6** **Bringing Science Back: Strengthening the Foundation of Fingerprint Examination**
*Henry J. Swofford, MSFS**
- 10:10 a.m. - 10:30 a.m. **Break**



JURISPRUDENCE

Review of Science

*Moderator: Michele Vaira, JD
Foggia, ITALY*

*Co-Moderator: Mary F. Dayton, JD
DeKalb County Public Defender/
Georgia State University
Atlanta, GA*

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| 10:30 a.m. - 11:00 a.m. | F7 | Mad (Forensic) Scientist and Murder: A Case of Suspected Innocence After 22 Years
<i>Scott Bresler, PhD*; Donald R. Caster, JD*</i> |
| 11:00 a.m. - 11:20 a.m. | F8 | An Interpretation of the 2016 President's Council of Advisors on Science and Technology (PCAST) Document in Terms of Forensic Metrology
<i>Veronica Scotti, LLM*; Alessandro M. Ferrero, MSc</i> |
| 11:20 a.m. - 11:40 a.m. | F9 | The National Institute of Standards and Technology (NIST) Plans and Approaches to Conducting Scientific Foundation Reviews of Forensic Science Disciplines
<i>John M. Butler, PhD*</i> |
| 11:40 a.m. - 12:00 p.m. | F10 | The President's Council of Advisors on Science and Technology (PCAST) Report on Forensic Science: Why It Fails Foundational Validity
<i>Kenneth E. Melson, JD*</i> |
| 12:00 p.m. - 1:30 p.m. | | Lunch |

Poster Session

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| 11:30 a.m. - 1:00 p.m. | F11 | Female Murder Victims in Turkey
<i>Güzide Sara Berber, BS*; Sevil Atasoy, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | F12 | Mandatory Vaccination: The Italian Case Between Clinical and Legal Profiles
<i>Alberto Marchese*; Cristina Mondello, MD; Elvira Ventura Spagnolo, MD*; Aurora Vesto, PhD</i> |

DNA

*Moderator: Robert M. Sanger, JD
Sanger Swysen & Dunkle
Santa Barbara, CA*

*Co-Moderator: Julie Maxwell, JD
Red Wing, MN*

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| 1:30 p.m. - 1:50 p.m. | F13 | Distorting DNA Evidence: Methods of Math Distraction
<i>Mark W. Perlin, PhD, MD*</i> |
| 1:50 p.m. - 2:10 p.m. | F14 | Is Epigenetics Ready for Prime Time? The Potential of Using DNA Methylation Pattern Evidence to Differentiate Between Monozygotic Twins and to Estimate Age in DNA Donors
<i>Robert F. Hedges, JD*</i> |

JURISPRUDENCE



2:10 p.m. - 2:30 p.m. **F15** **“Not Suitable for Comparison” Almost Sends the Wrong Man to Prison**
*Brian J. Walsh, JD**

2:30 p.m. - 2:50 p.m. **Break**

Admissibility and Issues With Scientific Evidence

Moderator: Robert M. Sanger, JD
Sanger Swysen & Dunkle
Santa Barbara, CA

Co-Moderator: Julie Maxwell, JD
Red Wing, MN

2:50 p.m. - 3:50 p.m. **F16** **You Be the Judge: An Interactive Session Regarding Admissibility of Scientific Evidence**
W. Milton Nuzum III, JD; Stephanie Domitrovich, JD, PhD**

3:50 p.m. - 4:20 p.m. **F17** **Post-Conviction Relief: The Many Errors Leading to a Miscarriage of Justice**
Charlotte J. Word, PhD; Robin W. Cotton, PhD*; Emily C Paavola, JD**

4:20 p.m. - 4:40 p.m. **F18** **The Need for Scientifically Educated Persons at the Sharp End of Scene Investigations**
Peter R. De Forest, DCrim; John J. Lentini, BA*

4:40 p.m. - 5:00 p.m. **F19** **How Judges and Juries May Perceive Liability Issues Arising From the Operation of Highly Automated Vehicles**
Stephanie Domitrovich, JD, PhD; Laura L. Liptai, PhD**

Friday

Drugs, Drivers, and Impairment

Moderator: Paula H. Wulff, JD
Federal Bureau of Investigation
Alexandria, VA

Co-Moderator: Ashfaq Ahmed Kharal, LLM
Government of Punjab
Advocate General Office
Lahore, PAKISTAN

8:30 a.m. - 8:50 a.m. **F20** **Quantification of Scientific Opinions and the American Jury System**
*Robert M. Sanger, JD**

8:50 a.m. - 9:10 a.m. **F21** **What Does “Under the Influence” Mean in Driving Under the Influence (DUI) Drug Cases?**
*Ronald L. Moore, Esq., JD**

9:10 a.m. - 9:30 a.m. **F22** **Due Process: Unscrambling SCRAM®**
*Gil Sapir, JD; Donald J. Ramsell, JD**



JURISPRUDENCE

9:30 a.m. - 9:50 a.m.	F23	The Use of Field Sobriety Tests (FST) as Proof of Driving Impairment <i>Jeremy C. Brehmer, JD*</i> ; <i>Ronald L. Moore, Esq., JD*</i>
9:50 a.m. - 10:10 a.m.	F24	An Assessment of Options for a Collaborative Attack on the “Fentalogs” <i>M.J. Menendez, JD*</i>
10:10 a.m. - 10:25 a.m.		Break

Miscellaneous Science

Moderator: Paula H. Wulff, JD
Federal Bureau of Investigation
Alexandria, VA

10:25 a.m. - 11:10 a.m.	F25	The Intersection of Science, Standards, and the Law in Fire Litigation <i>Terry-Dawn Hewitt, LLM*</i> ; <i>Wayne J. McKenna, LLB</i>
11:10 a.m. - 11:30 a.m.	F26	The Case of the Missing Millionaire: How Sante and Kenneth Kimes Did Not Get Away With Murder <i>Kerry J. O’Connell, JD*</i>
11:30 a.m. - 12:00 p.m.	F27	Expert Witnesses: A View From the Bench <i>Daniel G. Martin*</i>
12:00 p.m. - 1:30 p.m.		Lunch

Poster Session

11:30 a.m. - 1:00 p.m.	F28	Infrared and Ultraviolet Photography for Individual Identification Using Minor Skin Imperfections <i>Kendra Rollins, MFS*</i> ; <i>Ismail M. Sebetan, MD, PhD*</i> ; <i>Paul Stein, PhD*</i>
11:30 a.m. - 1:00 p.m.	F29	Forensic Archaeology: The Legal Aspect for a Practical Application in the Italian Context <i>Sara Raponi, JD*</i> ; <i>Matteo Borrini, PhD*</i>

Science Related to the Mind

Moderator: Samuel C. Bauer, JD
Hilton Head, SC

Co-Moderator: Patrizia Trapella, JD, MA
Este, ITALY

1:30 p.m. - 2:00 p.m.	F30	The Science and Law of Solitary Confinement <i>Donald E. Shelton, JD, PhD*</i>
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JURISPRUDENCE



2:00 p.m. - 2:20 p.m.	F31	The Albertani's Case: Neuroscience and Criminal Trial in Italy <i>Michele Vaira, JD*</i> ; <i>Laura Muscatello, MD*</i>
2:20 p.m. - 2:40 p.m.	F32	Improving Forensic Competency Evaluations Through Better Participation by Defense Counsel <i>Paul R. Spyhalski, JD*</i>
2:40 p.m. - 3:00 p.m.		Break

Dogs, Death, and Reports

Moderator: Samuel C. Bauer, JD
Hilton Head, SC

Co-Moderator: Patrizia Trapella, JD, MA
Este, ITALY

3:00 p.m. - 3:20 p.m.	F33	Death in the Line of Duty: A New York Police Department (NYPD) Officer Gunned Down During a Botched Robbery <i>Kerry J. O'Connell, JD*</i>
3:20 p.m. - 3:40 p.m.	F34	The Dog Alerts But There's No Body: The Science of Human Remains Detection — K-9 Evidence for the Courtroom <i>Mary E. Cablk, PhD*</i>
3:40 p.m. - 4:00 p.m.	F35	The Need for Transparency in Forensic Report Writing <i>Sheila Willis, PhD*</i>

Where We Go From Here

Moderator: Samuel C. Bauer, JD
Hilton Head, SC

Co-Moderator: Patrizia Trapella, JD, MA
Este, ITALY

4:00 p.m. - 4:45 p.m.	F36	A Tale of Two Futures <i>Peter R. De Forest, DCrim*</i> ; <i>Rebecca E. Bucht, PhD</i> ; <i>Michelle D. Miranda, PhD</i>
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ODONTOLOGY

Wednesday

Poster Session

- 11:30 a.m. - 1:00 p.m. **G1** **Migratory Flows and Unaccompanied Minors: The Age Assessment Protocol of the University of Turin (Italy)**
Giancarlo Di Vella, MD, PhD; Emilio Nuzzolese, PhD*; Davide Santovito, MD; Serena Maria Curti, MD; Francesco Lupariello, MD**
- 11:30 a.m. - 1:00 p.m. **G2** **Measuring Root Transparency for Age-at-Death Estimation: What About the Light?**
Joe Adserias Garriga, DDS, PhD; Laia Nogue Navarro; Sara C. Zapico, PhD; Douglas H. Ubelaker, PhD*
- 11:30 a.m. - 1:00 p.m. **G3** **Implications of Canine Width, Inter-Canine Distance, and Facial Dimensions in Forensic Identification**
Kewal Krishan, PhD; Vaibhavi Sharma, MSc; Tanuj Kanchan, MD*

Thursday

Dental Identification 1

*Moderator: Marnie L. Sperling, DMD
Whippany, NJ*

*Co-Moderator: Leigh-Ann Schuerman, DMD
Cave Creek, AZ*

*Co-Moderator: Kyle C. Tanaka, DDS
Lynwood, WA*

- 8:30 a.m. - 8:55 a.m. **G4** **Dental Exclusion: What's Next? The Role of the Odontologist as Part of the Identification Team**
Taylor L. Gardner, BfSc; Yolanda Nerkowski, BA*; Robert E. Wood, DDS, PhD**
- 8:55 a.m. - 9:20 a.m. **G5** **Multimodality Multidisciplinary Dental Identification in a High Stakes Case of Prior Misidentification**
Taylor L. Gardner, BfSc; Yolanda Nerkowski, BA*; Robert E. Wood, DDS, PhD**
- 9:20 a.m. - 9:50 a.m. **G6** **The Dental Identification After an Air Disaster 45 Years Ago: The Dubai Accident in 1972 With 112 Victims**
*Tore T. Solheim**
- 9:50 a.m. - 10:15 a.m. **G7** **OdontoSearch: Modifications, Updates, and Proper Usage**
Kenneth W. Aschheim, DDS; Bradley J. Adams, PhD*
- 10:15 a.m. - 10:30 a.m. **Break**

ODONTOLOGY



10:30 a.m. - 10:55 a.m.	G8	Atypical Dental Identifications: What to Do When Antemortem Radiographs Are Missing? <i>Kenneth W. Aschheim, DDS*; Lawrence A. Dobrin, DMD*</i>
10:55 a.m. - 11:20 a.m.	G9	The Head in Cement and the Medical Examiner <i>David S. Lynn, DDS*</i>
11:20 a.m. - 11:45 a.m.	G10	Evaluating a Selfie Identification App in the Forensic Dental Identification Process <i>Emilio Nuzzolese, PhD*; Francesco Lupariello, MD; Giancarlo Di Vella, MD, PhD</i>
11:45 a.m. - 1:00 p.m.		Lunch

Poster Session

11:30 a.m. - 1:00 p.m.	G11	Silver-Stain Modification as a Method to Enhance Visualization of Histological Features for Tooth Cementum Analysis (TCA) <i>Katrin Koel-Abt, PhD*; Derek E. Peters, MS*</i>
11:30 a.m. - 1:00 p.m.	G12	Macroscopic and Microscopic Changes of Dental Tissues Exposed to Thermal Radiations: Forensic Interest in Fire Disaster Modeling <i>Aida Bencheikh, DDS*; Steve Toupenay, DDS*</i>
11:30 a.m. - 1:00 p.m.	G13	Mass Loss Reaction of Root Canal Materials Exposed to Thermal Radiations: Forensic Interest in Fire Disaster Modeling <i>Steve Toupenay, DDS*; Aida Bencheikh, DDS*</i>
11:30 a.m. - 1:00 p.m.	G14	Establishing the Necessity for Ethnic Markers in Forensic Odontology: A Literature Review <i>Eric T. Washington, DDS*</i>

Thomas Krauss Memorial Bitemark Session

*Moderator: Judy Y. Marshall, DMD
Marshall Family Dentistry
Port Charlotte, FL*

*Co-Moderator: Iris L. Shields, DDS
Bel Air, MD*

1:00 p.m. - 1:25 p.m.	G15	Bitemarks in Wrongful Convictions in the United States <i>Robert B.J. Dorion, DDS*</i>
1:25 p.m. - 1:45 p.m.	G16	The Defense Expert Witness' Obligation to Silence and Its Consequence of Wrongful Conviction <i>Robert B.J. Dorion, DDS*</i>
1:45 p.m. - 2:15 p.m.	G17	Validation of an Algorithm to Mathematically Describe Bitemarks <i>James McGivney, DMD*</i>
2:15 p.m. - 2:45 p.m.	G18	Lessons From 30-Year-Old Louisiana Bitemark Cases: Jackson, Keko, and Others <i>Robert E. Barsley, DDS, JD*</i>



ODONTOLOGY

2:45 p.m. - 3:15 p.m.	G19	Case Studies of Failure to Diagnose Oral Malignancies: What Is the Standard of Care for Diagnosing an Oral Malignancy? <i>John D. McDowell, DDS*</i>
3:15 p.m. - 3:30 p.m.		Break
3:30 p.m. - 4:00 p.m.	G20	The Good, the Bad, and the Ugly <i>Peter F. Hampl, DDS*; David C. Houpt, DMD</i>
4:00 p.m. - 4:25 p.m.	G21	Project LifeMeters: A Digital Solution Optimizing Forensic Measurement Tools in Bitemark Analysis <i>Armin A. Farid, DMD*; Hidir Sayli; Nadji Hedjazi</i>
4:25 p.m. - 4:45 p.m.	G22	An Examination of Bitemark Analysis in the Turkish Judiciary and the High Court <i>Huseyin Afsin, PhD*; Yalcin Buyuk, MD; Abdi Ozaslan, MD; Gulnaz T. Javan, PhD</i>
4:45 p.m. - 5:00 p.m.	G23	Recognizing Bitemarks: A Basic Problem <i>Alexander S. Forrest, MDS*</i>

Friday

Dental Age Assessment

*Moderator: Leslie A. Haller, DMD
Miami, FL*

*Co-Moderator: Grace Chung, DDS
Clark County
Office of the Chief Medical Examiner
Las Vegas, NV*

