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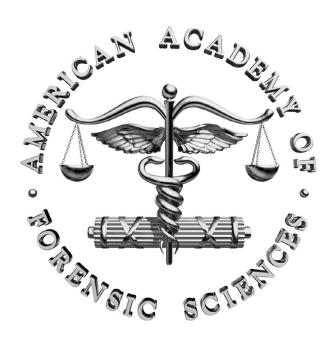
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# American Academy of Forensic Sciences

410 North 21st Street Colorado Springs, Colorado 80904

Phone: (719) 636-1100 Fax: (719) 636-1993 Email: info@aafs.org Website: www.aafs.org



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# REGISTRATION INFORMATION



The pre-registration deadline is January 18, 2017. 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 18, 2017, 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 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-69th-annual-scientific-meeting-new-orleans-louisiana-2017/



# REGISTRATION INFORMATION

#### PRE-REGISTRATION SAVINGS

The benefits of pre-registration cannot be emphasized enough! 30% 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 18, 2017.

		<b>Pre-Registration</b>	On-Site
RE	GISTRATION FEES*	<b>Discount Rate</b>	Registration
1.	AAFS Members & Trainee Affiliates, Applicants**	\$295	\$420
2.	AAFS Student Affiliates**	\$100	\$125
3.	AAFS Retired Fellows	\$ 0	\$ 0
4.	Non-Members	\$475	\$545
5.	Non-Member Trainees**	\$295	\$420
	(Must provide letter from employer verifying trainee status.)		
6.	Non-Member Full-Time Students**	\$125	\$150
7.	IAI Members** and AFTE Members**	\$295	\$420
8.	Daily Registrants	\$160/day	\$185/day
	(Wednesday, Thursday, Friday, and/or Saturday admission to scientification of the scientifi	ic sessions only)	

<sup>\*</sup>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).

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

AAFS Student Affiliates must have certified 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 verifying full-time status during February 2017. Not available to those in post graduate internships, residencies, or fellowships.

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

#### PRE-REGISTRATION DEADLINE

The **deadline for pre-registration** is January 18, 2017. Registration forms must be *received by* this date. Pre-registration forms received at the AAFS office after January 18, 2017, 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 1-5 50% refund No refunds after February 5, 2017.

#### ACCOMPANYING SPOUSE REGISTRATION

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 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.

<sup>\*\*</sup>Registration Requirement:



## American Academy of Forensic Sciences • Pre-Registration Form 69th Annual Scientific Meeting • February 13-18, 2017 • New Orleans, Louisiana Pre-Registration Deadline – January 18, 2017

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

Faxed registration forms are not accepted.

Registration forms must be received by Wednesday, January 18, to be eligible to register for the 2017 Special Functions and to qualify for the discounted registration rate.

On January 19, 2017, the on-site rates become effective and registration for 2017 Special Functions will be voided.

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

REGISTRANT INFORMA	ATION		
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:		adge State/Province:	Badge Country:
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are not members of the forensic sci badge only and is not eligible for Seminar tickets may be purchased	ience or legal community and may no Continuing Education credit, Work d by the Pre-Registration deadline.	t be used for colleagues, students, or interns. "A shop/Special Session Registration, or Certifica	es, family members, or other traveling companions who accompanying spouse" registration includes a name ates of Attendance; however, Breakfast and Luncheon udent, Daily, and Workshop Only registrants.)
1 7 6 1 6	(\$50) Name:	9 (	,,,,,
ADA ACCOMMODATIO	INS		
Flease li Please li	ist any special dietary requireme ist ADA accommodation request	nts:ts:	
event(s) you are attending. ADA a required by the Pre-Registration of every special dietary request. Plea	accommodations related to hotel roo. deadline (January 18, 2017). Reques ase be specific and use standard acc	m reservations should be directed to the hotel v	s, assisted listening devices, etc.) and should specify what when making reservations. ADA Accommodations are and or fulfilled in time. Venues <u>may not</u> be able to fulfill seeds.
CONTINUING EDUCATI	ION CREDIT		
□\$100 Administrative Fee	Credit Request Form at the regists	ration counter and submit by the deadline fo	r credit/certificate
	am for detailed information, includ	·	r credit certificate.
REGISTRATION FEES	,	7,1	
Includes admittance into AAF			gh the Saturday morning Scientific Sessions es except Student, Daily, and Workshop Only.
Category	P	re-Registration (through January 18)	On-Site Registration (effective January 19)
☐ AAFS Members, Trainee	Affiliates, Applicants*	\$295	\$420
☐ AAFS Student Affiliates		\$100	\$125
☐ AAFS Retired Fellows		\$0	\$0
□Non-Members		\$475	\$545
□Non-Member Trainees*		\$295	\$420
□ Non-Member Full-Time S	Students*	\$125	\$150
□IAI Members* □ AFTE		\$295	\$420
□Daily: □Wed □Thurs	□Fri □Sat	\$160/DAY	\$185/DAY
☐ Workshop Only		See Special Functions (next page)	Not Available

- \*Must provide/submit additional documentation by the January 18, 2017, 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 2017.
- ♦ Non-Member Trainees Letter from employer verifying trainee status.
- ♦ IAI & AFTE 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 18, 2017**, 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)

				ting is not permitted in these sessions. (AAFS Policy and Procedure Manual 3.1.3.3.)	Eac	Otro		Total
Dre	Mon	7:00-8:30	BS1	ance Program for detailed descriptions)  The Mummies of Central New York – A Unique Experience for a Medical Examiner's Office	Fee \$50	Qty	\$	Total
	Tues	7:00-8:30	BS2	Analysis of Black-and-White Documents – Seeing Beyond the Monochrome	\$50		\$	
	Thurs	7:00-8:30	BS3	Reliving the Jeffrey Dahmer Case 25 Years Later	\$50		- \$ <b>-</b>	
	Fri	7:00-8:30	BS4	Cold Cases: An Exploratory Study of the Status of Unresolved Homicides in the United States	\$50		\$	
Lm		Seminar (c	oo Adva	nnce Program for detailed description)	Fee	Qty		Total
	Thurs	12:00-1:30	L1	Murder on Campus – Understanding the Critical Incident and Forensic Response to a Targeted Murder	\$58	Qty	\$	Total
						04	Ψ <u>-</u>	T-4-1
	Wed	12:00-1:00	L3	Business Meetings begin following the Luncheon – see Advance Program for times)  Criminalistics Section Luncheon (section members only)	Fee \$10	Qty	\$	Total
	Wed	12:00-1:45	L4	Digital & Multimedia Sciences Section Luncheon	\$58		\$	
	Wed	12:00-1:15	L5	General Section Luncheon	\$58		\$	
	Wed	12:00-1:45	L6	Jurisprudence Section Luncheon	\$58		\$	
	Wed	12:00-1:30	L7	Pathology/Biology Section Luncheon	\$58		\$	
	Wed	12:00-1:45	L8	Psychiatry & Behavioral Science Section Luncheon	\$58		\$	
	Wed	12:00-1:45	L9	Toxicology Section Luncheon	\$58		\$	
							Ψ	Total
	Tues	8:30-12:15	S1	Program for detailed descriptions)  Interdisciplinary Symposium: The Evolution of Daubert and Its Effects on the Forensic Sciences	<b>Fee</b> \$50		\$	Total
	Tues	8:30-8:00	S2	Young Forensic Scientists Forum – What Shapes Our Future? Foundations and New Directions	\$100		\$	
					With Meeting	Worksho		
Wo	rkshop	os (see Advan	ice Prog	tram for detailed descriptions)	Reg	Only	, ,	Total
	Mon	8:30-12:30	W1	Behind the Curtain: Understanding the Basic Science and Testimony of Latent Prints	\$100	\$125	\$_	
	Mon	8:30-4:30	W2	A Computational Framework for Skeletal Age-at-Death Estimation Using Laser Scans (bring laptop)	\$250	\$300	\$_	
	Mon	8:30-5:00	W3	Shooting Reconstruction	\$200	\$250	\$_	
	Mon	8:30-5:00	W4	Sex-Related Homicide and Death Investigation: Practical and Clinical Perspectives	\$200	\$250	\$_	
	Mon	8:30-5:00	W5	The Opiod Epidemic: Trends, Challenges, and a Path Forward	\$250	\$275	\$_	
	Mon	8:30-5:00	W6	Taking a Bite Out of Crime and Other Hairy Situations	\$200	\$250	\$_	
	Mon	8:30-5:00	W7	How to Manage the Multidisciplinary Response to a Mass Fatality Event	\$200	\$250	\$_	
	Mon	8:30-5:30	W8	Applications of Hair Testing in Toxicology: Legal, Technical, and Medical Challenges	\$200	\$250	\$_	
	Mon	8:30-5:30	W9	Staged Crime Scenes: Crime Scene Clues to Suspect Misdirection of the Investigation	\$200	\$250	\$_	
	Mon	8:30-5:45	W10	Child Abuse: A Multidisciplinary Approach	\$200	\$250	\$_	
_	Mon	8:30-6:00	W11	Extreme Violence in the Military: Multiple Case Studies	\$200	\$250	\$_	
	Mon	8:30-6:00	W12	Forensic Digital Multimedia: Enhancement and Authentication	\$200	\$250	\$_	
	Mon	9:00-12:00	W13	Forensics and Social Media: The Intersection of Education, Personal Promotion, and Professionalism	\$150	\$175	\$_	
	Mon	9:00-1:30	W14	Retinal Hemorrhages Associated With Pediatric Abusive and Non-Abusive Head Injury	\$100	\$125	\$_ \$	
	Mon	1:00-5:30	W15	Considerations for Crime Scene Analysis When Utilizing Forensic Science Experts for Post-Scene Analysis	\$100	\$125	\$_	
	Tues	8:30-12:00 8:30-12:30	W16 W17	The AAFS Humanitarian and Human Rights Resource Center: Year Two	\$100	\$125	\$_	
	Tues Tues	8:30-12:30 8:30-12:30	W17	Communication Strategies to Mitigate Bias and Strengthen Scientific Foundations in Forensic Science  The Opiate Crisis, Dirty Bombs, Big Data/Big Problems, and Driverless Cars – Theoretical "Think Tank"	\$100 \$100	\$125	\$	
	Tues	8:30-12:55	W19	Women in the Sciences: Examining Systemic Barriers and Becoming Agents of Change	\$100	\$125 \$150	\$_ \$	
	Tues	8:30-4:30	W20	Instrumental Chromatographic Separation Techniques for Forensic Analyses	\$200	\$250	\$ -	
	Tues	8:30-4:30	W21	Forensic Photography and the Exposure Triangle: ISO, Depth of Field, and Shutter Speed (bring camera)	\$200	\$250	- \$ -	
	Tues	8:30-5:30	W22	Viewing Research Through Different Lenses: How to Achieve Success in Court	\$200	\$250	\$	
	Tues	9:00-5:00	W23	Fundamentals of Printing and Graphic Arts Examinations (bring 3-5x magnification loupe)	\$200	\$250	\$ -	
_	Tues	1:30-4:30	W24	Navigating the Sea of Resources for Sexual Assault Programs	\$100	\$125	\$	
_		-100		Special Function			\$	
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All 1	ayments	to AAFS must	be in US	Funds drawn on a US bank.				
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Refund Policy: All requests for refunds must be submitted via mail or email (tmccray@aafs.org). Phone and faxed requests are not accepted.