8:30 a.m. - 8:50 a.m.	G24	Dental Age Quicksheets (DAQS): The Use of Rapid Calculation Procedures to Determine "Uncertainty" in Dental Age Estimation (DAE) <i>Derek M. Draft, DDS*; Graham J. Roberts, MDS; Victoria S. Lucas, PhD; Fraser McDonald, PhD; Manoharan Andiappan, MSc</i>
8:50 a.m. - 9:10 a.m.	G25	Statistical Tools in Assessing Validity and Reliability of Tools Used in Forensic Odontology <i>Mithun Rajshekar, MFSc*</i>
9:10 a.m. - 9:35 a.m.	G26	Dental Age Estimation Using the Demirjian Method: A Flawed and Obsolescent System <i>Graham J. Roberts, MDS*; Fraser McDonald, PhD; Manoharan Andiappan, MSc; Victoria S. Lucas, PhD</i>
9:35 a.m. - 10:00 a.m.	G27	Root Pulp Visibility (RPV): Validation of Applicability of RPV in Determining Adult Status <i>Victoria S. Lucas, PhD*; Manoharan Andiappan, MSc; Fraser McDonald, PhD; Graham J. Roberts, MDS</i>
10:00 a.m. - 10:15 a.m.		Break

ODONTOLOGY



10:15 a.m. - 10:40 a.m.	G28	Dental Age Assessment From Analysis of Canine Pulp/Tooth Volume Ratios Using Cone Beam Computed Tomography (CBCT) <i>Mohammed A. Barayan*</i> ; David R. Senn, DDS; Husniye Demirturk Kocasarac, DDS, PhD
10:40 a.m. - 11:00 a.m.	G29	The Accuracy of Two Dental Age Estimation Methods on Saudi Children: Cameriere's Measurement of Open Apices and The London Atlas of Tooth Development <i>Dara M. Alsudairi*</i> ; Sakher J. AlQahtani, PhD*
11:00 a.m. - 11:15 a.m.	G30	Magnetic Resonance Imaging (MRI) of Third Molars in Forensic Age Estimation Validation of the Gent and Graz Protocols <i>Jannick De Tobel, MD*</i> ; Griet I.L. Parmentier, MD; Ines Phlypo, DDS; Benedicte Descamps, PhD; Sara Neyt, PhD; Wim Van De Velde, MD; Patrick W. Thevissen, PhD; Koenraad L. Verstraete, PhD
11:15 a.m. - 11:30 a.m.	G31	The Use of Magnetic Resonance Imaging (MRI) in Forensic Age Estimation of Living Children, Adolescents, and Subadults: Protocol for a Systematic Review and Preliminary Results <i>Jannick De Tobel, MD*</i> ; Griet I.L. Parmentier, MD; Nele S. Pauwels, PhD; Koenraad L. Verstraete, PhD; Patrick W. Thevissen, PhD
11:30 a.m. - 11:45 a.m.	G32	A Senegalese Case Study Illustrating a Determination of Age of the Pupils Without Civil Status or With False Declaration of Age by Means of Their Dental Assessment <i>Khalifa Dieng, DDS*</i>
11:45 a.m. - 1:00 p.m.		Lunch

Poster Session

11:30 a.m. - 1:00 p.m.	G33	Cephalometric Analysis of Historic Native American Arikara <i>Beverly Hedgepeth, DDS*</i> ; Murray K. Marks, PhD
11:30 a.m. - 1:00 p.m.	G34	Correctional Dentistry and Forensic Odontologists: Bridging the Gap <i>Lisa M. Hofstad, DMD*</i>
11:30 a.m. - 1:00 p.m.	G35	An Evaluation of a Multimedia Training Module and Lab for Teaching Radiographic Technique and Safety When Using Hand-Held Portable Dental X-Ray Equipment in Forensic Odontology <i>Tara L. Newcomb, MS*</i> ; Ann M. Bruhn, MS
11:30 a.m. - 1:00 p.m.	G36	The Integration of a Forensic Dentistry/Catastrophe Preparedness Course Into a Dental Hygiene Bachelor of Science Program Using the American Board of Forensic Odontology (ABFO) Curriculum Guidelines: A 12-Year Study <i>Winnie Furnari, MS*</i>



ODONTOLOGY

Dental Identification 2

*Moderator: John B. Nase, DDS
Dental Forensic Services of Indian Valley
Harleysville, PA*

*Co-Moderator: Lisa M. Hofstad, DMD
Quincy, FL*

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| 1:00 p.m. - 1:25 p.m. | G37 | Differential Identification of Three Young House Fire Victims: Methods When Statistics Fail
<i>John B. Nase, DDS*</i> |
| 1:25 p.m. - 1:50 p.m. | G38 | Dental Forensic Identification Information: How to “Get” What We Require
<i>Walter F. Zoller, DMD*; Jan Westberry, DMD*</i> |
| 1:50 p.m. - 2:15 p.m. | G39 | Postmortem Human Identification Challenges Regarding Domestic Disappearance and the Health Insurance Portability and Accountability Act (HIPAA)
<i>Iris L. Shields, DDS*</i> |
| 2:15 p.m. - 2:35 p.m. | G40 | Use of the Radiographic Positioning Device Holder in the Postmortem Dental Examination
<i>Judy Y. Marshall, DMD*; Luke Stanton Marshall, BS</i> |
| 2:35 p.m. - 3:00 p.m. | G41 | Identification of a Child Using Comparative Overlays of Primary and Permanent Dentition
<i>Grace Chung, DDS*</i> |
| 3:00 p.m. - 3:15 p.m. | | Break |
| 3:15 p.m. - 3:35 p.m. | G42 | Back to Nice — July 2016: The Dental Identification Team’s Role in the Disaster Victim Identification (DVI) Mission of the Terrorist Truck Attack in France
<i>Steve Toupenay, DDS*; Aida Bencheikh, DDS*; Lise Malfroy Camine, DDS*</i> |
| 3:35 p.m. - 3:55 p.m. | G43 | The Accuracy of Dental Identification of Adults With Unrestored Teeth by Visual Comparison With Radiographs of Mixed Dentition
<i>Ludovica Gorza*; Scheila Manica</i> |
| 3:55 p.m. - 4:15 p.m. | G44 | Active Participation of the United Arab Emirates’ Disaster Victim Identification Team Using Dental Identification
<i>Salem Altalie; Sakher J. AlQahtani, PhD*; Patrick W. Thevissen, PhD</i> |
| 4:15 p.m. - 4:30 p.m. | G45 | A Study of Morphological Patterns of Lip Prints in Relation to Gender and Blood Groups Among the Egyptian Population
<i>Dina A. Shokry, MD*</i> |
| 4:30 p.m. - 4:45 p.m. | G46 | Collecting Antemortem Dental Data
<i>Gwenola Drogou, DDS*; Aime Conigliaro, MSc; Charles E. Georget, PhD</i> |

Wednesday

Poster Session

11:30 a.m. - 1:00 p.m.	H1	A Rare Presentation of Alexander Disease <i>Edana D. Stroberg, DO*</i> ; <i>Kenneth D. Hutchins, MD</i> ; <i>E.O. Lew, MD</i>
11:30 a.m. - 1:00 p.m.	H2	Adrenal Gland Changes in Relation to the Cause of Death <i>Cristina Mondello, MD*</i> ; <i>Elvira Ventura Spagnolo, MD*</i> ; <i>Letteria Minutoli, MD</i> ; <i>Domenico Puzzolo, MD</i> ; <i>Vincenzo Macaione, MD</i> ; <i>Consuelo Malta, BS</i> ; <i>Mariagrazia Rinaldi, BS</i> ; <i>Antonio Micali, MD</i>
11:30 a.m. - 1:00 p.m.	H3	A Forensic Case of a “Missing Brain” in a Preterm Newborn: A Postmortem Imaging Study Based on Computed Tomography (CT) and Magnetic Resonance Imaging (MRI) With and Without a Contrast Agent <i>Fabrice Dedouit, MD, PhD*</i> ; <i>Sylviane Hanquinet, MD, PhD</i> ; <i>Mehrak Anooshiravani, MD</i> ; <i>Bruguier Christine</i> ; <i>Kewin Ducrot</i> ; <i>Bettina Schrag, MD</i> ; <i>Marc D. Bollmann, MD</i> ; <i>Silke Grabherr, PhD</i>
11:30 a.m. - 1:00 p.m.	H4	When the Walls Close In: Chronic Allograft Vasculopathy on Autopsy of an Orthotopic Heart Transplant Patient <i>Farshaad Bilimoria, MD*</i> ; <i>Stacey L. Reed, DO</i> ; <i>Mark L. Bunker, MD</i> ; <i>Jan F. Silverman, MD</i>
11:30 a.m. - 1:00 p.m.	H5	Fatality Following Percutaneous Endoscopic Gastrostomy Tube Insertion <i>Hannah C. Jarvis, MRCS*</i>
11:30 a.m. - 1:00 p.m.	H6	Examining the Distribution of Manner and Cause of Deaths at Hotels and Motels <i>Heather I. Chen, BA*</i> ; <i>Joyce L. deJong, DO</i>
11:30 a.m. - 1:00 p.m.	H7	An Unusual Case of Repeat Exertional Rhabdomyolysis With Associated Lymphocytic Thyroiditis and Sickle Cell Trait <i>Heather I. Chen, BA*</i> ; <i>Joyce L. deJong, DO</i>
11:30 a.m. - 1:00 p.m.	H8	Pediatric Death by Macrophage-Activation Syndrome (MAS) Related to Epstein Barr Virus: The Role of Microbiological and Histological Postmortem Investigations <i>Isabella Aquila, MD*</i> ; <i>Francesca Pepe, MD</i> ; <i>Pietrantonio Ricci</i> ; <i>Silvia Boca</i> ; <i>Santo Gratterer, MD*</i>
11:30 a.m. - 1:00 p.m.	H9	A Doubtful Case of Suicide by Firearm: The Comparison Between the Forensic Analysis of the Crime Scene and the Computed Tomography (CT) -3D Postmortem Investigation in Reconstructing the Manner of Death <i>Isabella Aquila, MD*</i> ; <i>Roberto Raffaele*</i> ; <i>Santo Gratterer, MD</i> ; <i>Matteo Antonio Sacco, MD</i> ; <i>Vittorio Fineschi, MD, PhD</i> ; <i>Paola Frati, PhD</i> ; <i>Pietrantonio Ricci</i>



PATHOLOGY/BIOLOGY

11:30 a.m. - 1:00 p.m.	H10	The Analysis of Pattern Injuries From Blunt Trauma and Sharp Force in a Forensic Case of Homicide: An Experimental Study Using a Pig Head Model <i>Isabella Aquila, MD*</i> ; <i>Roberto Raffaele*</i> ; <i>Matteo Antonio Sacco, MD</i> ; <i>Alfredo Manca</i> ; <i>Giuseppe Capoccia</i> ; <i>Manolo Vozza</i> ; <i>Santo Gratterer, MD*</i> ; <i>Pietrantonio Ricci</i>
11:30 a.m. - 1:00 p.m.	H11	The Role of Crime Scene Investigation and Judicial Inspection in Bath-Related Deaths: A Case Report With Forensic Implications <i>Isabella Aquila, MD*</i> ; <i>Pietrantonio Ricci</i> ; <i>Matteo Antonio Sacco, MD</i> ; <i>Vittorio Fineschi, MD, PhD</i> ; <i>Roberto Raffaele*</i> ; <i>Santo Gratterer, MD*</i>
11:30 a.m. - 1:00 p.m.	H12	Sudden Death: The Role of Histopathological Investigations in a Case of Eosinophilic Myocarditis (EM) <i>Isabella Aquila, MD*</i> ; <i>Silvia Boca</i> ; <i>Pietrantonio Ricci</i> ; <i>Ciro Di Nunzio, MFS, PhD*</i> ; <i>Santo Gratterer, MD*</i>
11:30 a.m. - 1:00 p.m.	H13	The Role of Proteomics for the Forensic Estimation of Postmortem Interval (PMI): A Preliminary Experimental Study <i>Isabella Aquila, MD*</i> ; <i>Matteo Antonio Sacco, MD</i> ; <i>Santo Gratterer, MD*</i> ; <i>Roberto Raffaele*</i> ; <i>Pietrantonio Ricci</i>
11:30 a.m. - 1:00 p.m.	H14	A Case of Sudden Death From Takayasu Arteritis (TA): The Role of the “Histopathological Autopsy” in the Diagnosis of a Rare Disease <i>Isabella Aquila, MD*</i> ; <i>Andrea Galassi, MD</i> ; <i>Santo Gratterer, MD*</i> ; <i>Roberto Raffaele*</i> ; <i>Pietrantonio Ricci</i>
11:30 a.m. - 1:00 p.m.	H15	Methods for Optimizing Postmortem Fingerprint Recovery From Mummified Fingers <i>Lee Morgan*</i> ; <i>Marty Johnson, PhD</i> ; <i>Jered B. Cornelison, PhD</i> ; <i>Carolyn V. Isaac, PhD</i> ; <i>Joyce L. deJong, DO</i> ; <i>Joseph A. Prahlow, MD</i>
11:30 a.m. - 1:00 p.m.	H16	Forensic Radiology in Medicolegal Autopsy Practice <i>Thomas B. Duong, BS*</i> ; <i>Ray-Young Tsao, BS</i> ; <i>Sheila Spotswood, MD</i> ; <i>Carolyn V. Isaac, PhD</i> ; <i>Jered B. Cornelison, PhD</i> ; <i>Joseph A. Prahlow, MD</i>
11:30 a.m. - 1:00 p.m.	H17	Age Determination of Traumatic Subcutaneous Hematomas Using 3.0T Magnetic Resonance Imaging (MRI): A Feasible Approach <i>Kathrin Ogris, MD*</i> ; <i>Thomas Widek, MSc</i> ; <i>Martin Söllradl, MSc</i> ; <i>Patrick P. Torreiter, MD</i> ; <i>Peter Grabuschnigg, MD</i> ; <i>Thorsten Schwark, PhD</i> ; <i>Eva Scheurer, MD</i>
11:30 a.m. - 1:00 p.m.	H18	A Comparison of Peak Sound Levels of Non-Contact and Contact Gunshots Into a Gelatin Block <i>Katrina Van Pelt, DO*</i> ; <i>Paul V. Benson, MD</i> ; <i>Kevin Jenkins, MD</i>
11:30 a.m. - 1:00 p.m.	H19	The Accuracy of 3D-Printed Models Using Measurements Obtained From Volume-Rendered Computed Tomography (CT) Images <i>Kelly Weintraub, MD*</i> ; <i>Zabiullah Ali, MD</i> ; <i>David R. Fowler, MD</i>
11:30 a.m. - 1:00 p.m.	H20	Detection of Human Male DNA From Whole <i>Lucilia sericata</i> (Meigen) (Diptera: Calliphoridae) Larvae Using the Quantifiler® Trio DNA Quantification Kit <i>Laura Ann Nutton*</i> ; <i>Brendan Chapman, BSc</i> ; <i>Paola A. Magni, PhD</i>

PATHOLOGY/BIOLOGY



11:30 a.m. - 1:00 p.m.	H21	Infant Death Following Home Birth: A Case Report of Fatal Hypoglycemia in a Neonate <i>Leah M. Schuppener, DO*; Robert F. Corliss, MD</i>
11:30 a.m. - 1:00 p.m.	H22	Patterns and Trends of Teenage Homicides in the State of Maryland: A Forensic Autopsy Study (2006-2015) <i>Ling Li, MD*; Xiang Zhang, MD*; Juan Ning, MD*; Daming Sun, MD; Donghua Zou, MD; Mary G. Ripple, MD; David R. Fowler, MD</i>
11:30 a.m. - 1:00 p.m.	H23	An Evaluation of Elderly Deaths: A Retrospective Forensic Autopsy Study in Maryland (2005-2015) <i>Kendra Oghomwen Ireigbe*; Allison Hausen*; Feng Shi, MS*; Juan Ning, MD*; Donghua Zou, MD; Xiang Zhang, MD*; Ling Li, MD; David R. Fowler, MD</i>
11:30 a.m. - 1:00 p.m.	H24	The Morphology of Testicular Changes Related to Opioid Use in Deceased Heroin Abusers <i>Monika Horvath, PhD, MD*; Ann Linde, MD; Maria Jepsen; Krisztina Danics, MD; Eva Keller, MD, PhD; Ingemar Thiblin, PhD</i>

Thursday — Session I

Multidisciplinary Session: Criminalistics II/General II/Pathology/Biology I/Toxicology — The Synthetic Opioids Epidemic and Forensic Science

*Moderator: Vincent J. Desiderio, MS
United States Postal Inspection Service
Dulles, VA*

*Co-Moderator: Michael F. Rieders, PhD
NMS Labs
Willow Grove, PA*

8:30 a.m. - 10:45 a.m.	B81	The Growing Phenomenon of the Epidemic of Synthetic Opioids and Forensic Science: Impact and Response <i>Vincent J. Desiderio, Jr., MS; Michael F. Rieders, PhD; Brandon Callahan, BA*; Agnes D. Winokur, MS*; Erin M. Worrell, BSc*; John F. Casale, BS*; Karl E. Williams, MD*; Sherri L. Kacinko, PhD*; Patrick Buzzini, PhD</i>
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Poster Session

11:30 a.m. - 1:00 p.m.	H25	The Microbiome of Human Cadavers Can Provide an Estimate of the Postmortem Interval (PMI) <i>Aaron M. Lynne, PhD*; Sibyl R. Bucheli, PhD*</i>
11:30 a.m. - 1:00 p.m.	H26	A Quantitative Assay for Accurate 16S DNA Quantification for High-Throughput Sequencing (HTS) Library Preparation of Microbial Samples <i>Raquel Green*; Elena Martinez Planes; Denise Wohlfahrt, BS*; Baneshwar Singh, PhD; J. Brooks, PhD; Sarah J. Seashols Williams, PhD</i>
11:30 a.m. - 1:00 p.m.	H27	Insects Attached to Vehicles Traveling on Roads in Mexico <i>Carolina Núñez-Vázquez, PhD*</i>



PATHOLOGY/BIOLOGY

11:30 a.m. - 1:00 p.m.	H28	A Checklist of Forensically Important Blow Flies (Diptera: Calliphoridae) Collected From Human Remains in Central Indiana <i>Lauren Weidner, PhD*</i> ; <i>Caroline Garvin Hanau, BS</i>
11:30 a.m. - 1:00 p.m.	H29	The Characterization of Louisiana Winter Carrion Decomposition and Its Effects on Accumulated Degree Day (ADD) Estimations <i>DeAnn L. Lemus, BA*</i> ; <i>Erin J. Watson-Horzelski, PhD</i>
11:30 a.m. - 1:00 p.m.	H30	The Necessity of Glycolic Acid Testing in Suspected Antifreeze Ingestion Deaths <i>Abigail J. Grande, MPH*</i> ; <i>Joseph A. Prahlow, MD</i> ; <i>Paul Moorman</i> ; <i>Prentiss Jones, Jr., PhD</i>
11:30 a.m. - 1:00 p.m.	H31	When Thromboembolism Is Inevitable: A Case Report of a Lung Cancer Patient's Unexpected Death <i>Alberto Alongi*</i> ; <i>Emiliano G. Maresi</i> ; <i>Antonina Argo</i>
11:30 a.m. - 1:00 p.m.	H32	Fatal Intrahepatic Hemorrhage After Nadroparin Use for Total Hip Arthroplasty <i>Alessandro Bonsignore, MD, PhD*</i> ; <i>Cristian Palmiere, MD</i> ; <i>Francesca Buffelli, MD</i> ; <i>Francesco De Stefano, MD</i> ; <i>Francesco Ventura, MD</i>
11:30 a.m. - 1:00 p.m.	H33	A Case Series: A Massive Hepatic Subcapsular Hematoma as an Unexpected Hypoxic Complication — A Preventable Neonatal Death, Not a Latrogenic Rupture of the Liver! <i>Francesca Buffelli, MD*</i> ; <i>Alessandro Bonsignore, MD, PhD</i> ; <i>Luca A. Ramenghi, MD</i> ; <i>Ezio Fulcheri, MD</i>
11:30 a.m. - 1:00 p.m.	H34	Video Game-Associated Deaths in the Tidewater District of Virginia (2015-2017) <i>Alison Bybee, BS*</i> ; <i>Wendy M. Gunther, MD</i>
11:30 a.m. - 1:00 p.m.	H35	Sudden Cardiac Death and Epilepsy-Related Gene Mutations in Sudden Unexpected Death in Epilepsy (SUDEP) <i>Andrew S. Williams, MD*</i> ; <i>Anne E. Keller, MPH</i> ; <i>Robyn Whitney, MD</i> ; <i>Kris Cunningham, MD</i> ; <i>Michael S. Pollanen, MD, PhD</i> ; <i>Elizabeth J. Donner, MD, MSc</i>
11:30 a.m. - 1:00 p.m.	H36	A Novel Approach to Radiographic Identification of Skeletal Remains by the Z-Projection of Cranial Computerized Tomography (CT) Scans <i>Carlos J. Zambrano, PhD</i> ; <i>Angela Berg, MA, RN*</i> ; <i>Marc Allen Harrison, MD</i> ; <i>Eric Duvall, DO</i>
11:30 a.m. - 1:00 p.m.	H37	A Case of Congenital Laryngeal Stenosis Diagnosed at Autopsy <i>Angelina I. Phillips, MD*</i>
11:30 a.m. - 1:00 p.m.	H38	Congenital Hypertrophic Cardiomyopathy in a Neonate: A Rare Etiology for Unexpected Death <i>Nathan S Shaller, MD*</i> ; <i>Anna G. McDonald, MD</i> ; <i>Patrick E. Lantz, MD</i>
11:30 a.m. - 1:00 p.m.	H39	Acute Neonatal Appendicitis — An Autopsy Diagnosis <i>Asha Sigei*</i>
11:30 a.m. - 1:00 p.m.	H40	The Sixth Biggest Earthquake in the World: The Working Strategy of a Forensic Identification Team Among Chaos <i>Carlos A. Gutierrez, MS*</i>

PATHOLOGY/BIOLOGY



11:30 a.m. - 1:00 p.m.	H41	Differentiating Impact and Heat-Related Skeletal Fractures From a Small Plane Crash <i>Cassie E. Skipper, MA*</i> ; <i>Marin A. Pilloud, PhD</i> ; <i>Laura D. Knight, MD</i>
11:30 a.m. - 1:00 p.m.	H42	Central Italy Earthquake: A Disaster Victim Identification (DVI) Experience <i>Chantal Milani, DMD, MS*</i> ; <i>Andrea Berti, PhD</i> ; <i>Filippo Barni, PhD</i> ; <i>Luca Gasparollo, BS</i> ; <i>Cesare Rapone, BS</i> ; <i>Carlo Belardo, Lyceum</i> ; <i>Veronica De Pisapia, JD</i> ; <i>Fabio Crescenzi</i> ; <i>Enrico A. Risso, MD, MFM, MFFLM</i> ; <i>Luigi Ripani, PhD</i>
11:30 a.m. - 1:00 p.m.	H43	A Fatal Sex and Drug Party: Understanding the Real Cause of Death <i>Ciro Di Nunzio, MFS, PhD*</i> ; <i>Isabella Aquila, MD*</i> ; <i>Aldo Di Nunzio*</i> ; <i>Luca Lepore</i> ; <i>Michele Di Nunzio, BS</i> ; <i>Matteo Antonio Sacco, MD</i> ; <i>Antonio Perna, MD</i> ; <i>Pietrantonio Ricci</i>
11:30 a.m. - 1:00 p.m.	H44	Considerations on Death Caused by Heroin Inhalation: A Literature Review <i>Ciro Di Nunzio, MFS, PhD*</i> ; <i>Aldo Di Nunzio*</i> ; <i>Isabella Aquila, MD</i> ; <i>Michele Di Nunzio, BS</i> ; <i>Emilio D'Oro, MD</i> ; <i>Pietrantonio Ricci</i>
11:30 a.m. - 1:00 p.m.	H45	The Lethal Attack of Cane Corso Dogs: A Multidisciplinary Approach to Solve the Puzzle <i>Ciro Di Nunzio, MFS, PhD*</i> ; <i>Isabella Aquila, MD*</i> ; <i>Michele Di Nunzio, BS*</i> ; <i>Antonio Della Valle</i> ; <i>Aldo Di Nunzio</i> ; <i>Angela Serino</i> ; <i>Pietrantonio Ricci</i>
11:30 a.m. - 1:00 p.m.	H46	Patterns of Bruising in Cases With and Without Alcohol Abuse <i>Daniel Krona, MD*</i> ; <i>Carl Johan Wingren, PhD</i>
11:30 a.m. - 1:00 p.m.	H47	Fatalities Due to the Failure of Continuous Subcutaneous Insulin Infusion Devices: A Report of Six Cases <i>Timothy L. Williams, MD</i> ; <i>Andrew Ziegler, BS</i> ; <i>Nicole A. Yarid*</i> ; <i>Daniel L. Schultz, MD</i> ; <i>Elizabeth A. Bundock, MD, PhD</i>
11:30 a.m. - 1:00 p.m.	H48	Bathtub-Related Deaths <i>Anders Rietz*</i> ; <i>Anders Eriksson, MD, PhD</i> ; <i>Jeffrey M. Jentzen, MD</i>

Thursday — Session II

Biology

Moderator: Sherah L. Van Laerhoven, PhD
University of Windsor
Department of Biology
Windsor, ON, CANADA

Co-Moderator: Gail S. Anderson, PhD
Simon Fraser University
School of Criminology
Burnaby, BC, CANADA

8:30 a.m. - 8:45 a.m.	H49	Suitcase Concealment: An Interdisciplinary Analysis of the Taphonomic Processes and Their Effect on Postmortem Interval (PMI) Estimation <i>A. Skylar Joseph, MS*</i> ; <i>Gary W. Reinecke, MA</i> ; <i>Ian Dadour, PhD</i>
8:45 a.m. - 9:00 a.m.	H50	Insects and Bacteria as Forensic Decomposition Markers of Buried Rat Carcasses <i>Lavinia Iancu, PhD*</i> ; <i>Georgiana Necula-Petrareanu, PhD</i> ; <i>Emily Jenkins, MS</i> ; <i>Cristina Purcarea, PhD</i>



PATHOLOGY/BIOLOGY

9:00 a.m. - 9:15 a.m.	H51	The Beaver Dam, Flies, and the Axe: You Can't Hide From Mother Nature <i>Steven A. Symes, PhD*</i> ; <i>Mark M. LeVaughn, MD</i> ; <i>John A. Lewis, Jr., DDS</i> ; <i>L.R. Funte, MD</i> ; <i>Brent Davis, MD</i> ; <i>Anastasia Holobinko, PhD</i> ; <i>Heidie Newby, BS</i> ; <i>Anna C. Follett, BA</i>
9:15 a.m. - 9:30 a.m.	H52	A Survey of Bacterial Diversity Associated With Various Life Stages of <i>Lucilia sericata</i> and <i>Phormia regina</i> Collected From Central Virginia <i>Denise Wohlfahrt, BS*</i> ; <i>Michael Shane Woolf, MS</i> ; <i>Rina Lidder, BS</i> ; <i>Baneshwar Singh, PhD</i>
9:30 a.m. - 9:45 a.m.	H53	The Utility of Barnacles in Forensic Investigations <i>Ian Dadour, PhD*</i> ; <i>Danea Pirtle, BA</i> ; <i>Gary W. Reinecke, MA</i> ; <i>Paola A. Magni, PhD</i>
9:45 a.m. - 10:00 a.m.	H54	The Influence of Depth and Mixtures on the Bacterial Profiling of Soil Using Next Generation Sequencing <i>Emily R. Heinz, BS*</i> ; <i>David R. Foran, PhD</i>
10:00 a.m. - 10:30 a.m.		Break

Biology

Moderator: Jeffery K. Tomberlin, PhD
Texas A&M University
Department of Entomology
College Station, TX

Co-Moderator: Sherah L. Van Laerhoven, PhD
University of Windsor
Department of Biology
Windsor, ON, CANADA

10:30 a.m. - 10:45 a.m.	H55	Exogenous Factors Affecting Bacterial Profiling of Soil on Clothing Via Next Generation Sequencing <i>Sierra Kaszubinski, BS*</i> ; <i>Emily R. Heinz, BS</i> ; <i>David R. Foran, PhD</i>
10:45 a.m. - 11:00 a.m.	H56	A Comparison of the Geographical Variability of the Thanatomicrobiome of Finnish and American Corpses <i>Gulnaz T. Javan, PhD*</i> ; <i>Sheree J. Finley, MS</i> ; <i>Sari Tuomisto, PhD</i> ; <i>Pekka J. Karhunen, PhD</i>
11:00 a.m. - 11:15 a.m.	H57	The Ecology of the Human Postmortem Microbiome: Insights From a Large-Scale Study <i>Jennifer L. Pechal, PhD*</i> ; <i>Carl J. Schmidt, MD</i> ; <i>Heather R. Jordan, PhD</i> ; <i>M. Eric Benbow, PhD</i>
11:15 a.m. - 11:30 a.m.	H58	A Global Partnership to Study Geographic Variation in the Human Postmortem Microbiome (HPMM) <i>M. Eric Benbow, PhD*</i> ; <i>Jennifer L. Pechal, PhD</i> ; <i>Heather R. Jordan, PhD</i> ; <i>Vadim Mesli, MD</i> ; <i>Erwan Le Garff, MD</i> ; <i>Valéry C Hedouin, MD, PhD</i> ; <i>Carlo P. Campobasso, MD, PhD</i> ; <i>Valentina Bugelli, MD</i> ; <i>Stefan Pittner, PhD</i> ; <i>Fabio Monticelli, Carl J. Schmidt, MD</i>
11:30 a.m. - 11:45 a.m.	H59	Fluorescent Bacteria in the Gut of Mice Carcasses Provides Insight on Postmortem Microbial Translocation <i>Zachary M. Burcham, BS*</i> ; <i>Jennifer L. Pechal, PhD</i> ; <i>Jeffrey L. Bose, PhD</i> ; <i>M. Eric Benbow, PhD</i> ; <i>Carl J. Schmidt, MD</i> ; <i>Heather R. Jordan, PhD</i>
11:45 a.m. - 12:00 p.m.	H60	Autopsy Sampling to Uncover Human Resistome Diversity <i>Heather R. Jordan, PhD*</i> ; <i>Zachary M. Burcham, BS</i> ; <i>Jennifer L. Pechal, PhD</i> ; <i>Hannah Campbell, BS</i> ; <i>Jason Rosch, PhD</i> ; <i>Carl J. Schmidt, MD</i> ; <i>M. Eric Benbow, PhD</i>
12:00 p.m. - 1:30 p.m.		Lunch