Cancelled registration fees will be refunded accordingly: Dec 1-31 at 75%; Jan 1-31 at 60%; Feb 1-5 at 50%; no refunds after February 5.

# ABOUT THE AAFS



For sixty-nine 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 63 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 will be present to showcase the cutting-edge technology and services of this ever-changing profession.

#### **Future Annual Meetings**

#### **2018 AAFS Annual Meeting**

February 19-24, 2018 Washington State Convention Center Seattle, WA

#### 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 Fax: (719) 636-1993 Email: info@aafs.org

Website: www.aafs.org

Anne Warren, Executive Director



# **OFFICERS & OFFICIALS**

#### **Officers**

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Ouestioned Documents: Carl R. McClary, BA

Toxicology: Ruth E. Winecker, PhD

#### 2017 Annual Scientific Meeting Program Committee

Program Chair: Julie A. Howe, MBA Program Co-Chair: Christine Funk, JD

Plenary Session: Joanna L. Collins, MFS; Nikolas P. Lemos, PhD

Poster Sessions: Vincent J. Desiderio, Jr., MS; Michelle R. Hoffman, MS Workshops: Christopher R. Thompson, MD; Karolyn L. Tontarski, MS

Breakfast Seminars: Laura C. Fulginiti, PhD; Peter T. Ausili, MS Luncheon Seminars: Gregory G. Davis, MD; Marie Samples, MS Last Word Society: James E. Starrs, LLM; Kenneth E. Melson, JD Bring Your Own Slides: Michael M. Baden, MD; Joseph A. Prahlow, MD Student Academy: Julie A. Howe, MBA; Marilyn T. Miller, EdD Interdisciplinary Symposium: Marla E. Carroll, BS; Linton Mohammed, PhD

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Engineering Sciences: David Pienkowski, PhD

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Odontology: Roger D, Metcalf, DDS, JD Pathology/Biology: David O. Carter, PhD

Psychiatry & Behavioral Science: Varendra Gosein, MD; J. Paul Fedoroff, MD

Questioned Documents: Samiah Ibrahim, BSc

Toxicology: Nikolas P. Lemos, PhD; William R. Johnson, BA





## **Past Presidents**

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*B. Edward Whittaker, BS	Joseph P. Bono, MA
Kurt M. Dubowski, PhD	Douglas H. Ubelaker, PhD
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Lowell J. Levine, DDS	Barry K. Logan, PhD
*Joseph H. Davis, MD	Daniel A. Martell, PhD
*Anthony Longhetti, BA	Victor W. Weedn, MD, JD2015-16
	, ,

<sup>\*</sup> Deceased



# **OFFICERS & OFFICIALS**

#### **Section Officers**

Anthropology

Chair: Gregory E. Berg, PhD Secretary: Kate Spradley, PhD

Criminalistics

Chair: Karolyn L. Tontarski, MS Secretary: Vincent J. Desiderio, Jr., MS

Digital & Multimedia Sciences

Chair: Marcus Rogers, PhD Secretary: Marla E. Carroll, BS

**Engineering Sciences** 

Chair: John Nixon, CEng, MBA Secretary: Michelle R. Hoffman, MS

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Chair: James Louis Caruso, MD Secretary: Joyce L. de Jong, DO

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

**Questioned Documents** 

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

**Toxicology** 

Chair: Dan T. Anderson, MS Secretary: Fiona J. Couper, PhD

#### R.B.H. Gradwohl Laureates

# Douglas M. Lucas Medalists

*Milton Helpern, MD
*Rolla N. Harger, PhD
*James T. Weston, MD
*Oliver C. Schroeder, Jr., JD
Abel M. Dominguez, PhD
Douglas M. Lucas, MSc, DSc 1995
Kenneth S. Field, MBA
*Sidney Kaye, PhD
*Richard C. Froede, MD
*Joseph H. Davis, MD
Barry A.J. Fisher, MS, MBA
Kurt M. Dubowski, PhD
James E. Starrs, LLM
Thomas T. Noguchi, MD
Robert E. Gaensslen, PhD

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

<sup>\*</sup> Deceased





# **Distinguished Fellows**

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

<sup>\*</sup> Deceased



# **GENERAL INFORMATION**

	gistration Desivatt Regency New			
Sunday	February 12	1:00 p.m.	-	5:00 p.m.
Monday	February 13	6:45 a.m.	-	5:00 p.m.
Tuesday	February 14	6:45 a.m.	-	6:00 p.m.
Wednesday	February 15	6:45 a.m.	-	5:00 p.m.
Thursday	February 16	6:45 a.m.	-	5:00 p.m.
Friday	February 17	6:45 a.m.	-	4:00 p.m.
Saturday	February 18	7:30 a.m.	-	9:30 a.m.
	Exhibit Hall H	<b>Iours</b>		
Ну	att Regency New	Orleans		
Wednesday	February 15	11:30 a.m.	-	4:00 p.m.
Thursday	February 16	9:00 a.m.	_	2:00 p.m.
AAFS Reception	(Exhibits Open)	6:00 p.m.	-	8:00 p.m.
Friday	February 17	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, meeting attendees are asked to silence their cell phones when attending the sessions.

# **AWARDS & RECEPTIONS**



The R.B.H. Gradwohl Laureate Medallion, the Distinguished Fellow Award, and the AAFS Outstanding Early Career Achievement in Forensic Science Award will be presented on Wednesday, February 15, 2017, during the AAFS Annual Business Meeting. Join us in acknowledging your most distinguished colleagues as they are presented with these prestigious awards.

## R.B.H. Gradwohl Laureate Medallion Honoree

Robert E. Gaensslen, PhD

## **Distinguished Fellow Honoree**

Peter R. De Forest, DCrim

# **AAFS Outstanding Early Career Achievement in Forensic Science Award**

Kristina L. Hoffman, PSM

Section Awards will be presented during Section Business Meetings, also on Wednesday, February 15, 2017, (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 R.B.H. Gradwohl Medallion, the Distinguished Fellow Medal Plaque, and the AAFS Outstanding Early Career Achievement in Forensic Science Award.

#### **2017 Section Award Honorees**

#### Anthropology Section's

T. Dale Stewart Award

J. Lawrence Angel Award Ellis R. Kerley Foundation Best Paper Award

Service Award

Frank P. Saul, PhD Julie M. Saul, BA Sarah Ellingham, PhD Cliff Boyd, PhD

Angi M. Christensen, PhD Rodger Heglar, PhD Elias J. Kontanis, PhD Richard G. Snyder, PhD Phoebe R. Stubblefield, PhD

**Criminalistics Section's** 

Paul L. Kirk Award

Mary E. Cowan Outstanding Service Award

Meritorious Service Award

John M. Butler, PhD Mary M. Gibbons, MCrim Lucy A. Davis, BHS



# **AWARDS & RECEPTIONS**

Digital & Multimedia Sciences Section's

Outstanding Research Award

Mark D. Guido, MS

Outstanding Case Study Award

Carrie Morgan Whitcomb Service Award

David W. Baker, MFS

**Engineering Sciences Section's** 

Founders Award John Nixon, CEng, MBA

**General Section's** 

John R. Hunt Award Neal H. Haskell, PhD

Paul W. Kehres Meritorious Service Award Timothy M. Palmbach, MS, JD

**Odontology Section's** 

Lester Luntz Award Thomas J. David, DDS
Reidar F. Sognnaes Award of Excellence in Forensic Odontology Franklin D. Wright, DMD

Pathology/Biology Section's

2016 Best Resident Paper Award Tiffany Baker, MD

Milton Helpern Award Victor W. Weedn, MD, JD

Kim A. Collins, MD

Award for Achievement in the Forensic Life Sciences Gail S. Anderson, PhD

Forensic Biologist Trainee Paper Award Banshwar Singh, PhD

Psychiatry & Behavioral Science Section's

Richard Rosner, MD Award for the Best Paper by a Fellow in

Forensic Psychiatry or Forensic Psychology – Honorable Mention

Subhash Chandra, MD

Samuel J. House, MD

**Questioned Documents Section's** 

Ordway Hilton Award Ronald N. Morris, BS

**Toxicology Section's** 

Rolla N. Harger Award

Ray Abernethy Award

Laura J. Liddicoat, PhD

Irving Sunshine Award

Dayong Lee, PhD

June K. Jones Scholarship Award Kayla N. Ellefsen, PhD

2017 AAFS Regional Award Winners

Midwest Association for Toxicology & Therapeutic Drug Monitoring Southern Association of Forensic Scientists Rachel M. Hamilton, MS Christina R. Carl, BS

Matthew N. Newmeyer, BS

# **AWARDS & RECEPTIONS**



### 2016-17 FSF Emerging Forensic Scientist Award Honorees

The FSF Emerging Forensic Scientist Award will be presented on Wednesday, February 15, 2017, during the AAFS Annual Business Meeting. You'll want to be present to congratulate recipients:

Lauren Traveller, DNP, and Kelsey L. Wilkinson, MS

### 2016-17 FSF Henry C. Lee Scholarship Recipient

The FSF Henry C. Lee Scholarship will be presented on Wednesday, February 15, 2017, during the AAFS Annual Business Meeting. You'll want to be present to congratulate recipient:

Kent M. Adamson, MSc

## 2016-17 FSF Warren-Young Scholarship Recipient

The FSF Warren-Young Scholarship will be presented on Wednesday, February 15, 2017, during the Annual Business Meeting. You'll want to be present to congratulate recipient:

Leanne K. Moorman. MS

#### 2016-17 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 15, 2017, during the Criminalistics Section Business Meeting. You'll want to be present to congratulate recipient:

Wei Chean Chuah, BS

# **RECEPTION INFORMATION**

Welcoming Reception — Tuesday, February 14 — 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 69th Annual Wine & Cheese Reception — Thursday, February 16 — 6:00 p.m. - 8:00 p.m.