PATHOLOGY/BIOLOGY



Imaging

*Moderator: Mario Rascon, MD
Office of the Medical Examiner
El Paso, TX*

*Co-Moderator: James Louis Caruso, MD
Office of the Medical Examiner
Denver, CO*

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| 1:30 p.m. | - | 1:45 p.m. | H61 | An Affordable Immersion Pump for Postmortem Computerized Tomography Angiography (PMCTA) in Forensic Pathology: The First Ten Cases
<i>Wolf Schweitzer*</i> ; Patricia M. Flach, MD; Dominic Gascho*; Lars Ebert, PhD*; Jakob Heimer, MD*; Michael Thali, MD* |
| 1:45 p.m. | - | 2:00 p.m. | H62 | Exsanguination on Postmortem Computed Tomography (CT) — What Remains When Blood Leaves the Body
<i>Jakob Heimer, MD*</i> ; Vasiliki Chatzaraki, MD |
| 2:00 p.m. | - | 2:15 p.m. | H63 | Global Illumination in Postmortem Computed Tomography (CT): A Presentation of Its Use in Forensic Medicine
<i>Martin Kolopp*</i> ; Alain Blum, PhD; Laurent Martrille, MD |
| 2:15 p.m. | - | 2:30 p.m. | H64 | Detection of Pulmonary Thrombembolism and Postmortem Clotting on Postmortem Magnetic Resonance Imaging (MRI)
<i>Lars Ebert, PhD; Dominic Gascho; Michael Thali, MD; Patricia M. Flach, MD; Barbara Fliss, MD, MSc*</i> |
| 2:30 p.m. | - | 2:45 p.m. | H65 | A Comparison of Postmortem and Antemortem Computed Tomography (CT) for the Identification of Adults With Unique Anatomical Variations
<i>Casey P. Bitting, DO*</i> ; Zabiullah Ali, MD; Nikki Mourtzinis, DO; David R. Fowler, MD |
| 2:45 p.m. | - | 3:00 p.m. | H66 | Photogrammetry Applied to Forensic Pathology: Low-Cost Support to “Freeze the Body in Time”
<i>Laura Donato; Alessandro Di Luca, MD*</i> ; Rossana Cecchi, PhD |
| 3:00 p.m. | - | 3:30 p.m. | | Break |

Systemic Issues

*Moderator: Gregory A. Schmunk, MD
Polk County Medical Examiner’s Office
Des Moines, IA*

*Co-Moderator: Dianne Little, MBBS
Queensland Health Forensic and
Scientific Services
Southport, AUSTRALIA*

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| 3:30 p.m. | - | 3:45 p.m. | H67 | Forensic Photography: Focus on Small Findings Using Digital Consumer Cameras
<i>Valeria Hofer*</i> ; Rosa M. Martinez, MD*; Michael Thali, MD*; Wolf Schweitzer* |
| 3:45 p.m. | - | 4:00 p.m. | H68 | The Redevelopment of the Mississippi State Medical Examiner’s Office
<i>Mark M. LeVaughn, MD*</i> ; L. R. Funte, MD; Brent Davis, MD; Anastasia Holobinko, PhD; Steven A. Symes, PhD |
| 4:00 p.m. | - | 4:15 p.m. | H69 | Investigation of the Forensic Pathology Services of the National Institute of Legal Medicine and Forensic Sciences of Colombia
<i>Miguel Arturo Velasquez Acevedo, MSc*</i> |



PATHOLOGY/BIOLOGY

4:15 p.m. - 4:30 p.m.	H70	Autopsy By Videoconferencing <i>Benjamin Mokdad*</i> ; <i>Anne-Claire Lhoumeau, MD</i> ; <i>Sophie Thureau, MD</i> ; <i>Cyril Gricourt</i> ; <i>Isabelle leblanc, MD</i> ; <i>Gilles Tournel, PhD</i>
4:30 p.m. - 4:45 p.m.	H71	A Review of In-Custody Deaths in Mississippi <i>Mark M. LeVaughn, MD*</i> ; <i>Brent Davis, MD</i> ; <i>L.R. Funte, MD</i> ; <i>Anastasia Holobinko, PhD</i> ; <i>Steven A. Symes, PhD</i>
4:45 p.m. - 5:00 p.m.	H72	The National Institute of Justice's (NIJ's) National Missing and Unidentified Persons System NamUs and the Federal Bureau of Investigation (FBI) Laboratory Collaboration: Using Next Generation Identification (NGI) to Solve Unidentified Persons Cases <i>Gerald M. LaPorte, MSFS*</i> ; <i>Bryan Johnson*</i> ; <i>Luther S. Schaeffer, MSFS, MS</i>

Thursday — Session III

Jay Dix Memorial Bonus Day

Moderator: Michael A. Graham, MD
Saint Louis University School of Medicine
Division of Forensic Pathology
St. Louis, MO

9:00 a.m. - 9:10 a.m.	H73	Jay Dix Memorial Bonus Day Introduction <i>Michael A. Graham, MD*</i>
9:10 a.m. - 10:00 a.m.	H73	Blunt Force Injury <i>Joseph A. Prahlow, MD*</i>
10:00 a.m. - 10:10 a.m.		Break
10:10 a.m. - 11:00 a.m.	H73	Firearm Injuries <i>Andrew M. Baker, MD*</i>
11:00 a.m. - 11:50 a.m.	H73	Head Injury <i>Rudolph Castellani, MD*</i>
11:50 a.m. - 2:00 p.m.		Lunch
2:00 p.m. - 2:50 p.m.	H73	Cause and Manner of Death <i>James R. Gill, MD*</i>
2:50 p.m. - 3:00 p.m.		Break
3:00 p.m. - 3:50 p.m.	H73	Investigation of Deaths in Custody <i>Michael A. Graham, MD*</i>
3:50 p.m. - 4:00 p.m.		Questions & Answers

PATHOLOGY/BIOLOGY



Friday — Session I

Brain and Heart

*Moderator: L.J. Dragovic, MD
Oakland County Medical Examiner's Office
Pontiac, MI*

*Co-Moderator: Ellen Moffatt, MD
City & County of San Francisco
Office of the Medical Examiner
San Francisco, CA*

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| 8:30 a.m. | - | 8:45 a.m. | H74 | Mind Over Matter: A Death Potentially Related to Non-Epileptic Seizures
<i>William T. Harrison, MD*; Tiffany O'Neill, DO</i> |
| 8:45 a.m. | - | 9:00 a.m. | H75 | Subdural Hematoma, Retinal Hemorrhages, and Cerebral Venous Sinus Thrombosis (CVST): Homicidal or Natural Death
<i>Joshua Vandeburgh*; Joyce L. deJong, DO; Rudy J. Castellani, MD</i> |
| 9:00 a.m. | - | 9:15 a.m. | H76 | Postmortem Evaluation of Mild Traumatic Brain Injury (Concussion): Importance and Relevance
<i>Melissa M. Blessing, DO*; Ross Reichard, MD</i> |
| 9:15 a.m. | - | 9:30 a.m. | H77 | Forensic Neuropathology of Cerebral Palsy (CP): The Implications for Cause-of-Death Determination
<i>Zhanna Georgievskaya*; Yue Meng, BA*; Jacqueline Nunez, MD; Declan McGuone, MBBS; Rebecca Folkerth, MD, PhD</i> |
| 9:30 a.m. | - | 9:45 a.m. | H78 | Preliminary Results of Synaptic Neuroplasticity of Memory Areas: A Comparison Between Violent Deaths and Sudden Deaths
<i>Antionietta Lanzarone*; Antonina Argo; Elvira Ventura Spagnolo, MD; Stefania Zerbo, MD; Daniele Daricello, MD; Rosario Barone, MD; Maria Laura Uzzo, MD; Giovanni Francesco Spatola, MD</i> |
| 9:45 a.m. | - | 10:00 a.m. | H79 | Cardiac Manifestations of Churg-Strauss Syndrome: A Case Report and Literature Review
<i>Melissa Wils-Owens, BS*; Wendy M. Gunther, MD</i> |
| 10:00 a.m. | - | 10:30 a.m. | | Break |

Postmortem Changes

*Moderator: Laura D. Knight, MD
Washoe County Regional
Medical Examiner's Office
Reno, NV*

*Co-Moderator: Katherine F. Maloney, MD
Erie County Medical Examiner's Office
Buffalo, NY*

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| 10:30 a.m. | - | 10:45 a.m. | H80 | Decomposition Odor Analysis Techniques and Prospective Applications in Postmortem Examinations
<i>Katelynn A. Perrault, PhD*; Pierre-Hugues Stefanuto, PhD; Lena M. Dubois, MSc; Vincent Varlet, PhD; Silke Grabherr, PhD; Jean-François M. Focant, PhD</i> |
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PATHOLOGY/BIOLOGY

10:45 a.m. - 11:00 a.m.	H81	Time and Temperature Effects on Volatile Organic Compound Generation During Early Decomposition <i>Brittany N. Reed, BSc*; Robert H. Powers, PhD; R. Christopher O'Brien, PhD</i>
11:00 a.m. - 11:15 a.m.	H82	The Big Sleep: Elucidating the Early Sequence of Molecular Events in the First Hours of Death to Determine the Postmortem Interval <i>Sara C. Zapico, PhD*; Paula Núñez, PhD; Sofía T. Menéndez, PhD; M. Ángeles Villaronga, PhD; Douglas H. Ubelaker, PhD; Juana M. García-Pedrero, PhD</i>
11:15 a.m. - 11:30 a.m.	H83	Utilizing Radio Frequency Identification Technology (RFID) to Automate Data Acquisition Between the Baltimore Office of the Chief Medical Examiner (OCME) and the Living Legacy Foundation Organ Procurement Organization (OPO) <i>Pamela A. Ferreira, MD*; Rick Kolovich; Kendra Harris, MBA; Michael Eagle; William Spencer-Strong, MBA; David R. Fowler, MD</i>
11:30 a.m. - 11:45 a.m.	H84	Nailfold Capillaroscopy Efficacy in Assessing Postmortem Interval (PMI) Compared to Vitreous Potassium Concentration: A Preliminary Study <i>Marianna Meroni*; Valerio Ferretti, MD; David Bauer, MD, PhD</i>
11:45 a.m. - 12:00 p.m.	H85	Partially Skeletonized Remains Demonstrating Dragging Injuries, Internal Beveling of the Skull, and Tracheal Obstruction: A Team Approach <i>Brandy Shattuck, MD*; Carolyn V. Isaac, PhD; S. Adam Shahid, PhD</i>
12:00 p.m. - 1:30 p.m.		Lunch

Poster Session

11:30 a.m. - 1:00 p.m.	H86	Does Black Tar Heroin “Protect” King County, Washington, From Fentanyl-Related Mortality? <i>Nicole A. Yarid*; Richard C. Harruff, MD, PhD; Andrea Orvik; Janinne Blank; Sini Panicker</i>
11:30 a.m. - 1:00 p.m.	H87	Graze Laceration and Graze Fracture: Injuries Which Are Unnamed in Literature <i>Nilesh K. Tumram, MD*</i>
11:30 a.m. - 1:00 p.m.	H88	Fatalities to Children Falling Into Abandoned Borewells: An 11-Year Study <i>Nilesh K. Tumram, MD*</i>
11:30 a.m. - 1:00 p.m.	H89	A Fatality Caused by Molten Metal Splash During a Field Visit Near a Furnace: A Case Report <i>Nilesh K. Tumram, MD*</i>
11:30 a.m. - 1:00 p.m.	H90	Animal Tusk Injuries: Are They Unique With Specific Animals? <i>Nilesh K. Tumram, MD*</i>
11:30 a.m. - 1:00 p.m.	H91	The Recovery of Vertebrate DNA From the Gastrointestinal (GI) Tract of Flesh-Eating Insects: A Mass Disaster Simulation Study <i>Pardon T. Masarirambi, BSc*</i>
11:30 a.m. - 1:00 p.m.	H92	Medicolegal Issues in a Death Due to Duchenne’s Muscular Dystrophy <i>Joseph A. Prahlow, MD; Philip Vasin Bystrom, BA*</i>

PATHOLOGY/BIOLOGY



11:30 a.m. - 1:00 p.m.	H93	Electrocution Due to Multiple Entry and Exit Wounds — A One-of-a-Kind Case Report <i>Puneet Setia, MD*; Navneet Ateriya, MD; Ashish Saraf, MD; Tanuj Kanchan, MD</i>
11:30 a.m. - 1:00 p.m.	H94	Is Methamphetamine Use Associated With an Increased Suicide Risk in Adolescents and Young Adults? <i>Ransom A. Ellis IV*; Diane C. Peterson, MD</i>
11:30 a.m. - 1:00 p.m.	H95	Acetyl Fentanyl: Trends and Concentrations in Metro Detroit <i>Sarah E. Avedschmidt, MD*; Carl J. Schmidt, MD; David Moons, MD, PhD; Daniel S. Isenschmid, PhD; Kilak Kesha, MD; Avneesh Gupta, MD</i>
11:30 a.m. - 1:00 p.m.	H96	A Lesson Learned From a Case of Unexpected Death of a 73-Year-Old Woman Due to a Congenital Diaphragmatic Hernia <i>Matteo Moretti, MD*; Silvia D. Visona, MD; Fiorella Lanzillotta, MD; Luisa Andrello, MD; Gulnaz T. Javan, PhD; Antonio M.M. Osculati, MD*</i>
11:30 a.m. - 1:00 p.m.	H97	Sudden Death of a 3-Year-Old Girl Due to a Rare Thymic Neoplasm <i>Silvia D. Visona, MD*; Luca Tajana; Matteo Moretti, MD; Luisa Andrello, MD; Antonio M.M. Osculati, MD</i>
11:30 a.m. - 1:00 p.m.	H98	Sudden Death During Sexual Intercourse: A Fatal Aortic Dissection and Sildenafil Abuse <i>Diana Bonuccelli, MD; Massimo Martelloni, MD; Alberto Mandoli, MD; Margherita Neri, MD, PhD; Stefano D'Errico, MD*</i>
11:30 a.m. - 1:00 p.m.	H99	Aortic Dissection in Cocaine Abuse: A Fatal Case <i>Stefano D'Errico, MD*; Sara Niballi, MD; Benedetta Guidi, MD; Marco Conti, MD; Diana Bonuccelli, MD; Anna Talarico</i>
11:30 a.m. - 1:00 p.m.	H100	Bilateral Adrenal Hemorrhage Following Arthroplasty: A Case Study <i>Sina Kipry, BA; Drake Thrasher*; Predrag Bulic, MD</i>
11:30 a.m. - 1:00 p.m.	H101	Trends of Cannabis- and Alcohol-Related Single Vehicle Accident Fatalities at the Jackson County Medical Examiner's Office From 2012 to 2016 <i>Tiffany A. Hollenbeck, DO*; Adrian Baron, MD; Diane C. Peterson, MD</i>
11:30 a.m. - 1:00 p.m.	H102	Cranial Abnormalities Seen at Autopsy <i>Timothy Wysozan, BS*; Carolyn V. Isaac, PhD; Jered B. Cornelison, PhD; Joseph A. Prahlow, MD</i>
11:30 a.m. - 1:00 p.m.	H103	Tied to His Own Apron Strings: A Case of Accidental Strangulation by Power Tool <i>Christine James, DO*; Karl E. Williams, MD; Todd M. Luckasevic, DO</i>
11:30 a.m. - 1:00 p.m.	H104	Troubling Trocars: The Time-Consuming Recovery and Wound Documentation of Fragmenting Bullets <i>Christine James, DO*; Courtney E. Healy, BS; Todd M. Luckasevic, DO</i>
11:30 a.m. - 1:00 p.m.	H105	Mixed-Mode Assessment of Reference Lung Weights in a Medicolegal Autopsy Setting — A Bayesian Approach <i>Torfinn Gustafsson, MD*; Anders Eriksson, MD, PhD; Carl Johan Wingren, PhD</i>