The AAFS Wine & Cheese Reception will be held to celebrate what promises to be an excellent 2017 program and to toast your return to the Academy's 70<sup>th</sup> Annual Scientific Meeting in 2018 (Seattle, WA)!



# **SECTION BUSINESS MEETINGS**

#### The Sections

The Sections of the American Academy of Forensic Sciences will hold their annual business meetings on Wednesday, February 15, 2017. 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	<b>Business Meeting</b>
Anthropology		2:00 p.m 3:45 p.m.
Criminalistics <sup>2</sup>	12:00 p.m 1:00 p.m.	1:05 p.m 3:45 p.m.
Digital & Multimedia Sciences <sup>1</sup>	12:00 p.m 1:45 p.m.	2:00 p.m 3:45 p.m.
Engineering Sciences		1:30 p.m 3:45 p.m.
General <sup>1</sup>	12:00 p.m 1:15 p.m.	1:30 p.m 3:45 p.m.
Jurisprudence <sup>1</sup>	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 <sup>1</sup>	12:00 p.m 1:30 p.m.	1:45 p.m 3:45 p.m.
Psychiatry & Behavioral Science <sup>1</sup>	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 <sup>1</sup>	12:00 p.m 1:45 p.m.	2:00 p.m 3:45 p.m.

<sup>&</sup>lt;sup>1</sup> 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 AAFS will be held Wednesday, February 15, 2017, at 4:15 p.m., at the Hyatt Regency New Orleans in New Orleans, LA. 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 2017-18 Officers, consideration of bylaw amendments, presentation of the Gradwohl Medallion, 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 2018 AAFS Annual Scientific Meeting in Seattle, WA.

<sup>&</sup>lt;sup>2</sup> This luncheon requires pre-registration and is open only to members of the Criminalistics Section.

# **NEW ORLEANS, LA**





#### WELCOME TO NEW ORLEANS!

New Orleans is a non-stop party with activities continually underway, including Creole food, impromptu jazz music pouring out of countless bars, hints of Mardi Gras year-round, and touches of culture, history, and architecture found in its many museums. A melting pot of cultures (French, Creole, African-American, Caribbean, Irish, Haitian, German, Vietnamese, and more) lends a distinction that gives the "Big Easy" a relentless energy and makes it a unique American city to visit. The French Quarter boasts horse-drawn carriage rides, live Dixieland music on Bourbon Street, Colonial-era houses, and a 250+ year-old market.

#### **Climate in February**

The occasional cold snap during the mild winter months can be downright chilly at times. Freezing temperatures make everyone stop and stare, as snow is a distant memory for many, and few people know how to drive on icy roads.

#### **Transportation**

#### By Plane

Louis Armstrong International Airport (MSY) is now the sixth-largest airport in the southeast, and undergoing an expansion of a new terminal. Airlines that service New Orleans include Air Canada, Alaska Airlines, Allegiant Air, American Airlines, Branson AirExpress, Condor, Copa Airlines, Delta Airlines, Frontier Airlines, GLO, Jet Blue Airways, Southwest Airlines, Spirit Airlines, United Airlines, and VacationExpress. The airport is located 15 miles west of the city in Kenner, with an exit on Interstate 10. Allow 30-45 minutes to reach downtown, with afternoon traffic starting as early as 3:00 p.m. Tulane Avenue or the Earhart Expressway can also be used to reach the airport, but expect stoplights and potential traffic.

#### Tax

Taxi service is available at booths outside Baggage Claims 1 and 14 on the ground level of the Terminal.

Flat rates are \$36 for 2 passengers to the Central Business District (CBD) or French Quarter. For more than 2 passengers, the rate is \$15/person. Credit card payments are accepted.

#### Airport Shuttle

An airport shuttle with service to hotels or other destinations in New Orleans is \$24/person for a one-way trip and \$44/person for a round-trip fare. These prices include three pieces of luggage per person, with possible surcharges for additional bags. Tickets can be purchased at any of the Airport Shuttle ticket booths along Baggage Claim. Group tickets are available.

#### Limousines

Limousines are available through A-Airport Limousine, with kiosks throughout Baggage Claim. Prices vary according to the model selected, and range from \$58 for two people to \$118 for eight people. For reservations call 1-866-739-5466 or go online to www.airportlimousineneworleans.com.

#### Public Transit

Passengers can also take the Regional Transportation Authority (RTA) or the Jefferson Transit Authority (JET) for a fraction of the cost. Visit the second floor bus stop, along the outer lanes, outside the Concourse C Lobby Information Booth. The JET Airport-Downtown Express (E2) provides a 50-minute ride into New Orleans for \$2. The bus accepts \$1, \$5, \$10, and \$20 dollar bills and any U.S. coin. The RTA Airport Express (202) can be taken roundtrip, offering pickup from the Elk Place at Cleveland and the Union Passenger Terminal Bus Bay 2 to the Departures Level of the Terminal. One-way fares are \$1.50, exact change please.

#### Car Rental

Car rental is available at the Consolidated Rental Car Facility (CONRAC). Visitors should exit the Terminal near Baggage Claims 12-14 and head right through a covered walkway. CONRAC offers nine rental car companies: Alamo, Avis, Budget, Dollar, Enterprise, Hertz, National, Payless, Thrifty.



# **NEW ORLEANS, LA**

#### By Train

Amtrak and Greyhound routes stop at the Union Passenger Terminal, located in the Central Business District (CBD) at 1001 Loyola Avenue. The terminal is within a mile of the Hyatt Regency Hotel, and the Loyola Avenue Streetcar connects passengers to Canal Street. There are three Amtrak routes that service New Orleans: 1) the City of New Orleans, from Chicago; 2) the Crescent, that connects New Orleans and New York, through Atlanta; and 3) the Sunset Limited, which runs from New Orleans to Los Angeles. For more information, call (800) 872-7245, or visit www.amtrak.com.

#### By Car

The main route through New Orleans is Interstate 10, which starts in southern California and continues through Los Angeles, Phoenix, Tucson, El Paso, San Antonio, Houston, Baton Rouge, Tallahassee, and terminates in Jacksonville, FL. The main north-south passages are Interstates 49, 55, and 59. Expect delays when driving at peak traffic hours.

International visitors should note that insurance and taxes are almost never included in quoted rental-car rates in the U.S. Be sure to ask your rental agency about these, as they can add a significant cost to your car rental.

#### **Getting Around New Orleans**

#### **By Car**

Visitors often find it easier to forego driving in lieu of walking or taking a streetcar, bus, or taxi. Potholes and bumps prevail as paved roads battle swamp-like, uneven, and tree-root strewn terrain. Parking and city laws are stringent and will ticket for parking less than 15 feet from a corner. Some street signs remain missing, and the layout from the older part of town predates the automobile and is filled with one-way streets and the challenges of parallel parking. Gas stations are in short supply; look on Rampart Street when downtown and Carrollton Avenue when uptown.

Car rental rates in New Orleans start at \$40 a day or \$250 a week for an economy-sized car. Quoted prices do not include a local 9% tax for car rentals and can include additional surcharges, increasing costs another 10-15%.

#### By Taxi

Taxis are plentiful and useful for even short trips. Locals prefer United Cabs, Yellow Checker, and Veterans, while urging against any unlicensed or unmarked cabs. The base fare is \$3.50, with each additional mile \$2. Additional passengers are \$1/person. Look for taxis along Decatur Street, Canal Street, or any major hotel in the French Quarter or the CBD. If outside these areas, call to arrange for pickup.

#### By Streetcar

There are five main lines:

- The Canal Streetcar—Cemeteries travels along Canal Street from the French Quarter to the cemeteries at City Park Avenue.
- The Canal Streetcar City Park/Museum takes Canal Street to Carrollton Avenue, terminating at the New Orleans Museum of Art.
- The Loyola-UPT Streetcar starts at the Union Passenger Terminal (rail and bus station) on Loyola Avenue, with a stop in front of the Hyatt Regency Hotel/Hyatt House before continuing onto Canal Street. Additional stops include the Audubon Aquarium of the Americas and the Audubon Butterfly Garden Insectarium before the Loyola streetcar route finishes at Esplanade Avenue.
- The Riverfront Streetcar originates in the French Quarter at Esplanade Avenue and ends at the Ernest N. Morial Convention Center.
- The **St. Charles** Streetcar route starts at Canal Street/S Claiborne Avenue and tours St. Charles Avenue, passing such sites as Lafayette Square, the Robert E. Lee Monument, and Loyola and Tulane Universities, before reaching its terminal at S Claiborne Avenue/ S Carrollton Avenue).

A one-way fare costs \$1.25, with \$1.50 for express routes, \$.25 for transfers, and exact change only. For unlimited rides, buy a Jazzy Pass for \$3.00/1-day or \$9.00/3-days at any Walgreens store or on the RTA website

#### By Bus

New Orleans RTA operates 80 buses on 32 bus routes. Many of the buses are updated, as nearly the entire fleet of buses was lost in the flooding after Hurricane Katrina. These updates make navigation easier for travelers who can use the RTA website to 1) view schedules and maps; 2) receive text messages for the arrival of the bus/streetcar they are taking (http://www.norta.com/Rider-Tools/Mobile-RTA.aspx); and 3) find the nearest RTA stop. An interactive map on the RTA website also allows passengers to view individual routes for buses and streetcars.

#### **Sources:**

Fodor's Travels: http://www.fodors.com/world/north-america/usa/louisiana/new-orleans/travel-tips

WikiTravel: http://wikitravel.org/en/New Orleans

Louis Armstrong New Orleans International Airport: http://www.flvmsv.com/

RTA: http://www.norta.com/

# **ACCOMMODATIONS**



# 69th Annual Scientific Meeting Accommodations Information

AAFS 69<sup>th</sup> Annual Scientific Meeting February 13-18, 2017 Headquarters: Hyatt Regency New Orleans New Orleans, LA, U.S.A.

The American Academy of Forensic Sciences has selected the Hyatt Regency New Orleans as the Headquarter property during the 69<sup>th</sup> Annual Scientific Meeting in New Orleans, LA. The Hyatt Regency New Orleans offers great amentities to help you throughout your stay.

For hotel availability during the American Academy of Forensic Sciences 69<sup>th</sup> Annual Scientific Meeting, please go to the AAFS Annual Meeting "Accommodations" webpage to make your hotel reservation under the AAFS room block. By using this link on the AAFS Accommodations page, you will be taken to the hotel's AAFS specific meetings page where you may secure your reservation at the group-contracted rate of \$207 for either single or double rooms.

While early reservations are recommended to take advantage of discounted rates, please be sure to cancel your reservations prior to the Monday, January 9, 2017, deadline 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.

#### **Hvatt Regency New Orleans**

601 Loyola Avenue New Orleans, LA 70113 Telephone: (504) 561-1234 Single/Double: **\$207** 



#### **Hyatt House New Orleans/Downtown**

1250 Poydras Street New Orleans, LA, 70113 Telephone: (504) 648-3118 Single/Double: **\$289** 



**Reservations:** https://resweb.passkey.com/go/amacadofforensicsciences2017

#### **Standard Amenities:**

#### **Hyatt Regency New Orleans:**

- Wireless high-speed Internet access
- · Work desk with enhanced lighting
- Voicemail, cordless phone, dual-line speaker phone
- 42-inch flat panel HDTV
- Roomlinx interactive TV and Internet platform
- Cable movie/TV channels and video on demand
- Full bath amenities and hair dryer
- · Valet parking

#### Hyatt House New Orleans/Downtown:

- Free Wi-Fi everywhere
- 42-inch flat screen TV with high definition channels
- Plug-N-Play TV adaptors
- Separate workspace
- · Cordless speakerphone with voicemail
- Remote printing
- Luxury skin and hair care amenities
- Iron & ironing board

Explore the highlights of the city from the Hyatt Regency New Orleans and the Hyatt House New Orleans/Downtown. The hotels' downtown location allow access to the Mercedes-Benz Superdome, Smoothie King Center, and Champions Square, the Loyola Avenue streetcar, and is within a mile's walking distance of the French Quarter, the Arts District, several museums, and the Mississippi riverfront. Experience the culinary delights at award-winning hotel restaurants that offer everything from gumbo to sushi to burgers.

Booking a room in the AAFS room block is an important way to support AAFS and to keep overall meeting costs as low as possible. AAFS commits to a block of rooms at the area hotels on behalf of meeting attendees and has a financial obligation to fill those blocks. Please help us to avoid penalties and to control costs for future events by staying at the official hotel. Staying within the block is also more convenient and helps you stay connected with the informal activities and networking opportunities that occur at the hotels during the meeting. If you are required to reserve a room through your company's travel department, please forward the booking link to them so that you can reserve a room in the AAFS room block.



# **CONTINUING EDUCATION**

#### **General Information**

All meeting sessions are lectures with one or more speakers. Continuing professional education credits are offered for physicians, dentists, attorneys, and chemists. Continuing education credit applications have been submitted for physicians, dentists, attorneys, and chemists. 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 anthropology, biology, criminalistics, digital & multimedia sciences, engineering sciences, general forensic investigation, jurisprudence, odontology, pathology, psychiatry & behavioral science, psychology, questioned document examination, and toxicology.

#### **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 2016-17 Program Committees, it is required that relevant AAFS staff members, program committee members, and reviewers complete a Financial Disclosure 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 Disclosure 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 competency in forensic practice. As a result, the claiming of credit for various continuing education activities related to medicine, dentistry, law, chemistry, 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 activity is eligible for CDE credit. See final activity announcement for specific details. Postgraduate Institute for Medicine is an ADA CERP Recognized Provider.

#### 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 18, 2017, 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

The American Academy of Forensic Sciences (AAFS) is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians. The American Academy of Forensic Sciences designates this live activity for a maximum of 60 AMA PRA Category 1 Credits<sup>TM</sup>. 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 2017 AAFS 69<sup>th</sup> Annual Scientific Meeting:

**Aegis Sciences Corporation** Agilent Technologies, Inc. **Anthropology Section Criminalistics Section Engineering Sciences Section** Fredric Rieders Family Foundation **General Section Immunalysis Corporation Jurisprudence Section** Leica Microsystems, Inc. Lipomed, Inc. **Methodist University Odontology Section** Pathology/Biology Section Sirchie Vashaw Scientific, Inc.



# AAFS 69th Annual Scientific Meeting

## **Calendar of Events**

## Saturday, February 11, 2017

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.	-	5:15 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
9:00 a.m.	-	5:00 p.m.	Forensic Specialties Accreditation Board (FSAB) Annual Meeting
9:00 a.m.	-	5:00 p.m.	National Association of Medical Examiners (NAME) ANAB ISO/IEC 17020 Lead Assessor
			Training (Day 1)

# Sunday, February 12, 2017

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.	ABC Board of Directors
8:00 a.m.	- 5:00 p.m.	ABC Examination Committee
8:00 a.m.	- 5:00 p.m.	ABFO Expert Witness Testimony Workshop
8:00 a.m.	- 5:00 p.m.	ASTM E30 Forensic Sciences
8:00 a.m.	- 5:00 p.m.	United States Army CID Criminalistics Committee
9:00 a.m.	- 12:00 p.m.	National Safety Council (NSC) Executive Board
9:00 a.m.	- 5:00 p.m.	Forensic Specialties Accreditation Board
9:00 a.m.	- 5:00 p.m.	International Association of Coroners & Medical Examiners (IAC&ME) Executive Board
9:00 a.m.	- 5:00 p.m.	NAME ANAB ISO/IEC 17020 Lead Assessor Training (Day 2)
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) Annual Meeting
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 13, 2017

6:00 a.m.	- 6:00 p.m.	AAFS Speaker Ready Room
6:00 a.m.	- 7:00 p.m.	American Board of Forensic Anthropology (ABFA) Annual Board Certification Examination
6:45 a.m.	- 5:00 p.m.	AAFS REGISTRATION OPEN
7:00 a.m.	- 8:30 a.m.	Breakfast #1: The Mummies of Central New York — A Unique Experience for a Medical
		Examiner's Office (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.	- 10:00 a.m.	National Institute of Standards and Technology (NIST) Organization of Scientific Area
		Committees (OSAC) – Digital/Multimedia Scientific Area Committee Public Status Reports &
		Open Discussion
8:00 a.m.	- 12:00 p.m.	Academy Standards Board (ASB) Board of Directors
8:00 a.m.	- 5:00 p.m.	AAFS Board of Directors



8:30 a.m.	- 12:30 p.m.	Workshop #1: Behind the Curtain: Understanding the Basic Science and Testimony of Latent
8:30 a.m.	- 4:30 p.m.	Prints (Pre-Registration Required) Workshop #2: A Computational Framework for Skeletal Age-at-Death Estimation Using Laser
6.30 a.iii.	- 4.30 p.m.	Scans of the Adult Pubic Symphysis: Theory, Methods, and Software (Pre-Registration Required)
8:30 a.m.	- 5:00 p.m.	Workshop #3: Shooting Reconstruction (Pre-Registration Required)
8:30 a.m.		
8:30 a.iii.	- 5:00 p.m.	Workshop #4: Sex-Related Homicide and Death Investigations: Practical and Clinical
		Perspectives — The Significance of Pornography, Sexual Deviance, Autoerotic Fatalities,
		Signature and Modus Operandi (M.O.) in Serial Murder Investigation and Criminal Investigative
8:30 a.m.	5,00 = ==	Analysis (Pre-Registration Required)  Workshop #5. The Onicid Evidencies Transac Challenges and a Bath Forward
8:30 a.iii.	- 5:00 p.m.	Workshop #5: The Opioid Epidemic: Trends, Challenges, and a Path Forward
9.20 0 00	- 5:00 p.m.	(Pre-Registration Required) Workshop #6. Taking a Pita Out of Chima and Other Hairs Situations (Pro Registration Required)
8:30 a.m. 8:30 a.m.		Workshop #6: Taking a Bite Out of Crime and Other Hairy Situations (Pre-Registration Required) Workshop #7: How to Manage the Multidiagining Pagnone to a Manage Enteline Function
8:30 a.iii.	- 5:00 p.m.	Workshop #7: How to Manage the Multidisciplinary Response to a Mass Fatality Event
8:30 a.m.	5.20	(Pre-Registration Required) Workshop #9. Applications of University Toyloglogy, Local Toolships and Medical
8:30 a.iii.	- 5:30 p.m.	Workshop #8: Applications of Hair Testing in Toxicology: Legal, Technical, and Medical
8:30 a.m.	- 5:30 p.m.	Challenges (Pre-Registration Required) Workshop #9: Staged Crime Scenes: Crime Scene Clues to Suspect Misdirection of the
6.30 a.iii.	- 5:30 p.m.	Investigation (Pre-Registration Required)
8:30 a.m.	- 5:45 p.m.	Workshop #10: Child Abuse: A Multidisciplinary Approach (Pre-Registration Required)
8:30 a.m.	- 6:00 p.m.	Workshop #10. Child Abuse. A Muthatscipithary Approach (Tre-Registration Required) Workshop #11: Extreme Violence in the Military: Multiple Case Studies and the Exploration of
6.30 a.iii.	- 0.00 p.m.	Murder, Rape, and Cold Cases in the United States Military (Pre-Registration Required)
8:30 a.m.	- 6:00 p.m.	Workshop #12: Forensic Digital Multimedia: Enhancement and Authentication
6.30 a.iii.	- 0.00 p.m.	(Pre-Registration Required)
9:00 a.m.	- 11:00 a.m.	ABFO Bitemark Committee
9:00 a.m.	- 12:00 a.m.	Workshop #13: Forensics and Social Media: The Intersection of Education, Personal Promotion,
9.00 a.iii.	- 12.00 p.m.	and Professionalism (Pre-Registration Required)
9:00 a.m.	- 1:30 p.m.	Workshop #14: Retinal Hemorrhages (RHs) Associated With Pediatric Abusive and
9.00 a.m.	- 1.50 p.m.	Non-Abusive Head Injury — Systematic Reviews and Their Evidence Base: A Review
		(Pre-Registration Required)
9:00 a.m.	- 5:00 p.m.	IAC&ME Executive Board
10:15 a.m.	- 12:00 p.m.	NIST OSAC – Biology/DNA Scientific Area Committee Public Status Reports & Open Discussion
1:00 p.m.	- 5:00 p.m.	NIST OSAC – Crime Scene/Death Investigation Scientific Area Committee Public Status
1.00 p.m.	3.00 p.m.	Reports & Open Discussion
1:00 p.m.	- 5:30 p.m.	Workshop #15: Considerations for Crime Scene Analysis When Utilizing Forensic Science
1.00 p.m.	3.30 p.m.	Experts for Post-Scene Analysis (Pre-Registration Required)
3:00 p.m.	- 5:00 p.m.	NAME Journal Editorial Board
-	- 7:00 p.m.	ASB Consensus Bodies Meeting
5:00 p.m.	- 6:00 p.m.	Consortium of Forensic Science Organizations (CFSO) Legislative Update Presentation
2.00 p.m.	0.00 p.m.	(Open to All Meeting Attendees)
5:00 p.m.	- 8:00 p.m.	ABFO Combined Executive Committee and Board of Directors
6:00 p.m.	- 10:00 p.m.	NAME Inspection and Accreditation Training
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)
8:00 p.m.	- 10:45 p.m.	ABFO Diplomates Annual Meeting
0.00 p.iii.	10.75 p.m.	1.12. 5 2.p.s.mano / minani //tooning