PATHOLOGY/BIOLOGY

11:30 a.m. - 1:00 p.m.	H106	Predicting Fatal Intoxications in a Medicolegal Autopsy Population Using the Weight of the Lungs <i>Carl Johan Wingren, PhD; Anders Eriksson, MD, PhD; Torfinn Gustafsson, MD*</i>
11:30 a.m. - 1:00 p.m.	H107	How Should Live Entomological Samples Be Stored? <i>Valentina Bugelli, MD*; Valeria Schmidt; Carlo P. Campobasso, MD, PhD*; Jens Amendt, PhD</i>
11:30 a.m. - 1:00 p.m.	H108	Death by Hanging: The High Prevalence of Intervertebral Disc Vacuum Phenomenon in Thoracic and Lumbar Spine in Postmortem Computed Tomography (PMCT) <i>Vasiliki Chatzaraki, MD*; Jakob Heimer, MD; Michael Thali, MD; Wolf Schweitzer</i>
11:30 a.m. - 1:00 p.m.	H109	An Autopsy Case of Pulmonary Embolism and Underlying Multiple Myeloma <i>Raman Baldizhar, MD*</i>

Pediatrics

*Moderator: Gregory A. Schmunk, MD
Polk County Medical Examiner's Office
Des Moines, IA*

*Co-Moderator: L.J. Dragovic, MD
Oakland County Medical Examiner's Office
Pontiac, MI*

1:30 p.m. - 1:45 p.m.	H110	An Analysis of Skeletal Trauma in Suspected Child Abuse Fatalities: A Procedure Involving Radiology, Pathology, Histology, and Anthropology <i>Bradley J. Adams, PhD*; Sean C. Kelly, MD</i>
1:45 p.m. - 2:00 p.m.	H111	Reducing Misdiagnosis in Child Abuse <i>Brooke H. Blake, MD*; Michael Laposata, PhD</i>
2:00 p.m. - 2:15 p.m.	H112	Antemortem Versus Postmortem Bone Fractures: The Usefulness of Morphological Observation Using a Scanning Electron Microscope <i>Silvia D. Visona, MD*; Chiara Rossetti, MD; Yao Chen, MD; Matteo Moretti, MD; Luisa Andreello, MD; Gulnaz T. Javan, PhD; Andrea Verzeletti, MD; Antonio M.M. Osculati, MD</i>
2:15 p.m. - 2:30 p.m.	H113	Posterior Rib Fractures in Non-Traumatic Pediatric Deaths <i>Jennifer C. Love, PhD*; Kristinza W. Giese, MD</i>
2:30 p.m. - 2:45 p.m.	H114	A Frozen Newborn: A Multidisciplinary Approach in a Case of Infanticide <i>Enrica Calabrese, MD*; Raffaella Marino, MD; Elena Lucenti, MD; Omar Bonato, MD; Mauro Coppone, MD; Matteo Fabbri, MSc; Margherita Neri, MD, PhD; Rosa Maria Gaudio</i>
2:45 p.m. - 3:00 p.m.	H115	A Review of Multiple Dog Fatalities in Infants Less Than Six Months of Age and Neonates in Travis County, Texas, and Cook County, Chicago, Illinois <i>Kendall V. Crowns, MD*; Michelle S. Montonera, MS; Adrienne Segovia, MD</i>
3:00 p.m. - 3:30 p.m.		Break

PATHOLOGY/BIOLOGY



Environment

*Moderator: Katherine F. Maloney, MD
Erie County Medical Examiner's Office
Buffalo, NY*

*Co-Moderator: Ellen Moffatt, MD
City & County of San Francisco
Office of the Medical Examiner
San Francisco, CA*

- 3:30 p.m. - 3:45 p.m. **H116** **Distinguishing an Accidental Drowning From a Homicide: The Death of a 72-Year-Old Woman in Mississippi**
Charles E. Middleton IV, MD; L.R. Funte, MD; Mark M. LeVaughn, MD*
- 3:45 p.m. - 4:00 p.m. **H117** **Diatom Test: Still an Irreplaceable Analysis**
*Paolo Frisoni, MD; Mauro Coppone, MD; Stefano Tomasi; Chiara Marini, MD;
Erica Bacchio, MD; Raffaella Inglese, MD; Rosa Maria Gaudio;
Margherita Neri, MD, PhD; Letizia Alfieri, MD**
- 4:00 p.m. - 4:15 p.m. **H118** **Armanni-Ebstein Lesions and Hypothermia: A Five-Year Retrospective Study From the Cook County Medical Examiner's Office**
Lorenzo Gitto, MD; Serenella Serinelli, MD; Ponni Arunkumar, MD*
- 4:15 p.m. - 4:30 p.m. **H119** **Hypothermia Deaths Due to Environmental Exposure in King County, Washington**
Tara Dixon, MD; Brian Mazrim, MD; Richard C. Harruff, MD, PhD*
- 4:30 p.m. - 4:45 p.m. **H120** **Common Cutaneous Injuries Found in Drowning Deaths**
Abigail J. Grande, MPH; Timothy Wysozan, BS; Joyce L. deJong, DO*
- 4:45 p.m. - 5:00 p.m. **H121** **A Probabilistic Analysis of the Cause of a Traffic Death Following Two Crashes Using National Crash Data**
*Michael Freeman, MD, PhD; Ellen M. Freeman**

Friday — Session II

Multidisciplinary Session: Pathology/Biology Session II/Toxicology — Postmortem Forensic Toxicology

*Moderator: James Louis Caruso, MD
Office of the Medical Examiner
Denver, CO*

*Co-Moderator: Karen S. Scott, PhD
Arcadia University
Glenside, PA*

- 8:30 a.m. - 8:45 a.m. **K42** **Using Medical Examiner Case Narratives to Improve Opioid Overdose Surveillance**
*Emily Hurstak, MD; Phillip O. Coffin, MD; Nikolas P. Lemos, PhD**
- 8:45 a.m. - 9:00 a.m. **K43** **Prescription Drug Degradation in a Simulated Postmortem Blood Model**
Jared Castle, BSc; Danielle Marie Butzbach, PhD; Claire Lenahan, PhD;
Stewart Walker, PhD; Frank Reith, PhD; Sam P. Costello, PhD; Paul Kirkbride, PhD*
- 9:00 a.m. - 9:15 a.m. **K44** **Strange Bedfellows: Fentanyl Mixed With the Antiquated Poison Strychnine**
Daniel Atherton, MD; Rachel C. Beck, PhD; Brandi C. McCleskey, MD*



PATHOLOGY/BIOLOGY

9:15 a.m. - 9:30 a.m.	K45	An Investigation Into the Analysis of Fentanyl in Postmortem Blood Using Biocompatible Solid-Phase Microextraction (BioSPME) <i>Chandler Marie Grant, MS*; Thomas A. Brettell, PhD; Samuel D. Land, MD; Marianne E. Staretz, PhD</i>
9:30 a.m. - 9:45 a.m.	K46	Fatal Hydromorphone Overdose in a Child: A Case Report <i>Teri L. Martin, MSc*</i>
9:45 a.m. - 10:00 a.m.	K47	An Accidental Death Due to Paraquat Poisoning: An Unusual Case Requiring Toxicologist, Pathologist, and Investigator Collaboration <i>Erin E. Walsh, MS*; Elisa N. Shoff, BS; Sean Hurst, MD; George W. Hime, MS; Diane Boland, PhD</i>
10:00 a.m. - 10:15 a.m.	K48	Postmortem Tissue Distribution of Synthetic Cathinones <i>Lindsay Glicksberg, BS*; Ruth E. Winecker, PhD; Caitlin E. Miller, MS; Sarah Kerrigan, PhD</i>
10:15 a.m. - 10:30 a.m.		Break

*Moderator: Madeleine J. Swortwood, PhD
Sam Houston State University
Huntsville, TX*

*Co-Moderator: Dianne Little, MBBS
Queensland Health Forensic and
Scientific Services
Southport, AUSTRALIA*

10:30 a.m. - 10:45 a.m.	H122	Immune Responses in Opioid Use <i>Henry J. Carson, MD*</i>
10:45 a.m. - 11:00 a.m.	H123	Preliminary Findings From the Drug Enforcement Administration's (DEA's) National Forensic Laboratory Information System (NFLIS) Medical Examiner/Coroner Office Survey <i>DeMia P. Pressley, MS; Artisha R. Polk, MPH; Liqun Wong, MS; Terrence Boos, PhD; Hope Smiley-McDonald, PhD; Katherine N. Moore, MS*; Edrina Burnette, MS; Jeffrey M. Ancheta, BS; Neelima Kunta, BS; David Heller, BS; Jeri D. Ropero-Miller, PhD</i>
11:00 a.m. - 11:15 a.m.	H124	Developing "Real-Time" Surveillance for Drug Overdose Deaths in King County, Washington <i>Nicole A. Yarid*; Julia Hood, PhD; Richard C. Harruff, MD, PhD</i>
11:15 a.m. - 11:30 a.m.	H125	New Psychoactive Substances (NPS) -Related Deaths in Sweden — An Alarming Development <i>Gisela Pettersson, MD*; Gunilla Thelander, BSc</i>
11:30 a.m. - 11:45 a.m.	H126	Deaths in Denver, Colorado, With the Detection of Cannabinoid Metabolites: 2010-2016 <i>Derek Bumgarner, MD*; Meredith A. Frank, MD; Krista L. Timm, MD; James Louis Caruso, MD</i>
11:45 a.m. - 12:00 p.m.	H127	Levamisole: A High-Performance Cutting Agent <i>Nadia Solomon, MSc*; Jonathan Hayes, MD</i>
12:00 p.m. - 1:00 p.m.		Lunch

PATHOLOGY/BIOLOGY



Forensic Potpourri

*Moderator: Giancarlo Di Vella, MD, PhD
University of Torino
Department of Public Health Sciences
Sezione di Medicina Legale
Torino, ITALY*

*Co-Moderator: Melissa M. Blessing, DO
Mayo Clinic
Rochester, MN*

- 1:30 p.m. - 1:45 p.m. **H128** **Fire Marshall and Medical Examiner Collaboration in the Investigation of a Complex Homicide**
Christine James, DO; Donald Brucker, PhD; Karl E. Williams, MD*
- 1:45 p.m. - 2:00 p.m. **H129** **An Atypical Suicide by Submachine Gun: A Case Report**
Martin Kolopp; Alain Blum, PhD; Marc-Antoine Leupold, MD; Laurent Martrille, MD*
- 2:00 p.m. - 2:15 p.m. **H130** **Ballistic Analysis of an Attempted Murder Using a Porcine Model**
Michael Freeman, MD, PhD; Karl E. Williams, MD; Anders Eriksson, MD, PhD*
- 2:15 p.m. - 2:30 p.m. **H131** **The Effect of Public Awareness and Legislation Against Strangulation on the Occurrence of Gender-Based Violence in King County, Washington**
Micheline Lubin, MD; Richard C. Harruff, MD, PhD; Jillian Jetter, MPH; David Martin, JD; Nicole Siver; Cloyd Steigerr*
- 2:30 p.m. - 2:45 p.m. **H132** **Two Dead Bodies in a Cemetery: An Unexpected Lightning Strike**
Alexandra M. Hart, MD; Katherine F. Maloney, MD; Nicole A. Yarid; Tara J. Mahar, MD*
- 2:45 p.m. - 3:00 p.m. **H133** **An Unusual Case of Suicide in a Young Skydiver**
Pierre-Antoine Peyron, MD; Eric Baccino, MD; Emmanuel Margueritte, MD*
- 3:00 p.m. - 3:30 p.m. **Break**

Miscellaneous

*Moderator: Francisco J. Diaz, MD
Office of the Medical Examiner
Washington, DC*

*Co-Moderator: Mario Rascon, MD
Office of the Medical Examiner
El Paso, TX*

- 3:30 p.m. - 3:45 p.m. **H134** **An Exceptional Case of Acute Respiratory Failure Caused by Intra-Thoracic Gastric Perforation Secondary to Overeating**
Alessandro Di Luca, MD; Vincenzo M. Grassi, MD; Gerardo Di Masi, MD; Eleonora Ricci, MD; Antonio Oliva, MD, PhD*
- 3:45 p.m. - 4:00 p.m. **H135** **Determining the Difference Between Blunt and Sharp Force Traumas in Human Head Hair**
Amy Evans, BS; Carol J. Ritter, MS*



PATHOLOGY/BIOLOGY

- 4:00 p.m. - 4:15 p.m. **H136** **Violence Against Vulnerable Persons: The Death of a Transgendered Individual in Mississippi**
*L.R. Funte, MD**; Brent Davis, MD; Mark M. LeVaughn, MD; Anastasia Holobinko, PhD; Steven A. Symes, PhD
- 4:15 p.m. - 4:30 p.m. **H137** **Establishing Organ Weight Norms for Caucasian and Minority Populations Using Autopsy Data From Two Institutions and the Evaluation of Autopsy Reports Using a Novel Free-Text Analysis Tool**
*Emily Wolak, DO**; Daniel W. Dye, MD; Sarah Lathrop, DVM, PhD; Garon Bodor, MS; Matthew D. Cain, MD
- 4:30 p.m. - 4:45 p.m. **H138** **The Thanatotranscriptome: An Assessment of Messenger RNA (mRNA) Abundances in Cadaver Prostate Tissues**
*Sheree J. Finley, MS**; Mariah Tolbert, BSc; Silvia D. Visona, MD; Antonio M.M. Osculati, MD; Gulnaz T. Javan, PhD

PSYCHIATRY & BEHAVIORAL SCIENCE



Wednesday

Poster Session

- 11:30 a.m. - 1:00 p.m. **I1** **Elder Abuse: Perception and Knowledge of the Phenomenon by Healthcare Workers From Two Italian Hospitals**
*Ignazio Grattagliano, PsyD**; *Graziamaria Corbi, PhD*; *Carlo P. Campobasso, MD, PhD*; *Lidia Scarabaggio, RN*; *Roberto Catanesi, MD*; *Nicola Ferrara, MD*; *Carlo Sabbà, MD*; *Giorgio Fiore, MD*
- 11:30 a.m. - 1:00 p.m. **I2** **Financial-Psychological Crime: The Madoff Case**
Ignazio Grattagliano, PsyD; *Alessio Ostuni, MD**; *Maricla Marrone, MD*; *Anna Cassano, PsyD*; *Fulvia Carucci, PsyD*; *Michele Di Marcantonio, PsyD*; *Giancarlo Di Vella, MD, PhD*; *Lucia Tattoli, PhD*; *Carlo P. Campobasso, MD, PhD*; *Graziamaria Corbi, PhD*; *Roberto Catanesi, MD*

Thursday

Youth and Adolescents

Moderator: John L. Young, MD
Yale University
New Haven, CT

- 8:30 a.m. - 8:45 a.m. **I3** **Sudden Death of a Child: What Could Have Happened in a Family With a Different Socioeconomic Status?**
*Erica Bacchio, MD**; *Omar Bonato, MD*; *Elena Lucenti, MD*; *Letizia Alfieri, MD*; *Natascha Pascale, MD*; *Simone Onti, MD*; *Stefano Malaguti, MD*; *Rosa Maria Gaudio*; *Margherita Neri, MD, PhD*
- 8:45 a.m. - 9:00 a.m. **I4** **Self-Cutting and Suicide Risk Among Adolescents: The Case of the “Blue Whales”**
*Francesco Lupariello, MD**; *Serena Maria Curti, MD*; *Elena Coppo, MD*; *Sara Simona Racalbuto, PsyD*; *Ignazio Grattagliano, PsyD*; *Giancarlo Di Vella, MD, PhD*
- 9:00 a.m. - 9:15 a.m. **I5** **Acute Stress Disorder (ASD) Symptomatology and Crime in a Nationally Representative Sample of Youth**
*Joseph Chien, DO**; *Bronte T. Pagan, BS*; *Kayla E. Wyant, BA*; *Kendell L. Coker, PhD*
- 9:15 a.m. - 9:20 a.m. **Questions & Answers**



PSYCHIATRY & BEHAVIORAL SCIENCE

Sexual Offenders

*Moderator: Thanh Ly, BSc
Ottawa, ON, CANADA*

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|------------|---|------------|-----------|---|
| 9:20 a.m. | - | 9:35 a.m. | I6 | Female-Perpetrated Sexual Abuse on Children: A Five-Year Long Italian Experience
<i>Serena Maria Curti, MD*; Francesco Lupariello, MD; Caterina Petetta, MD; Anna M. Baldelli, JD; Sara Simona Racalbuto, PsyD; Elena Coppo, MD; Ignazio Grattagliano, PsyD; Giancarlo Di Vella, MD, PhD*</i> |
| 9:35 a.m. | - | 9:50 a.m. | I7 | Sexual Offending and IQ: What Is the Relationship?
<i>R. Gregg Dwyer, MD, EdD*; Emily D. Gottfried, PhD*</i> |
| 9:50 a.m. | - | 10:05 a.m. | I8 | Do Sex Offenders Secretly Reoffend During Treatment?
<i>Thanh Ly, BSc*; J. Paul Fedoroff, MD*</i> |
| 10:05 a.m. | - | 10:20 a.m. | | Break |

Criminal Analyses and Psychopathy

*Moderator: Eleanor B. Vo, MD
OmaDesala Psychiatric Services
Ewing, NJ*

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| 10:20 a.m. | - | 10:40 a.m. | I9 | The Unfolding Development of Forensic Behavioral Science
<i>John L. Young, MD*</i> |
| 10:40 a.m. | - | 11:00 a.m. | I10 | Application of the Equivocal Death Psychological Autopsy for Investigation: A Case Study
<i>Cinzia Gimelli, PsyD, PhD*</i> |
| 11:00 a.m. | - | 11:30 a.m. | I11 | A Review of More Than 20 Parricides and Crime Scene Behaviors: Does It Differentiate Mental Illness, Psychopathy, or Abuse as the Reason for Killing Parents?
<i>Eleanor B. Vo, MD*; Kaveh Cyrus Ghaedi, DO*; Wade C. Myers, MD*</i> |
| 11:30 a.m. | - | 1:00 p.m. | | Lunch |

PSYCHIATRY & BEHAVIORAL SCIENCE



Poster Session

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| 11:30 a.m. - 1:00 p.m. | I12 | Narcissism and Violence: Criminological Understanding in a Homicide Case of Complete Decapitation
<i>Ignazio Grattagliano, PsyD*; Gabriele Rocca; Alessandro Bonsignore, MD, PhD; Alfredo Verde, PhD</i> |
| 11:30 a.m. - 1:00 p.m. | I13 | Holy Crime: Sexual Abuse of Minors by Priests
<i>Ignazio Grattagliano, PsyD; Alessio Ostuni, MD*; Mariela Marrone, MD; Anna Cassano, PsyD; Annalisa Pasquale, PsyD; Giancarlo Di Vella, MD, PhD; Lucia Tattoli, PhD; Carlo P. Campobasso, MD, PhD; Graziamaria Corbi, PhD; Roberto Catanesi, MD</i> |
| 11:30 a.m. - 1:00 p.m. | I14 | Are There Similarities Between Forensic Technician and Sworn Peace Officer Stress?
<i>Selena M. McKay-Davis, MFS*; Ismail M. Sebetan, MD, PhD*; Paul Stein, PhD*</i> |

Criminal Analyses and Psychopathy

*Moderator: Eleanor B. Vo, MD
OmaDesala Psychiatric Services
Ewing, NJ*

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|-----------------------|------------|---|
| 1:00 p.m. - 1:15 p.m. | I15 | Variation in Genes Affecting Dopamine Turnover, Oxytocin, and Serotonin in Inmate and Student Populations
<i>Elizabeth Chesna, BS*; Ana I. Blanco, MS; Charity M. Beherec, MS; Gabriella Cansino-Jones, MS; Peyton Gandy, MSFS; Jessica Wells, PhD; Danielle Boisvert, PhD; Todd Armstrong, PhD; Sheree R. Hughes-Stamm, PhD; David A. Gangitano, PhD</i> |
| 1:15 p.m. - 1:35 p.m. | I16 | Phenotypic Characteristics in Different Groups of Psychopathic Individuals
<i>Donatella La Tegola, PhD*; Alan R. Felthous, MD; Roberto Catanesi, MD; Domenico Montalbò, MD*; Felice F. Carabellese, MD</i> |
| 1:35 p.m. - 1:50 p.m. | I17 | The Psychopathic Semantics of Serial Killer Theodore Robert Bundy
<i>Kaveh Cyrus Ghaedi, DO*; Ross Crosby, PhD</i> |
| 1:50 p.m. - 2:05 p.m. | I18 | The Psychopathological Profile of the Female Serial Killer: From Homicide to Cannibalism — The True Story of the “Soapmaker of Correggio”
<i>Isabella Aquila, MD*; Pietrantonio Ricci; Matteo Antonio Sacco, MD; Paola Frati, PhD; Valerio Riccardo Aquila; Santo Gratteri, MD*</i> |
| 2:05 p.m. - 2:25 p.m. | I19 | Empathy for the Psychopathic Patient
<i>Paulina Riess, MD*; Ahmed Albassam, MD*</i> |
| 2:25 p.m. - 2:40 p.m. | | Break |



PSYCHIATRY & BEHAVIORAL SCIENCE

Brief Communications (Q&A)

*Moderator: R. Gregg Dwyer, MD, EdD
Medical University of South Carolina
Community & Public Safety Psychiatry Division
Charleston, SC*

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|-----------------------|------------|--|
| 2:40 p.m. - 2:50 p.m. | I20 | How Just Is Manifest Injustice (MI)? Evaluating the Use of Manifest Justice in the Washington State Juvenile Rehabilitation Administration
<i>Nicole Sussman, MD*; Terry Lee, MD; Kevin Hallgren, PhD</i> |
| 2:50 p.m. - 3:00 p.m. | I21 | Potential Effects of Legalized Recreational Cannabis on Youth
<i>Jeremy R. Peters, DO*; Joseph Chien, DO</i> |
| 3:00 p.m. - 3:10 p.m. | I22 | Females Who Sexually Offend: Characteristics and Behaviors
<i>Emily D. Gottfried, PhD*; R. Gregg Dwyer, MD, EdD*</i> |
| 3:10 p.m. - 3:20 p.m. | I23 | High-Functioning Autism and Violence Risk
<i>Lindsay Howard, DO; Will Frizzell, MD*; Joseph Chien, DO</i> |
| 3:20 p.m. - 3:30 p.m. | I24 | Factitious Disorder Imposed on Another: A Life-Threatening Italian Case
<i>Sara Simona Racalbuto, PsyD; Serena Maria Curti, MD*; Francesco Lupariello, MD*; Elena Coppo, MD; Giancarlo Di Vella, MD, PhD</i> |

Friday

Thoughts for the Forensic Psychiatrist

*Moderator: Tony Godet
Geneva University Hospital
Geneva, SWITZERLAND*

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|-------------------------|------------|---|
| 8:30 a.m. - 10:30 a.m. | I25 | Clinical Psychiatry and Neuropsychiatry in the Forensic Context
<i>Vernon M. Neppe, MD, PhD*</i> |
| 10:30 a.m. - 10:45 a.m. | | Break |
| 10:45 a.m. - 10:55 a.m. | I26 | Contribution of the Psychiatrist in the Evaluation of Fitness for Detention While in Custody in France
<i>Arsene Gambier, MD*; Camille Rerolle, MD; Pauline Saint-Martin, MD, PhD</i> |
| 10:55 a.m. - 11:10 a.m. | I27 | Impartiality and Forensic Psychiatry: How Forensic Psychiatry Specialists Consider the Concept of Impartiality
<i>Tony Godet*; Gérard Niveau, MD</i> |

PSYCHIATRY & BEHAVIORAL SCIENCE



11:10 a.m. - 11:25 a.m.	I28	Racial Trauma: Its Mental Health Manifestations in Racial Minorities Involved in the Legal System and Incorporating Findings in Forensic Psychiatric Assessments <i>Donald R. Brown II, MD*</i>
11:25 a.m. - 1:00 p.m.		Lunch

Poster Session

11:30 a.m. - 1:00 p.m.	I29	Mental Wellness and Suicide Prevention Programming Among United States Police Agencies <i>Leslie Ethan Dodson, BA*; Megan Thoen, PhD; Brandy Pina-Watson, PhD; Elizabeth Trejos-Castillo, PhD</i>
11:30 a.m. - 1:00 p.m.	I30	Determining Implicit and Explicit Attitudes of Hiring Non-Violent Ex-Offenders <i>Cristine S. Kilburn, MA*; Nora Gayzur, PhD*</i>

Thoughts for the Forensic Psychiatrist

*Moderator: Tony Godet
Geneva University Hospital
Geneva, SWITZERLAND*

1:00 p.m. - 1:20 p.m.	I31	A Complex Case of Psychosis and Factitious Disorder <i>J. Brandon Birath, PhD; Stacie Collins, MD*; Davin Agustines, DO*</i>
1:20 p.m. - 2:10 p.m.	I32	How Forensic Practitioners Can Inform Psychiatry: The Clinical and Ethical Challenges in Prescribing Stimulants in College Populations <i>William C. Darby, MD*; Robert Weinstock, MD*</i>
2:10 p.m. - 2:25 p.m.		Break

Legal Considerations and Those Involved

*Moderator: Karen B. Rosenbaum, MD
New York, NY*

2:25 p.m. - 2:40 p.m.	I33	Live-Streaming Suicide and Murder on Facebook®: Can Someone Be Held Liable? <i>Chris Chen, MD*</i>
2:40 p.m. - 2:55 p.m.	I34	Do Evidence Submission Forms Expose Latent Print Analysts to Task-Irrelevant Information? <i>Brett Gardner, PhD*; Sharon Kelley, PhD; Daniel C. Murrie, PhD; Kellyn Blaisdell, BA</i>



PSYCHIATRY & BEHAVIORAL SCIENCE

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|-----------------------|------------|--|
| 2:55 p.m. - 3:15 p.m. | I35 | Jury Instructions on Insanity Acquittal Disposition
<i>Jennifer Piel, MD*</i> |
| 3:15 p.m. - 3:45 p.m. | I36 | Compassionate Care for the Criminal Courts
<i>Karen B. Rosenbaum, MD*</i> |
| 3:45 p.m. - 4:00 p.m. | | Break |
| 4:00 p.m. - 4:15 p.m. | I37 | The Patient Can Leave: Involuntary Hospitalization of Non-Psychiatric Patients Who Lack the Capacity to Refuse Medical Treatment
<i>Thomas Rodriguez, MD*</i> |
| 4:15 p.m. - 4:45 p.m. | I38 | Capacity to Consent to Psychiatric Treatment in Ontario, Canada: Perspectives From a Forensic Psychiatry Program
<i>Sebastien S. Prat, MD*; Joseph Ferencz, MD</i> |

QUESTIONED DOCUMENTS



Wednesday

Poster Session

- 11:30 a.m. - 1:00 p.m. **J1** **An Examination of Highly Deceptive Counterfeit Currency**
Khurram W. Mahmood, MPhil; Sehrish Mohsin, MS*; Muhammad Irfan Ashiq, PhD*; Bushra Iftikhar, MPhil*; Nadeem-Ul-Hassan Khan, MPhil*; Mohammad A. Tahir, PhD**
- 11:30 a.m. - 1:00 p.m. **J2** **Questioned Document Examination of Two-Source Traced Forgery in Signatures: A Case Study**
Zumrad Usman Bhutta, MS; Iqbal Mehmood, BSc*; Saqib Sultan AL Mehmood**
- 11:30 a.m. - 1:00 p.m. **J3** **The Significance of Electrostatic Detection Apparatus (ESDA) in the Determination of Tampering**
Nadeem-Ul-Hassan Khan, MPhil; Saqib Iqbal, MPhil; Kamran Ghafoor, PharmD; Sadaf Iqbal, MPhil; Muhammad Irfan Ashiq, PhD; Mohammad A. Tahir, PhD**

Thursday

Questioned Documents 1

*Moderator: Kevin P. Kulbacki, MSFS
Internal Revenue Service
National Forensic Laboratory
Chicago, IL*

- 8:30 a.m. - 8:40 a.m. **Introduction**
- 8:40 a.m. - 9:00 a.m. **J4** **Rubber (Hand) Stamps: A Long-Term Study Into Stamp Wear and Damage, Stamp Impression Variation, and Incompatible Inks**
*Tobin A. Tanaka, BS**
- 9:00 a.m. - 9:20 a.m. **J5** **An Analysis of Indented Writing Impressions in Questioned Documents Using Flatbed Scanners in Pakistan**
Zumrad Usman Bhutta, MS; Saqib Sultan AL Mehmood**
- 9:20 a.m. - 9:40 a.m. **J6** **The State of the Art in Computational Forensic Document Examination**
*Timothy Campbell, BSc**
- 9:40 a.m. - 10:00 a.m. **J7** **Deployment of the Counterfeit Detection Training Electronic Learning Course**
Joel A. Zlotnick, MSFS; Tyra S. McConnell, MSFS*
- 10:00 a.m. - 10:30 a.m. **Break**



QUESTIONED DOCUMENTS

10:30 a.m. - 12:00 p.m.	J8	Security Document Artwork That Resists Reverse Engineering <i>Joel A. Zlotnick, MSFS*</i> ; <i>Jordan C. Brough, MFS</i> ; <i>Troy J. Eberhardt, BS</i>
12:00 p.m. - 1:30 p.m.		Lunch

Questioned Documents 2

Moderator: *Jeanne M. Dietrich, BS*
Internal Revenue Service
National Forensic Laboratory
Chicago, IL