# Tuesday, February 14, 2017

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.	
	0.00	(Pre-Registration Required)
7:00 a.m.	- 9:00 a.m.	
7:00 a.m.	- 3:00 p.m.	e.
7:00 a.m.	- 5:30 p.m.	
7:00 a.m.	- 6:00 p.m.	· · · · · · · · · · · · · · · · · · ·
7:00 a.m.	- 11:00 p.m.	
7:30 a.m.	- 9:30 a.m.	
7:30 a.m.	- 9:45 p.m.	
8:00 a.m.	- 12:00 p.m.	
8:00 a.m.	- 12:00 p.m.	
8:00 a.m.	- 5:00 p.m.	
8:30 a.m.	- 12:00 p.m.	
0.50 4.111.	12.00 p.m.	(Pre-Registration Required)
8:30 a.m.	- 12:00 p.m.	
0.50 u.m.	12.00 p.m.	& Open Discussion
8:30 a.m.	- 12:15 p.m.	1
0.50 4.111.	12.10 p.m.	on the Forensic Sciences (Pre-Registration Required)
8:30 a.m.	- 12:30 p.m.	· · · · · · · · · · · · · · · · · · ·
0.50 4.111.	12.50 p.m.	Foundations in Forensic Science (Pre-Registration Required)
8:30 a.m.	- 12:30 p.m.	· · · · · · · · · · · · · · · · · · ·
0.00	12.0 ¢ p	On the Leading Edge of Forensic Science — 2017 Theoretical Forensic Sciences "Think Tank"
		(Pre-Registration Required)
8:30 a.m.	- 12:45 p.m.	
8:30 a.m.	- 12:55 p.m.	
0.50 4.111.	12.55 p.m.	of Change (Pre-Registration Required)
8:30 a.m.	- 4:30 p.m.	
0.50 4.111.	p.iii.	Application to the Analysis of Emerging Drugs (Pre-Registration Required)
8:30 a.m.	- 4:30 p.m.	
0.00	I	Professional Should Know About ISO, Depth of Field (DOF), and Shutter Speed (SS)
		(Pre-Registration Required)
8:30 a.m.	- 5:00 p.m.	
0.00	5 F	Foundations and New Directions (Pre-Registration Required)
8:30 a.m.	- 5:10 p.m.	
8:30 a.m.	- 5:30 p.m.	
	1	in Court (Pre-Registration Required)
9:00 a.m.	- 10:30 a.m.	· · · · · · · · · · · · · · · · · · ·
9:00 a.m.	- 2:00 p.m.	
9:00 a.m.	- 4:00 p.m.	•
9:00 a.m.	- 5:00 p.m.	
	•	(Pre-Registration Required)
10:00 a.m.	- 12:00 p.m.	
12:00 p.m.	- 1:15 p.m.	
12:00 p.m.	- 2:00 p.m.	
12:00 p.m.	- 2:00 p.m.	
12:00 p.m.	- 2:30 p.m.	
12:55 p.m.	- 5:15 p.m.	
1:00 p.m.	- 5:00 p.m.	
1:00 p.m.	- 5:00 p.m.	
-	-	& Open Discussion



1:30 p.m.	- 3:00 p.m.	FEPAC Program Directors
1:30 p.m.	- 4:30 p.m.	Workshop #24: Navigating the Sea of Resources for Sexual Assault Programs
		(Pre-Registration Required)
3:00 p.m.	- 4:30 p.m.	IBFES Board of Directors
4:00 p.m.	- 11:00 p.m.	American Board of Forensic Anthropology (ABFA) Board of Directors
4:30 p.m.	- 9:45 p.m.	IBFES Membership Meeting
5:30 p.m.	- 7:30 p.m.	Society of Forensic Anthropologists (SOFA) Board
6:00 p.m.	- 8:00 p.m.	Employment Forum
6:00 p.m.	- 8:00 p.m.	AAFS Welcoming Reception
7:00 p.m.	- 8:00 p.m.	YFSF Bring Your Own Posters
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: The Last Lecture (Open to all Meeting Attendees)

# Wednesday, February 15, 2017

6:00 a.m.	- 6:00 p.m.	AAFS Speaker Ready Room
6:30 a.m.	- 9:00 a.m.	Taylor & Francis Forensic Science Policy & Management Meeting
6:45 a.m.	- 5:00 p.m.	AAFS REGISTRATION OPEN
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 Interim Meeting
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.	- 9:00 a.m.	AAFS Government Relations Committee
8:00 a.m.	- 8:45 a.m.	AAFS ACADEMY CUP
8:00 a.m.	- 12:00 p.m.	International Registry of Taphonomy
8:30 a.m.	- 11:30 a.m.	American Dental Association (ADA) OSAC Forensic Odontology Taskforce
9:00 a.m.	- 11:05 a.m.	AAFS PLENARY SESSION
10:00 a.m.	- 11:00 a.m.	International Affairs Committee
11:00 a.m.	- 12:00 p.m.	Theoretical Forensic Sciences "Think Tank" Committee
11:00 a.m.	- 12:00 p.m.	AAFS Membership Application "How To" Session
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
		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.
11:30 a.m.	- 4:00 p.m.	EXHIBITS OPEN
12:00 p.m.	- 1:00 p.m.	Criminalistics Section Luncheon (Pre-Registration Required)
12:00 p.m.	- 1:00 p.m.	SOFT Drug Facilitated Crimes (DFC) Committee
12:00 p.m.	- 1:15 p.m.	General Section Luncheon (Pre-Registration Required)
12:00 p.m.	- 1:30 p.m.	Pathology/Biology Section Luncheon (Pre-Registration Required)
12:00 p.m.	- 1:45 p.m.	Digital & Multimedia Sciences Section Luncheon (Pre-Registration Required)
12:00 p.m.	- 1:45 p.m.	Jurisprudence Section Luncheon (Pre-Registration Required)
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 (Pre-Registration Required)
12:00 p.m.	- 1:45 p.m.	Odontology Section Executive Committee Luncheon
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.	Engineering Sciences Section Business Meeting
1:30 p.m.	- 3:45 p.m.	General Section Business Meeting



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1:45 p.m.	- 3:45 p.m.	Pathology/Biology 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.	Jurisprudence 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.	Toxicology Section Business Meeting
2:00 p.m.	- 3:45 p.m.	Odontology Section Business Meeting
2:00 p.m.	- 3:45 p.m.	Questioned Documents Section Business Meeting
3:00 p.m.	- 4:30 p.m.	International Board of Forensic Engineering Sciences (IBFES) Board of Directors
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 (by Invitation Only)
6:00 p.m.	- 7:00 p.m.	YFSF Bring Your Own Slides
6:00 p.m.	- 8:00 p.m.	Criminalistics Section Reception (by Invitation Only)
6:00 p.m.	- 8:00 p.m.	Engineering Sciences Section Reception (by Invitation Only)
6:00 p.m.	- 8:00 p.m.	Jurisprudence Sections Reception (by Invitation Only)
6:00 p.m.	- 8:00 p.m.	Odontology –ASFO Reception (by Invitation Only)
6:00 p.m.	- 8:00 p.m.	Pathology/Biology Reception (by Invitation Only)
6:00 p.m.	- 8:00 p.m.	Questioned Documents Reception (by Invitation Only)
6:00 p.m.	- 8:00 p.m.	Promega Genetic Identity Reception
6:00 p.m.	- 9:00 p.m.	John Jay College on the Road — AAFS Alumni Reception
6:30 p.m.	- 7:30 p.m.	Toxicology Awardees Recognition & Reception (by Invitation Only)
6:30 p.m.	- 8:00 p.m.	General Section Reception (by Invitation Only)
6:30 p.m.	- 8:00 p.m.	Boston University School of Medicine Alumni and Student Reception
7:00 p.m.	- 8:30 p.m.	Digital & Multimedia Sciences Section Reception (by Invitation Only)
7:00 p.m.	- 9:00 p.m.	Duquesne University MS-FSL Reception
7:00 p.m.	- 9:00 p.m.	The George Washington University Forensic Sciences Alumni Reception
7:00 p.m.	- 9:00 p.m.	Marshall University Forensic Science 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.	Sam Houston State University Alumni and Student Reception
8:00 p.m.	- 10:00 p.m.	University of New Haven Student and Alumni Reception
8:00 p.m.	- 10:00 p.m.	Virginia Commonwealth University Alumni and Student Reception
5.00 P.III.	10.00 P.III.	. In the common control of the state of the control