1:30 p.m. - 1:35 p.m.		Introduction
1:35 p.m. - 1:55 p.m.	J9	Distinguishing Characteristics of Robotic Writing <i>Aurora Dumitra, MS*</i> ; <i>Anna Guzowski, BS</i> ; <i>Alynka Jean, BS</i> ; <i>Melvin Shaw, MS*</i> ; <i>Grace L. Warmbier, BS*</i> ; <i>Patricia Zippo, BS</i>
1:55 p.m. - 2:15 p.m.	J10	An Analysis of Forensic Document Examiner (FDE) Aptitude in Determining and Comparing Velocity Rates of Handwritten Strokes <i>Michael Caligiuri, PhD</i> ; <i>Linton Mohammed, PhD*</i> ; <i>Carl R. McClary, BA*</i>
2:15 p.m. - 3:15 p.m.	J11	The Influence of Terminal Illness and Prescription Medications on Patient Signatures <i>Jan Seaman Kelly, BA*</i>
3:15 p.m. - 3:35 p.m.		Break
3:35 p.m. - 3:55 p.m.	J12	Measuring the Frequency Occurrence of Handwritten Numerals <i>Thomas W. Vastrick, BS*</i> ; <i>Ellen M. Schuetzner, BA</i> ; <i>Kelsey Osborn</i>
3:55 p.m. - 4:15 p.m.	J13	Initials: Value for Identification <i>Jane A. Lewis, MFS*</i>
4:15 p.m. - 5:15 p.m.	J14	Competency for Chinese Handwriting Examination <i>Chi Keung Li, PhD*</i>

QUESTIONED DOCUMENTS



Friday

Questioned Documents 3

*Moderator: Timothy Campbell, BSc
Canada Border Services Agency
Ottawa, ON, CANADA*

8:50 a.m. - 9:00 a.m.		Introduction
9:00 a.m. - 9:20 a.m.	J15	Research on the Mechanism of Paper Burning by Thermal-Gravimetry and the Handling Methods for Charred Documents <i>Da Qin, PhD*</i>
9:20 a.m. - 9:40 a.m.	J16	The Evaluation of Method Parameters Affecting Magnetic Flux Measurement of Toners as a Screening Tool for Casework Application <i>Carrie Polston, BA*; Williams Mazzella, PhD; Martin Furbach, MS; Patrick Buzzini, PhD</i>
9:40 a.m. - 10:00 a.m.	J17	The Application of t-Stochastic Node Embedding and Random Forest Statistical Methods to Classify Raman Spectra of Inkjet Printer Inks for Purposes of Identification and Production of Investigative Leads <i>Patrick Buzzini, PhD; James M. Curran, PhD*; Carrie Polston, BA</i>
10:00 a.m. - 10:10 a.m.		Questions & Answers
10:10 a.m. - 10:30 a.m.		Break
10:30 a.m. - 10:50 a.m.	J18	Inks Examination Using a Combination of Video Spectral Comparator (VSC) Spectra and Color Deconvolution <i>Yi Hui Ngor*; Nellie Cheng, BS</i>
10:50 a.m. - 11:20 a.m.	J19	The Evolution of Documents and Their Security Submitted for Examination Using a Video Spectral Comparator (VSC80) <i>F.L. Jim Lee, Jr., MS*; Darren Corbett, BS</i>
11:20 a.m. - 11:50 a.m.	J20	A Physical-Chemical Study of Crossed Line Intersection <i>Daniela Djidrovska*</i>
11:50 a.m. - 12:00 p.m.		Questions & Answers



TOXICOLOGY

Wednesday

Toxicology Section Awardees Recognition (by invitation only)

6:30 p.m. - 7:30 p.m.

Supported by: Cayman Chemical Company
Center for Forensic Science Research and Education at the
Fredric Rieders Foundation

Poster Session

Moderator: Jeff Walterscheid, PhD
Armed Forces Medical Examiner System
Division of Forensic Toxicology
Dover AFB, DE

Co-Moderator: Laureen J. Marinetti, PhD
Alere Forensics USA
Redwood Toxicology Laboratory, Inc
Santa Rosa, CA

- 7:30 p.m. - 9:00 p.m. **K1** **Drivers Under the Influence of Alcohol and Drugs: An Eight-Year Retrospective Analysis in a Southern Italian Region**
*Anna Carfora**; Carlo P. Campobasso, MD, PhD; Raffaella Petrella;
Paola Cassandro; Renata Borriello
- 7:30 p.m. - 9:00 p.m. **K2** **Surface-Enhanced Raman Spectroscopy (SERS) -Based Screening Test for Synthetic Cannabinoids in Oral Fluid**
*Irene Conticello, BS; Chiara Deriu, MS**; Thaddeus Mostowtt, MFS;
Bruce R. McCord, PhD
- 7:30 p.m. - 9:00 p.m. **K3** **Will the Real “Molly” Please Stand Up? N-Ethyl Pentylone-Related Deaths in Alabama**
Rachel C. Beck, PhD; Susan Kloda; Jennifer Whiddon, BS; Daniel W. Dye, MD;
*Daniel Atherton, MD; C. Andrew Robinson, Jr., PhD**
- 7:30 p.m. - 9:00 p.m. **K4** **Carfentanil-Induced Fatalities: A Case Series**
*Nicholas J. Corsi, BSc**; Prashanti Boinapally, PhD; James C. Anthony, PhD;
L.J. Dragovic, MD
- 7:30 p.m. - 9:00 p.m. **K5** **An Assessment of the Incorporation of Amphetamine and Diazepam Into Human Head Hair for the Preparation of Hair Reference Material**
*Jennett M. Chenevert, BS**; Ashley N. Kimble, BS; Anthony P. DeCaprio, PhD
- 7:30 p.m. - 9:00 p.m. **K6** **A Mass Spectrometric Approach to the Analysis of Covalent Modifications of Blood Proteins by Drugs of Abuse**
*Richard A. Gilliland, MSFS**; Anthony P. DeCaprio, PhD
- 7:30 p.m. - 9:00 p.m. **K7** **Hydrogen Sulfide (H₂S) Poisoning in the Workplace: Toxicological Investigations in a Fatal and Non-Fatal Accident**
*Elvira Ventura Spagnolo, MD**; Antonina Argo; Cristina Mondello, MD*;
Stefania Zerbo, MD; Luigi Cardia*; Alberto Marchese; Aurora Vesto, PhD;
Nunziata Barbera, MD

TOXICOLOGY



7: 30 p.m. - 9:00 p.m.	K8	The Development of a Rapid Multi-Target Screening Method for Emergency Toxicology by Gas Chromatography/Mass Spectrometry (GC/MS) and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) <i>Hee-Sun Chung, PhD*</i>
7: 30 p.m. - 9:00 p.m.	K9	A Concentration of Biomarkers in Vitreous Humor for the Estimation of Postmortem Interval (PMI) in South Korea <i>Hee-Sun Chung, PhD*</i>
7: 30 p.m. - 9:00 p.m.	K10	Quick, Easy, Cheap, Effective, Rugged, and Safe (QuEChERS) Extraction of Novel Psychoactive Substances (NPS) From Biological Matrices <i>Ashley N. Kimble, BS*; Anthony P. DeCaprio, PhD</i>
7: 30 p.m. - 9:00 p.m.	K11	A Validated Method for the Quantitative Determination of Zolpidem, Zopiclone, and Zaleplon (ZZZ Drugs) in Blood, Stomach Contents, and Liver by Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) <i>Madison R. Schackmuth, BS*; Rachel Marvin, PhD; Erica Bakota, PhD</i>
7: 30 p.m. - 9:00 p.m.	K12	Performing Retrograde Extrapolation of Blood Alcohol in Driving Under the Influence (DUI) Trials <i>Jennifer O. Rattanaprasit, MS*; Michael P. Stypa, MS*; Marliisa Collins, MSFS; Denise K. Heineman, BS; Darby A. Lanz, MSFS; Christine Maloney; Nastasha Ortiz, BS; Dana C. Russell, BS; Theresa A. Suffecool, BS; Nicole L. Van Aken, BS; Stacy A. Wilkinson</i>
7: 30 p.m. - 9:00 p.m.	K13	The Identification of Five Kratom Alkaloids Using High Resolution Mass Spectrometry <i>Stephanie Basiliere, BS*; Kelsie Bryand, MS; Sarah Kerrigan, PhD</i>
7: 30 p.m. - 9:00 p.m.	K14	Conformational Considerations of Ethylenediamine Opioids AH-7921 and U-47700 <i>John L. Krstenansky, PhD*; Alexander Zambon, PhD; Thomas Hsu, PhD; Jayapal Mallareddy, PhD; Lauren L. Richards-Waugh, PhD</i>
7: 30 p.m. - 9:00 p.m.	K15	The Transformation of Drug/Metabolite Ratios: An Objective Assessment of Toxicity <i>Oneka T. Cummings, PhD; Frank Wallace, BA; Erin C. Strickland, PhD; Ronald C. Backer, PhD; Gregory L. McIntire, PhD*</i>
7: 30 p.m. - 9:00 p.m.	K16	The Electroanalytical Identification of 25I-NBOH and 2C-I Via Differential Pulse Voltammetry: A Rapid and Sensitive Screening Method to Avoid Misidentification <i>Jose Gonzalez-Rodriguez, PhD; Ana B. Andrade, PhD*</i>
7: 30 p.m. - 9:00 p.m.	K17	Death From Poppy Tea Consumption <i>Lauren N. Fox, MSFS*; Ruth E. Winecker, PhD; Sandra C. Bishop-Freeman, PhD</i>
7: 30 p.m. - 9:00 p.m.	K18	The Impact of Storage Temperature, Glucose, and Microorganisms on Blood Alcohol Concentration in Non-Decomposed Whole Blood <i>S. Sharee Lambert*; Melissa M. Bailey, PhD; Carrie Hodges, MLS</i>



TOXICOLOGY

7:30 p.m. - 9:00 p.m.	K19	An Analysis of Drugs and Their Metabolites in Saliva and Urine Using Various Swabs in Conjunction With Direct Analysis in Real-Time Mass Spectrometry (DART®-MS) <i>Nicholas L. Drury, BSc*; Nicholas T. Lappas, PhD; Mehdi Moini, PhD</i>
7:30 p.m. - 9:00 p.m.	K20	The Concentration and Distribution of Methamphetamine (MA) and Amphetamine (AM) in MA-Related Postmortems <i>Seung Kyung Baeck, PhD*; Heejin Yang; Yujin Park, PhD; Heesang Lee; Jiyoung Jo</i>
7:30 p.m. - 9:00 p.m.	K21	The Effects of Kambo: The First Case of Sudden Death in Forensic Literature <i>Isabella Aquila, MD*; Santo Gratteri, MD*; Matteo Antonio Sacco, MD; Vittorio Fineschi, MD, PhD; Simona Magi, PhD; Pasqualina Castaldo, PhD; Graziella Viscomi; Salvatore Amoroso; Pietrantonio Ricci</i>
7:30 p.m. - 9:00 p.m.	K22	An Evaluation of Alcohol Concentrations in Samples Referred to the Forensic Laboratory in Baghdad <i>Atheer Jawad Al-Saffar; Haider K. Al-Rubai, MSc; Enas Muataz Al-Qazzaz, BPharm; Muataz Abdulmajeed Al-Qazzaz, PhD*</i>
7:30 p.m. - 9:00 p.m.	K23	The Evaluation of Direct and Indirect Biomarkers of Ethanol Consumption: A Likelihood Ratio (LR) Approach to Identify Chronic Alcohol Misusers for Forensic Purposes <i>Eugenio Alladio, PhD*; Marco Vincenti, MS; Agnieszka Martyna, PhD; Alberto Salomone, PhD; Valentina Pirro, PhD; Grzegorz Zadora; Paolo Garofano, MD, PhD</i>

Thursday

Multidisciplinary Session: Criminalistics II/General II/Pathology/Biology I/Toxicology — The Synthetic Opioids Epidemic and Forensic Science

*Moderator: Vincent J. Desiderio, MS
United States Postal Inspection Service
Dulles, VA*

*Co-Moderator: Michael F. Rieders, PhD
NMS Labs
Willow Grove, PA*

8:30 a.m. - 10:45 a.m.	B81	The Growing Phenomenon of the Epidemic of Synthetic Opioids and Forensic Science: Impact and Response <i>Vincent J. Desiderio, Jr., MS; Michael F. Rieders, PhD; Brandon Callahan, BA*; Agnes D. Winokur, MS*; Erin M. Worrell, BSc*; John F. Casale, BS*; Karl E. Williams, MD*; Sherri L. Kacinko, PhD*; Patrick Buzzini, PhD</i>
10:45 a.m. - 11:00 a.m.	Break	

TOXICOLOGY



Opioids

*Moderator: Kayla N. Ellefsen, PhD
Travis County Medical Examiner's Office
Austin, TX*

*Co-Moderator: Michael P. Stypa, MS
Las Vegas Metropolitan Police Department
Las Vegas, NV*

- 11:00 a.m. - 11:15 a.m. **K24** **2017 Novel Illicit Opioids: Trends and Toxicological Insights**
Donna M. Papsun, MS; Melissa Friscia, MSFS; Jennifer L. Turri, MS;
Sherri L. Kacinko, PhD; Barry K. Logan, PhD*
- 11:15 a.m. - 11:30 a.m. **K25** **The Morphine in Your Pantry — Understanding the Overdose Risk of Home-Brewed Poppy Seed Tea**
Deborah L. Powers, BA; Stephen A. Erickson, MD; Madeleine J. Swortwood, PhD*
- 11:30 a.m. - 11:45 a.m. **K26** **Carfentanil-Related Deaths in Wayne County, Michigan: Epidemiology and Toxicology**
Denice M. Teem, BS; Daniel S. Isenschmid, PhD; Carl J. Schmidt, MD;
Barry K. Logan, PhD*
- 11:45 a.m. - 1:00 p.m. **Lunch**

Drugs and Driving

*Moderator: Amy Miles, BS
Madison, WI*

*Co-Moderator: Dayong Lee, PhD
Houston Forensic Science Center
Houston, TX*

- 1:00 p.m. - 1:15 p.m. **K27** **A Field Performance of the DrugTest 5000® and DDS®2 Onsite Oral Fluid (OF) Devices by Oregon and Vermont Drug Recognition Experts (DREs)**
Marilyn A. Huestis, PhD; Amanda L.A. Mohr, MSFS; Alex J. Krotulski, MS;
Barry K. Logan, PhD*
- 1:15 p.m. - 1:30 p.m. **K28** **An Analysis of Ethanol in Blood and Oral Fluid Samples From Dosed Individuals by Headspace Gas Chromatography**
Emily R. Parchuke, BS; Matthew R. Wood, PhD; Marianne E. Staretz, PhD;
Thomas A. Brettell, PhD*
- 1:30 p.m. - 1:45 p.m. **K29** **Alcohol Extrapolations: Scientific, Legal, and Ethical Considerations**
*Ashraf Mozayani, PharmD, PhD**
- 1:45 p.m. - 2:00 p.m. **K30** **Quantification of Minor Blood Cannabinoids and Their Utility as Recent Cannabis Use Markers in Driving Under the Influence of Drugs (DUID) Investigation Cases**
Ayako Chan-Hosokawa, MS; Marykathryn Tynon Moody, MSFS; Loan Nguyen, BS;
Bingfang Yue, PhD; Barry K. Logan, PhD; Marilyn A. Huestis, PhD*