# Thursday, February 16, 2017

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: Reliving the Jeffrey Dahmer Case 25 Years Later (Pre-Registration Required)
7:00 a.m.	- 10:00 a.m.	YFSF Annual Breakfast (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 Moderators "How To" Preview
7:30 a.m.	- 9:00 a.m.	AAFS Policy and Procedure Committee
8:30 a.m.	- 9:30 a.m.	AAFS Student Affiliate Part-Time Status Ad Hoc Committee
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.	- 11:30 p.m.	Odontology
8:30 a.m.	- 11:45 a.m.	Anthropology
8:30 a.m.	- 11:45 p.m.	Jurisprudence
8:30 a.m.	- 12:00 p.m.	Criminalistics Session I
8:30 a.m.	- 12:00 p.m.	Engineering Sciences
8:30 a.m.	- 12:00 p.m.	General
8:30 a.m.	- 12:00 p.m.	Psychiatry & Behavioral Science
8:30 a.m.	- 12:00 p.m.	Toxicology
8:30 a.m.	- 12:05 p.m.	Criminalistics Session II
8:30 a.m.	- 12:05 p.m.	Digital & Multimedia Sciences
8:30 a.m.	- 12:15 p.m.	Pathology/Biology Session I
9:00 a.m.	- 11:40 a.m.	Questioned Documents
9:00 a.m.	- 11:50 a.m.	Pathology/Biology Session II
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

 $discussion \ from \ 11:30 \ a.m.-1:00 \ p.m.$ 

#### Scientific Sessions – Afternoon

Scientific St	COOL	ins rincerno.	V11
1:00 p.m.	-	4:30 p.m.	Odontology
1:00 p.m.	-	4:50 p.m.	Jurisprudence
1:00 p.m.	-	5:00 p.m.	General
1:00 p.m.	-	5:00 p.m.	Psychiatry & Behavioral Science
1:00 p.m.	-	5:00 p.m.	Toxicology
1:00 p.m.	-	5:30 p.m.	Criminalistics Session I
1:00 p.m.	-	5:30 p.m.	Engineering Sciences
1:05 p.m.	-	5:30 p.m.	Criminalistics Session II
1:15 p.m.	-	4:30 p.m.	Anthropology
1:25 p.m.	-	5:05 p.m.	Digital & Multimedia Sciences
1:30 p.m.	-	4:25 p.m.	Questioned Documents
1:30 p.m.	-	5:00 p.m.	Pathology/Biology Session I
2:00 p.m.	-	3:50 p.m.	Pathology/Biology Session II
12:00 p.m.	-	1:00 p.m.	SOFT/AAFS Drugs & Driving Committee
12:00 p.m.	-	1:30 p.m.	Journal of Forensic Sciences Editors' Wine & Cheese Luncheon
12:00 p.m.	-	1:30 p.m.	Luncheon #1: Murder on Campus — Understanding the Critical Incident and Forensic Response
			to a Targeted Murder on a College Campus (Pre-Registration Required)
12:00 p.m.	-	2:00 p.m.	ABFO Combined Executive Committee and Board of Directors
1:00 p.m.	-	2:00 p.m.	AAFS International Educational Outreach Program (IEOP) 2018 - Cuba
2:00 p.m.	-	3:00 p.m.	AAFS Finance Committee
3:30 p.m.	-	5:30 p.m.	AAFS Exhibitor Liaison Committee & Reception
5:30 p.m.	-	7:00 p.m.	Anthropology – Ellis R. Kerley Forensic Sciences Foundation Reception (by Invitation Only)
6:00 p.m.	-	8:00 p.m.	University Fair
6:00 p.m.	-	8:00 p.m.	AAFS 69th Annual Wine & Cheese Reception
6:30 p.m.	-	8:30 p.m.	Kenyon International Reception
7:00 p.m.	-	9:00 p.m.	Toxicology Open Forum
7:00 p.m.	-	9:00 p.m.	Fire Debris Discussion Group
8:00 p.m.	-	10:00 p.m.	Last Word Society
8:15 p.m.	-	10:15 p.m.	Council of Forensic Science Educators (COFSE)

Posters will be available for viewing from 10:00 a.m. – 1:00 p.m. Presenting authors will be available for



# Friday, February 17, 2017

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 #4: Cold Cases: An Exploratory Study of the Status of Unresolved Homicides in the
		United States (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 2017-18 Nominating Committee

## **Scientific Sessions – Morning**

8:30 a.m.	- 11:45 a.m.	Anthropology
8:30 a.m.	- 11:45 p.m.	Psychiatry & Behavioral Science
8:30 a.m.	- 12:00 p.m.	Criminalistics Session I
8:30 a.m.	- 12:00 p.m.	General Session I
8:30 a.m.	- 12:00 p.m.	Jurisprudence Session I
8:30 a.m.	- 12:00 p.m.	Odontology
8:30 a.m.	- 12:00 p.m.	Pathology/Biology Session I
8:30 a.m.	- 12:00 p.m.	Multidisciplinary Session: Pathology/Biology Session II/Toxicology
8:30 a.m.	- 12:05 p.m.	Criminalistics Session II
8:30 a.m.	- 12:05 p.m.	Digital & Multimedia Sciences
8:30 a.m.	- 12:45 p.m.	Engineering Sciences
8:45 a.m.	- 11:30 a.m.	Questioned Documents
9:00 a.m.	- 10:00 a.m.	AAFS 2017-18 Section Officers
9:00 a.m.	- 1:00 p.m.	EXHIBITS OPEN
10:00 a.m.	- 10:30 a.m.	AAFS Continuing Education Committee
10:30 a.m.	- 11:30 a.m.	AAFS 2017-18 Program Committee
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

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.

#### Scientific Sessions – Afternoon

1:00 p.m.	- 4:15 p.m.	Jurisprudence Session I
1:00 p.m.	- 4:55 p.m.	Multidisciplinary Session: Jurisprudence Session II/Questioned Documents Session
1:00 p.m.	- 5:00 p.m.	General Session I
1:00 p.m.	- 5:00 p.m.	Multidisciplinary Session: Anthropology Session II/General Session II/
		Pathology/Biology Session I — Forensic Taphonomy
1:00 p.m.	- 5:00 p.m.	Psychiatry & Behavioral Science
1:00 p.m.	- 5:00 p.m.	Toxicology
1:00 p.m.	- 5:15 p.m.	Criminalistics Session I
1:05 p.m.	- 5:05 p.m.	Criminalistics Session II
1:15 p.m.	- 5:00 p.m.	Anthropology
1:25 p.m.	- 3:30 p.m.	Digital & Multimedia Sciences
1:30 p.m.	- 3:15 p.m.	Anthropology Session III: Special Session — International Association of Forensic
		Sciences (IAFS)
1:30 p.m.	- 4:45 p.m.	Odontology



12:00 p.m. - 1:30 p.m. AAFS Past Presidents Council Luncheon 5:30 p.m. - 7:30 p.m. Illumina 4th Annual User Symposium

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

## Saturday, February 18, 2017

6:00 a.m. - 12:00 p.m. AAFS Speaker Ready Room 7:00 a.m. - 9:30 a.m. AAFS 2017-18 Board of Directors 7:30 a.m. - 9:30 a.m. AAFS REGISTRATION OPEN

8:00 a.m. - 5:00 p.m. American Board of Forensic Odontology (ABFO) Age Estimation Workshop

#### Scientific Sessions - Morning

8:00 a.m. - 12:00 p.m. Anthropology

8:30 a.m. - 11:40 a.m. Criminalistics Session II

8:30 a.m. - 11:40 a.m. Psychiatry & Behavioral Science

8:30 a.m. - 12:00 p.m. Criminalistics Session I 8:30 a.m. - 12:00 p.m. Pathology/Biology



## STUDENT ACADEMY

#### Pre-Registration Required — \$15

#### **Tuesday**

February 14, 2017

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

Faculty:

Anthropology:

Elizabeth A. Murray, PhD College of Mount St. Joseph Cincinnati, OH

Criminalistics:

Lynn A. Schneeweis, MS

Massachusetts State Police Crime Laboratory Maynard, MA

Digital & Multimedia Sciences:

**Richard W. Vorder Bruegge, PhD** Federal Bureau of Investigation Quantico, VA

Engineering Sciences:

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

General:

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

Monroe, LA

Jurisprudence:

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

Rochester, MN

Co-Chair:

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

Odontology:

Robin A. Scheper, DDS Wildwood, NJ

Pathology/Biology:

J.C. Upshaw Downs, MD GBI Medical Examiner's Office Savannah, GA

Psychiatry & Behavioral Science:

**Dean DeCrisce, MD**Special Treatment Unit Avenel, NJ

Questioned Documents: Sandra L. Miller, BS Pennsylvania State Police Harrisburg, PA

*Toxicology:* 

**George F. Jackson, PhD**AFMES/Division of Forensic Toxicology
Willingboro, NJ

**Ashraf Mozayani, PhD** Texas Southern University Houston, TX

## INTERDISCIPLINARY SYMPOSIUM



#### Pre-Registration Required — \$50

#### S1 The Evolution of *Daubert* and Its Effects on the Forensic Sciences

Tuesday, February 14, 2017 — 8:30 a.m. - 12:15 p.m.

3.5 CE Hours

Chair:

Marla E. Carroll, BS

Forensic Video & Audio Associates, Inc.

Plantation, FL

Faculty:

Stephanie Domitrovich, JD, PhD

Sixth Judicial District of PA

Erie, PA

Stephen Goudge, LLB

Paliare Roland Barristers

Toronto, ON, CANADA

Neal H. Haskell, PhD

Rensselaer, IN

John J. Lentini, BA

Scientific Fire Analysis, LLC

Islamorada, FL

Co-Chair:

Linton Mohammed, PhD

Forensic Science Consultants, Inc.

Burlingame, CA

Mara L. Merlino, PhD

Frankfort, KY

W. Milton Nuzum, JD

Columbus, OH

Barry C. Scheck, JD

The Innocence Project

New York, NY

Peter V. Tytell, BA

Forensic Research, LLC

New York, NY

Joseph J. Maltese, JD, PhD

New York Supreme Court, Appellate Division

Staten Island, NY

**Educational Objective(s):** After attending this presentation, attendees will better understand how forensic science practitioners have addressed the evolution of *Daubert* and the reaction of the legal community as the standard has progressed. Attendees will be exposed to the challenges faced by forensic scientists and the research that is addressing criticisms. Furthermore, the Interdisciplinary Symposium will help attendees understand how the courts understand *Daubert* and how they address the admissibility of forensic practitioners and science.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by discussing the past, present, and future ramifications of the *Daubert* Trilogy on the admissibility of forensic evidence from the viewpoint of practitioners, attorneys, educators, and judges.

**Program Description:** The 2017 American Academy of Forensic Sciences Interdisciplinary Symposium program will help forensic scientists gain insight into the evolution of the current standards for admissibility of scientific evidence and expert testimony, the evolution of its application in the courts, and the effects of the National Academy of Sciences (NAS) Report on the presentation of scientific and opinion evidence.

**S1** 

## **INTERDISCIPLINARY SYMPOSIUM**

#### Pre-Registration Required — \$50

### The Evolution of *Daubert* and Its Effects on the Forensic Sciences (continued)

#### Stephanie Domitrovich, JD, PhD; W. Milton Nuzum, JD

The American Bar Association (ABA) recently adopted a Resolution wherein the ABA urges the National Commission on Forensic Science to support the development of a model curriculum in the law and forensic science as well as training in that curriculum for federal, state, territorial, and tribal judges. The NAS recommended: "Better connections must be established and promoted between experts in the forensic science disciplines and law schools, legal scholars, and practitioners." Specifically, the NAS Report further indicated: "And judges need to be better educated in forensic science methodologies and practices." Consistent with these recommendations, presenters in this session will discuss the evolving developments in judicial education over the years in providing state and federal trial judges the necessary tools for their tool boxes to become better equipped to understand forensic scientific evidence issues in both *Daubert* and *Frye* jurisdictions. Judicial educators will discuss the design of such curricula to teach state and federal trial judges to become more competent gatekeepers when deciding scientific issues in all areas, for instance, civil, criminal, family, and orphans' court. Judicial educators will also discuss implementing needs assessments, curricula development, and adult education principles as their latest tools in education theories to accomplish these goals.

#### Stephen T. Goudge, LLB

This presentation will address the public inquiry Judge Goudge chaired into Pediatric Forensic Pathology in Ontario. The Inquiry was created by the government of Ontario because unreliable opinion evidence from this science had resulted in a number of wrongful convictions. In his report, Judge Goudge addressed the challenge of unreliable scientific opinion evidence and how the justice system could guard against it.

#### Neal H. Haskell, PhD

The science of Forensic Entomology (FE) has regularly entered the courtroom in the United States within the past three decades. At first, it was perceived as a "new and novel science" using insects to answer questions regarding a human death. During this time, the *Frye* test of acceptability in courts was the standard method of reliability. Only a handful of states had actually utilized FE in courts. This led to numerous challenges of its use in courts as more states sought use of FE, the gatekeepers being the justices on the bench.

As was explained to each new state where testimony was given, whether *Frye* or *Daubert*, FE is nothing more than proven and reliable entomological scientific principles dating back to 1265 China in a murder case. Forensic application of entomology is one of the oldest sciences to be used in the courtroom. In short, FE is the use of biological aspects of entomology encompassing insect biology, insect behavior, insect growth and development, insect ecology, interacting with climatology and environmental biology, all of which have been studied for centuries and are fully accepted in the biological sciences.

#### Peter V. Tytell, BA

One practical change in post-*Daubert* courtrooms has been at the *voir dire* stage of an expert's appearance. Previously, opposing counsel would challenge the specifics of the education, training, and experience of the witness in an effort to disqualify that individual as an expert in a certain discipline (or at least lessen the witness's credibility in the eyes of the jury). Today, the challenge is often to the reliability of the discipline itself rather than the qualifications of the witness as a practitioner. It is increasingly likely that the *voir dire* will be conducted outside the presence of the jury, and that it will be essentially indistinguishable from a *Daubert* hearing in content and intent.

Today's expert witness must be prepared not just to present the results of an examination and to explain the specifics of each of the findings, but must also be prepared to present the basis for the reliability of the discipline with specifics relating to each of the *Daubert* factors and the requirements of Rule 702. Of equal importance, today's trial attorney must be prepared not just to present the facts

## INTERDISCIPLINARY SYMPOSIUM



#### Pre-Registration Required — \$50

#### The Evolution of *Daubert* and Its Effects on the Forensic Sciences (continued)

of a case, but must also be prepared to ask the right questions of the expert and to present *Daubert*-appropriate references, citations, and arguments. This presentation will illustrate these changes as they relate to forensic document examiners with case examples highlighting problems that can arise in these situations.

#### Joseph J. Maltese, JD, PhD

S1

The expansion of *Daubert* and *Kumho Tire* standards into the Federal Rules of Evidence, and their adoption by many state courts, have served as a catalyst for the criminal defense bar to challenge the reliability of the "specialized knowledge" utilized in most of the forensic disciplines. With greater scrutiny being applied by the courts, many forensic disciplines have attempted to validate or revalidate their methodology and procedures to withstand objections raised by attorneys and skeptical judges about the admissibility of such evidence, which was rarely subject to objection before the *Daubert* revolution. This presentation will address some of these issues.

#### Barry C. Scheck, JD

As the National Commission on Forensic Science recently acknowledged in a views document, protecting against cognitive bias through blind examinations and sequential unmasking is critical to conducting sound science. Forensic scientists, lawyers (prosecutors and defense), judges, and police officials must all take simple, systematic precautions to minimize the effects of cognitive bias in their investigations, scientific testing, and assessments of evidence. Fashioning judicial remedies to enforce best practices plays an important role in this process.

#### Mara Merlino, PhD

This presentation will discuss the issues faced by forensic practitioners as the various forensic disciplines work to articulate and standardize education, training, and other practices to ensure that valid and reliable evidence is produced in service to the justice system. The process of the social construction of scientific knowledge and the impact of legal requirements on scientific "facts" that cross the boundary of admissibility to become scientific "evidence" will be discussed in the context of *Daubert, Joiner*, and *Kumho* decisions.

#### John J. Lentini, BA

While *Daubert* challenges are becoming more and more common in all expert disciplines, fire investigation seems to attract a significant number of them. The first *Daubert* challenge occurred in 1997, in the case of *Michigan Millers Mutual Ins. v. Janelle R. Benfield*, when a fire investigator with 40 years of experience was precluded from testifying because he could not articulate the scientific method, even though he claimed to have used it. However, in the same case, a firefighter was allowed to render an opinion based on his "experience." Courts have ruled on hundreds of *Daubert* challenges, including the Supreme Court. Sometimes the court gets the science completely wrong, as the 10<sup>th</sup> circuit did in the case of *Truck Insurance Exchange*, *A Farmers Insurance Company v. Magnetek, Incorporated*. They arrived at the correct result, but in so doing, completely confused a lot of other courts.

The prevalence of *Daubert* challenges has led to a more general "Rule 702" challenge. In the past, challenges to fire investigators have focused mainly on methodology. There is a trend now toward challenging an investigator's qualifications. After being unable to answer simple fire chemistry questions, an investigator is likely to be withdrawn and the case is likely to settle. Such cases will not result in new case law.

In fire cases, the *Daubert* challenge is now as common as motions for summary judgment. This presentation will discuss several important fire-related *Daubert* cases and what they portend for the future of fire investigation.



## INTERDISCIPLINARY SYMPOSIUM

## Pre-Registration Required — \$50

## S1 The Evolution of *Daubert* and Its Effects on the Forensic Sciences (continued)

Program:		
8:30 a.m.	- 8:35 a.m.	Opening Remarks  Marla E. Carroll, BS
8:35 a.m.	- 9:05 a.m.	Evolving Trends in Science Education for Judges Since Daubert Stephanie Domitrovich, JD, PhD; W. Milton Nuzum, JD
9:05 a.m.	- 9:25 a.m.	Lessons Learned About Unreliable Science: The Public Inquiry Into Pediatric Forensic Pathology in Ontario Stephen Goudge, LLB
9:25 a.m.	- 9:45 a.m.	Forensic Entomology: Meeting the Criteria for Acceptance in Court Neal H. Haskell, PhD
9:45 a.m.	- 10:05 a.m.	Evolution of Challenges to Forensic Document Examiners and Forensic Document Examination Since <i>Daubert</i> Peter V. Tytell, BA
10:05 a.m.	- 10:20 a.m.	Panel Discussion  Marla E. Carroll, BS; Linton Mohammed, PhD; Stephanie Domitrovich, JD, PhD;  W. Milton Nuzum, JD; Stephen Goudge, LLB; Peter V. Tytell, BA
10:20 a.m.	- 10:35 a.m.	Break
10:35 a.m.	- 10:55 a.m.	Admissibility of <i>Daubert</i> , <i>Frye</i> , and Other Admissibility Standards <i>Joseph J. Maltese</i> , <i>JD</i> , <i>PhD</i>
10:55 a.m.	- 11:15 a.m.	Why Failure to Protect Against Cognitive Bias Is an Issue for Admissibility and Curative Charges to a Jury Barry C. Scheck, JD
11:15 a.m.	- 11:35 a.m.	Cognitive Human Factors and the Social Construction of Forensic Expertise, Reliability, and Validity in the Post- <i>Daubert</i> Era <i>Mara L. Merlino, PhD</i>
11:35 a.m.	- 11:55 a.m.	Daubert Challenges to Fire Investigators  John J. Lentini, BA
11:55 a.m.	- 12:10 p.m.	Panel Discussion Marla E. Carroll, BS; Linton Mohammed, PhD; Joseph J. Maltese, JD, PhD; Barry C. Scheck, JD; Mara L. Merlino, PhD; John J. Lentini, BA
12:10 p.m.	- 12:15 p.m.	Closing Remarks Marla E. Carroll, BS; Linton Mohammed, PhD

# YOUNG FORENSIC SCIENTISTS FORUM



Pre-Registration Required — \$100

## S2 What Shapes Our Future? Foundations and New Directions

Tuesday, February 14, 2017 — 8:30 a.m. – 8:00 p.m.

6.25 CE Hours

President:

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

Secretary:

Jacob Griffin, BS

Danville, IA

Program Committee

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

Program Co-Chair:
Brittany N. Beyer, MS
Houston Forensic Science Center
Houston, TX

BYOS Chair:

Betzaida L. Maldonado, MSFS

Decatur, GA

YFSF Poster Session Chair:
Alicja K. Lanfear, PhD
Middle Tennessee State University
Murfreesboro, TN

Breakfast Chair: Jeremy M. Manheim Lafayette, IN

Long Term Planning Committee Representative:

Lara Frame-Newell, MA

Office of the Chief Medical Examiner

Richmond, VA

Financial Support Liaison Chair: Kelsey A. Carpenter, MS Mercyhurst University Erie, PA

Educational Objective(s): After attending this presentation, attendees will better understand the different forensic science disciplines as well as the current issues in the field of forensic science. Additionally, attendees will have the opportunity to listen to prominent scientists share their experiences, cases, and thoughts on the future directions of the field.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by providing a forum for young scientists to learn more about the field, share their ideas, and network with other professionals.