TOXICOLOGY

2:00 p.m. - 2:15 p.m.	K31	A Study of an Active-State CB1 Receptor Model and JWH Synthetic Cannabinoids <i>Caroline Spencer, BS*</i> ; <i>Pankaj Pandey, PhD</i> ; <i>Robert J. Doerksen, PhD</i> ; <i>Murrell Godfrey, PhD</i>
2:15 p.m. - 2:30 p.m.	K32	The Evaluation and Preservation of Urine Specimens in Forensic Toxicology <i>Meaghan Ringel, BS*</i> ; <i>Shanan S. Tobe, PhD</i> ; <i>Gail Audrey Ann Cooper, PhD</i> ; <i>Karen S. Scott, PhD</i>
2:30 p.m. - 2:45 p.m.	K33	Novel Stimulants N-Ethyl Pentylone and Dibutylone: Case Reports, Quantitative Confirmation, and Metabolic Profile Determination <i>Alex J. Krotulski, MS*</i> ; <i>Donna M. Papsun, MS</i> ; <i>Bruno De Martinis, PhD</i> ; <i>Amanda L.A. Mohr, MSFS</i> ; <i>Barry K. Logan, PhD</i>
2:45 p.m. - 3:00 p.m.		Break <i>Supported by: Immunalysis Corporation</i>

Analytical Methods in Toxicology

Moderator: Erin A. Spargo, PhD
Dallas, TX

Co-Moderator: Alex J. Krotulski, MS
Center for Forensic Science
Research & Education
Willow Grove, PA

3:00 p.m. - 3:15 p.m.	K34	Pharmacokinetic and Pharmacodynamic Differences Between Paramethoxymethamphetamine (PMMA), Paramethoxyamphetamine (PMA), 3,4-Methylenedioxymethamphetamine (MDMA), and Amphetamine in a Mouse Model <i>Robert Kronstrand, PhD*</i> ; <i>Mikael Andersson, PhD</i> ; <i>Hanna Göthe, MSc</i>
3:15 p.m. - 3:30 p.m.	K35	The Development of a High Resolution Mass Spectrometry (HRMS) Library and Method Validation for Screening and Confirmation of 800+ Novel Psychoactive Substances (NPS) by Liquid Chromatography/Quadrupole Time-Of-Flight/Mass Spectrometry (LC/qTOF/MS) <i>Melanie Eckberg, MSFS*</i> ; <i>Anthony P. DeCaprio, PhD</i>
3:30 p.m. - 3:45 p.m.	K36	6-Monoacetylmorphine (6-MAM) Positivity: A Comparison of Two Methods <i>Jolene Bierly, MSFS*</i> ; <i>Laura M. Labay, PhD</i> ; <i>Barry K. Logan, PhD</i>
3:45 p.m. - 4:00 p.m.	K37	The Development and Validation of a Method for the Analysis of Novel Emerging Opioids <i>Marykathryn Tynon Moody, MSFS*</i> ; <i>Stephanie Kumor, MA</i> ; <i>Parul Shah, BS</i> ; <i>Donna M. Papsun, MS</i> ; <i>Barry K. Logan, PhD</i>
4:00 p.m. - 4:15 p.m.	K38	A Semi-Quantitative Retrospective Method Validation for Three Synthetic Cannabinoids With Analytical Confirmation in Toxicology Casework <i>Stephanie Kumor, MA*</i> ; <i>Kristopher W. Graf, BS</i> ; <i>Sherri L. Kacinko, PhD</i>

TOXICOLOGY



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- 4:15 p.m. - 4:30 p.m. **K39** **Fully Automated Detection and Quantification of Insulin Analogs by Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) in Postmortem Vitreous Humor**
Kevin M. Legg, PhD; Laura M. Labay, PhD; Barry K. Logan, PhD*
- 4:30 p.m. - 4:45 p.m. **K40** **The Effect of Sample Preparation Techniques on Matrix Effects and Absolute Recovery of Opiates in Liver Tissue Using Ultra Performance Liquid Chromatography-Tandem Mass Spectrometry (UPLC-MS/MS): Part 1**
Casey Spencer, BS; Jean A. Heneks, BA; Justin L. Poklis, BS; Carl E. Wolf II, PhD*
- 4:45 p.m. - 5:00 p.m. **K41** **The Identification of Adulterants in Preliminary Drug Analysis**
Bianca Olivieri; Mark Maric, PhD; Candice Bridge, PhD*

Toxicology Open Forum

*Moderator: William R. Johnson, BA
Wisconsin State Lab of Hygiene
Toxicology Section
Madison, WI*

*Co-Moderator: Sherri L. Kacinko, PhD
Willow Grove, PA*

- 7:00 p.m. - 9:00 p.m. **Toxicology Open Forum**
*Supported by: Agilent Technologies, Inc.
NMS Labs*

Friday

Multidisciplinary Session: Pathology/Biology Session II/Toxicology — Postmortem Forensic Toxicology

*Moderator: James Louis Caruso, MD
Office of the Medical Examiner
Denver, CO*

*Co-Moderator: Karen S. Scott, PhD
Arcadia University
Glenside, PA*

- 8:30 a.m. - 8:45 a.m. **K42** **Using Medical Examiner Case Narratives to Improve Opioid Overdose Surveillance**
*Emily Hurstak, MD; Phillip O. Coffin, MD; Nikolas P. Lemos, PhD**
- 8:45 a.m. - 9:00 a.m. **K43** **Prescription Drug Degradation in a Simulated Postmortem Blood Model**
Jared Castle, BSc; Danielle Marie Butzbach, PhD; Claire Lenehan, PhD;
Stewart Walker, PhD; Frank Reith, PhD; Sam P. Costello, PhD; Paul Kirkbride, PhD*
- 9:00 a.m. - 9:15 a.m. **K44** **Strange Bedfellows: Fentanyl Mixed With the Antiquated Poison Strychnine**
Daniel Atherton, MD; Rachel C. Beck, PhD; Brandi C. McCleskey, MD*
- 9:15 a.m. - 9:30 a.m. **K45** **An Investigation Into the Analysis of Fentanyl in Postmortem Blood Using Biocompatible Solid-Phase Microextraction (BioSPME)**
Chandler Marie Grant, MS; Thomas A. Brettell, PhD; Samuel D. Land, MD;
Marianne E. Staretz, PhD*



TOXICOLOGY

9:30 a.m.	-	9:45 a.m.	K46	Fatal Hydromorphone Overdose in a Child: A Case Report <i>Teri L. Martin, MSc*</i>
9:45 a.m.	-	10:00 a.m.	K47	An Accidental Death Due to Paraquat Poisoning: An Unusual Case Requiring Toxicologist, Pathologist, and Investigator Collaboration <i>Erin E. Walsh, MS*; Elisa N. Shoff, BS; Sean Hurst, MD; George W. Hime, MS; Diane Boland, PhD</i>
10:00 a.m.	-	10:15 a.m.	K48	Postmortem Tissue Distribution of Synthetic Cathinones <i>Lindsay Glicksberg, BS*; Ruth E. Winecker, PhD; Caitlin E. Miller, MS; Sarah Kerrigan, PhD</i>
10:15 a.m.	-	10:30 a.m.		Break <i>Supported by: Waters Corporation</i>

<i>Moderator: Madeleine J. Swortwood, PhD Sam Houston State University Huntsville, TX</i>	<i>Co-Moderator: Dianne Little, MBBS Queensland Health Forensic and Scientific Services Southport, AUSTRALIA</i>
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10:30 a.m.	-	10:45 a.m.	H122	Immune Responses in Opioid Use <i>Henry J. Carson, MD*</i>
10:45 a.m.	-	11:00 a.m.	H123	Preliminary Findings From the Drug Enforcement Administration's (DEA's) National Forensic Laboratory Information System (NFLIS) Medical Examiner/Coroner Office Survey <i>DeMia P. Pressley, MS; Artisha R. Polk, MPH; Liqun Wong, MS; Terrence Boos, PhD; Hope Smiley-McDonald, PhD; Katherine N. Moore, MS*; Edrina Burnette, MS; Jeffrey M. Ancheta, BS; Neelima Kunta, BS; David Heller, BS; Jeri D. Roper-Miller, PhD</i>
11:00 a.m.	-	11:15 a.m.	H124	Developing "Real-Time" Surveillance for Drug Overdose Deaths in King County, Washington <i>Nicole A. Yarid*; Julia Hood, PhD; Richard C. Harruff, MD, PhD</i>
11:15 a.m.	-	11:30 a.m.	H125	New Psychoactive Substances (NPS) -Related Deaths in Sweden — An Alarming Development <i>Gisela Pettersson, MD*; Gunilla Thelander, BSc</i>
11:30 a.m.	-	11:45 a.m.	H126	Deaths in Denver, Colorado, With the Detection of Cannabinoid Metabolites: 2010-2016 <i>Derek Bumgarner, MD*; Meredith A. Frank, MD; Krista L. Timm, MD; James Louis Caruso, MD</i>
11:45 a.m.	-	12:00 p.m.	H127	Levamisole: A High-Performance Cutting Agent <i>Nadia Solomon, MSc*; Jonathan Hayes, MD</i>
12:00 p.m.	-	1:00 p.m.		Lunch

TOXICOLOGY



General Forensic Toxicology

*Moderator: Robert D. Johnson, PhD
Tarrant County Medical Examiner's Office
Fort Worth, TX*

*Co-Moderator: Amanda L.A. Mohr, MSFS
Center for Forensic Science
Research & Education
Willow Grove, PA*

- 1:00 p.m. - 1:15 p.m. **K49** **Acute Intoxications With Phenibut (β -Phenyl- γ -Aminobutyric Acid), an Emergent Psychoactive γ -Aminobutyric Acid (GABA) Agonist**
Erin L. Karschner, PhD; John J. Kristofic, BS; Jeffrey D. Chmiel, MS; Neal C. Goebel, PhD; Jeff Walterscheid, PhD*
- 1:15 p.m. - 1:30 p.m. **K50** **A Forensic Characterization of Bacterial and Fungal Organisms in Traditional Chinese Herbs**
Julia Grzymkowski; Justin L. Poklis, BS; Christopher J. Ehrhardt, PhD; Michelle R. Peace, PhD*
- 1:30 p.m. - 1:45 p.m. **K51** **The Role of Toxicology in Child Custody Disputes**
*Sherri L. Kacinko, PhD**
- 1:45 p.m. - 2:00 p.m. **K52** **A Segmental Analysis of Endogenous Gamma-Hydroxybutyric (GHB) Acid in Human Hair**
Jennifer Thomas, PhD; Erin Waddell Lloyd, PhD; Christopher C. Donnelly, BA; Mark L. Miller, PhD; Madeline A. Montgomery, BS; Roman Karas, BS; Marc A. LeBeau, PhD*
- 2:00 p.m. - 2:15 p.m. **K53** **A Wastewater Analysis for Tobacco and Drug Detection in New York City**
Alethea Jacox, MS; Nicole Centazzo, BS; Bonnie-Marie Frederick, MS; Jasmine Gayle, MS; Marta Concheiro-Guisan, PhD*
- 2:15 p.m. - 2:30 p.m. **Break**
Supported by: Lipomed, Inc.

Pediatric Postmortem Toxicology

*Moderator: Robert A. Middleberg, PhD
NMS Labs
Willow Grove, PA*

*Co-Moderator: Nikolas P. Lemos, PhD
University of California - San Francisco
Palm Springs, CA*

- 2:30 p.m. - 5:00 p.m. **K54** **Postmortem Pediatric Toxicology**
Robert A. Middleberg, PhD; Nikolas P. Lemos, PhD; Richard C. Harruff, MD, PhD*; Carl J. Schmidt, MD*; Thomas G. Rosano, PhD**



LAST WORD SOCIETY

Thursday

Moderator: Kenneth E. Melson, JD
The George Washington University Law School
Montclair, VA

Co-Moderator: Paula C. Brumit, DDS
University of Texas Health Science Center
Nocona, TX

- | | | |
|------------------------|------------|---|
| 8:00 p.m. - 8:17 p.m. | LW1 | The Dead Horse Investigation — Forensic Photo Analysis Meets Genealogy
<i>Colleen M. Fitzpatrick, PhD*</i> |
| 8:17 p.m. - 8:34 p.m. | LW2 | Three Complementary Analyses of Ansel Adams' <i>Moonrise, Hernandez, New Mexico</i>
<i>Roderick T. Kennedy, JD*</i> |
| 8:34 p.m. - 8:51 p.m. | LW3 | A Review of Changing Crime Patterns and the Development of Forensic Science in Ireland
<i>Sheila Willis, PhD*</i> |
| 8:51 p.m. - 9:08 p.m. | LW4 | The 2014 Killing of Five Babies in Oulu, Finland, and the Neonatal Line (NNL) Investigation as the Definitive Bottom Line
<i>Vivian Visnapuu*</i> |
| 9:08 p.m. - 9:25 p.m. | LW5 | A Forensic Examination of 19th-Century Archaeological Remains
<i>Thomas J. David, DDS*</i> |
| 9:25 p.m. - 9:42 p.m. | LW6 | The Dark Side of the Show: Investigating Mysterious Aspects of Traditional American Sideshows
<i>Matteo Borrini, PhD*</i> |
| 9:42 p.m. - 10:00 p.m. | LW7 | The Phoenix Canal Murders + Forensic Genealogy = Solved!
<i>Colleen M. Fitzpatrick, PhD*</i> |



BRING YOUR OWN SLIDES (PowerPoint®) BYOS.ppt

Wednesday Evening: 8:00 p.m. – 10:00 p.m.

In order to keep BYOS.ppt informal, fun, and informative for the large and diverse audience, here are a few things to keep in mind for the BYOS.ppt program at the 2018 AAFS Annual Meeting in Seattle, WA.

To present at BYOS.ppt presentations must be in PowerPoint® format. 35mm slides are not accepted.

- Proposals must be submitted on this form accompanied by a “6-slides-per-page” printout of the presentation and an electronic copy on CD or “flash” drive.
- BYOS is not intended as a forum to present scientific papers. It is designed as a means to present interesting information and/or unusual case(s) that may be educational and blended with humor.
- Speakers should plan on ten minutes in which to present their material.
- Material being presented in other parts of the AAFS scientific program will not be accepted at BYOS.ppt.
- Tables, charts, and graphs should be avoided, making every effort to use slides of scenes, bodily findings, and evidence.

This completed form, a “6-slide-per-page” printout, and the electronic presentation copy should be delivered to the on-site AAFS Staff Office by 4:00 p.m. on Wednesday, February 21, 2018. Presentations will be selected and scheduled based on perceived interest to the audience and in the order in which the completed submissions are received. This form and required printout are needed to organize the BYOS.ppt program and to allow appropriate allocation of continuing education credit. A BYOS.ppt Program Form also will be placed in each registrant’s meeting packet.

BYOS PROGRAM FORM

Name and Degree(s): _____

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The presentation is being offered primarily to:

- ☐ Solicit input/advice on a challenging case
- ☐ Present interesting information or case(s) for educational purposes
- ☐ Entertainment

Presentation is:

- ☐ A single case
- ☐ A series of cases with a common topic
- ☐ Multiple cases with unrelated topics
- ☐ Other (please specify): _____

Briefly describe the material to be presented: _____

What are the major points to be emphasized?: _____

How will the attendees benefit from this presentation?: _____

Is there commercial interest in the material being discussed?: ☐ No ☐ Yes (If yes, please describe): _____

How much presentation time is required?: _____ minutes

How many PowerPoint® slides will be shown?: _____

Presenter’s local hotel: _____ Room #: _____ Phone #: _____

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The BYOS agenda, scheduled presentation times, and continuing education credit hours will be posted near the BYOS meeting room. If you have any questions, contact Sonya Bynoe at abstracts@aaafs.org or at the on-site AAFS Staff Office.

AAFS STAFF USE ONLY: Date Received: _____ Time: _____

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PRESENTING AUTHOR FINANCIAL DISCLOSURE



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