**Program Description:** The purpose of the Young Forensic Scientists Forum Special Session is to educate college students and young professionals about the exciting field of forensic science. In addition to the presentations given by Academy members, the session provides attendees with information regarding AAFS membership and mentorship opportunities. The Bring Your Own Slides and Bring Your Own Posters Sessions will give young scientists the opportunity to present their research, and the Breakfast Session will connect attendees with established professionals for résumé reviews and feedback.

The 2017 YFSF Special Session entitled, *What Shapes Our Future? Foundations and New Directions*, is a day-long session scheduled for Tuesday, February 14, 2017, that features speakers from many Academy sections. Topics will include current issues in various fields of forensic sciences, as well as forthcoming changes in these fields. Attendees will learn about Academy membership and will have the opportunity to build professional relationships through networking and mentorship. This special session will also showcase two Forensic Sciences Foundation, Inc. Emerging Forensic Scientist Award winners, who will be presenting their award-winning papers.



## **YOUNG FORENSIC SCIENTISTS FORUM**

#### Pre-Registration Required — \$100

#### What Shapes Our Future? Foundations and New Directions (continued) **S2**

#### **Speakers**

Eric Baccino, MD

Hopital Lapeyronie Montpellier, FRANCE

Jason H. Byrd, PhD

University of Florida Maples Center for Forensic Medicine Gainesville, FL

Dean Michael De Crisce, MD

Special Treatment Unit Avenel, NJ

Cheryl D. Hunter

**AAFS Staff** Colorado Springs, CO

Kimberly S. Kobojek, MS

Arizona State University - W Campus ASU New College Phoenix, AZ

Lauren Traveller, DNP

Las Vegas, NV

Nicolene Lottering, PhD

University of Adelaide Adelaide, AUSTRALIA Jeri D. Ropero-Miller, PhD

Research Triangle Park, NC

RTI International

NJSP Office of Forensic Sciences Central Regional Laboratory

The Bring Your Own Posters (BYOP) and Bring Your Own Slides (BYOS) Sessions are two opportunities provided by the YFSF for students and young scientists to present their research. The BYOP Session will take place the evening of Tuesday, February 14, 2017, and the BYOS will be held on the evening of Wednesday, February 15, 2017. YFSF does not require presenters of YFSF BYOS and BYOP Sessions to be members of AAFS and does not require they attend the special session, but they are encouraged to do so. The program will conclude on Thursday, February 16, 2017, with the annual YFSF Breakfast Session which includes a résumé review panel. Attendees of the breakfast session must be registered for the YFSF Special Session.

#### Program:

8:30 a.m. 8:40 a.m. 2017 YFSF Introduction and Speaker Welcome Brianna B. Bermudez. BS

Joan A. Bytheway, PhD

Sam Houston State University College of Criminal Justice Huntsville, TX

Gulnaz T. Javan, PhD

Alabama State University

Forensic Science Program

Montgomery, AL

Eugenia Cunha, PhD

John M. Butler, PhD

National Institute of Standards and Technology

Gaithersburg, MD

Universidade de Coimbra Department of Life Sciences, Forensic Anthropology Lab Coimbra, PORTUGAL

Megan E. Grimes, MFS

Woodbridge, VA

Roderick T. Kennedy, JD

New Mexico Court of Appeals Albuquerque, NM

Peter R. Stout, PhD

Houston Forensic Science Center

Houston, TX

Barry K. Logan, PhD

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

C. Ken Williams, MS, JD

Hamilton, NJ





## Pre-Registration Required — \$100

## **S2** What Shapes Our Future? Foundations and New Directions (continued)

Program cont.:	
8:40 a.m 8:50 a.m.	AAFS Membership Cheryl D. Hunter
8:50 a.m 9:10 a.m.	Research and Technology — A Formidable Pair Defining Our Foundations and Our Future <i>Jeri D. Ropero-Miller, PhD</i>
9:10 a.m 9:30 a.m.	The Determination of Short (48-Hour) Postmortem Intervals <i>Eric Baccino, MD</i>
9:30 a.m 10:00 a.m.	The Issues and Challenges With Forensic DNA Analysis  John M. Butler, PhD
10:00 a.m 10:15 a.m.	Break
10:15 a.m 10:35 a.m.	Veterinary Forensic Sciences: Applied Education and Opportunities for Young Forensic Scientists  Jason H. Byrd, PhD
10:35 a.m 10:55 a.m.	New Challenges in Identification  Eugenia Cunha, PhD
10:55 a.m 11:15 a.m.	The Contribution of Taphonomic Research to Forensic Casework Joan A. Bytheway, PhD
11:15 a.m 12:00 p.m.	Molecular Eyewitnesses: Extracting DNA From Multiple Criminal Evidence <i>Gulnaz T. Javan, PhD</i>
12:00 p.m 1:15 p.m.	Lunch
1:15 p.m 1:30 p.m.	Risk Factors in Adjudicative Incompetency: A Case Study Lauren Traveller, DNP
1:30 p.m 1:50 p.m.	Subadult Age Estimation: Contributions of Medical Imaging Modalities, 3D Visualization, and Computer-Aided Design (CAD) Applications to Improve Forensic Anthropology Standards Nicolene Lottering, PhD
1:50 p.m 2:10 p.m.	Public and Private Forensic Laboratories: Current Issues Peter R. Stout, PhD
2:10 p.m 2:40 p.m.	From Criminalist to Forensic Scientist: The Journey From "Believe It or Not" to Accreditation and Beyond Kimberly S. Kobojek, MS



# YOUNG FORENSIC SCIENTISTS FORUM

### Pre-Registration Required — \$100

## **S2** What Shapes Our Future? Foundations and New Directions (continued)

#### Program cont.:

2:40 p.m. -3:00 p.m. Break 3:00 p.m. -3:20 p.m. The Visiting Scientist Program Megan E. Grimes, MFS 3:20 p.m. Topics in Forensic Psychiatry 3:40 p.m. Dean Michael De Crisce, MD Believability, Rules, and Staying Alive in Court 3:40 p.m. 4:10 p.m. Roderick T. Kennedy, JD 4:10 p.m. 4:55 p.m. Group Discussion Amanda R. Hale, MA; Brittany N. Beyer, MS 4:55 p.m. 5:00 p.m. Closing Remarks Amanda R. Hale, MA; Brittany N. Beyer, MS 7:00 p.m. 8:00 p.m. YFSF Poster Session





Pre-Registration Required — \$100

## **S2** What Shapes Our Future? Foundations and New Directions (continued)

### Wednesday

February 15, 2017 — 6:00 p.m. – 7:00 p.m.

### YFSF Bring Your Own Slides

## **Thursday**

#### **Young Forensic Scientists Forum Annual Breakfast**

(Registration for the Tuesday Session Is Required to Attend the YFSF Breakfast Session)

February 16, 2017 — 7:00 a.m. – 10:00 a.m.

#### Professionalism and Etiquette "Eggs-pectations"

The Breakfast Session on Thursday morning will feature two speakers, followed by a Question and Answer Session. The theme for the Breakfast Session is *Professionalism and Etiquette "Eggs-pectations*" and will cover topics in courtroom conduct and testimony. Attendees will then have the opportunity to meet with established AAFS members and receive feedback on their résumés.

#### Program:

7:00 a.m.	-	7:30 a.m.	YFSF Breakfast
7:30 a.m.	-	8:00 a.m.	Courtroom Professionalism: Appropriate Courtroom Conduct Barry K. Logan, PhD
8:00 a.m.	-	8:30 a.m.	Wouldn't You Like to Know?!?  C. Ken Williams, MS, JD
8:30 a.m.	-	9:00 a.m.	Questions and Answers Barry K. Logan, PhD; C. Ken Williams, MS, JD
9:00 a.m.	-	10:00 a.m.	Résumé Review Panel



## **FEPAC SESSION**

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

## Accreditation of Forensic Science Academic Programs Through the AAFS Forensic Science Education Programs Commission

#### **Tuesday**

February 14, 2017 — 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, MS
Ocean County Sheriff's Department
Forensic Science Laboratory
Toms River, NJ

Commissioner:

Tracey Dawson Cruz, PhD Virginia Commonwealth University Richmond, VA 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 Forensic Science Education Programs Commission (FEPAC). The session will also assist future on-site evaluators (academic and practitioners) to prepare for onsite 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. Additional information on FEPAC can be found on the FEPAC website: 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 Matthew R. Wood, MS
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 Tracey Dawson Cruz, PhD
10:00 a.m.	- 10:15 a.m.	Break
10:15 a.m.	- 10:45 a.m.	Module 4: Review of Graduate Standards  Tracey Dawson Cruz, PhD





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

## Accreditation of Forensic Science Academic Programs Through the AAFS Forensic Science Education Programs Commission (continued)

FEPAC Commissioners and Director of Accreditation

#### Program cont.

12:15 p.m. - 12:45 p.m.

10:45 a.m. - 11:15 a.m. Module 5: Questions and Answers

Matthew R. Wood, MS; Daniel E. Katz, MFS; Tracey Dawson Cruz, PhD
11:15 a.m. - 11:45 a.m. Module 6: The Role of the On-Site Evaluator

Daniel E. Katz, MFS
11:45 a.m. - 12:15 p.m. Module 7: Scenario and Evaluation

Matthew R. Wood, MS; Daniel E. Katz, MFS; Tracey Dawson Cruz, PhD

**Questions and Answers** 



## **EVENING SESSION**

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

#### The Last Lecture

Tuesday, February 14, 2017 — 8:00 p.m. - 10:00 p.m.

#### **Speakers**

Chair:

Julie A. Howe, MBA
Saint Louis University
Franklin, Jefferson, & St. Charles
Medical Examiner's Offices
St. Louis, MO

Co-Chair:

Christine Funk, JD Washington, DC

Co-Chair:

**Jan C. Garavaglia, MD** Burlington, WA

Co-Chair:

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

Co-Chair:

Kenneth E. Melson, JD George Washington University Law School Montclair, VA

Co-Chair:

**Katherine Ramsland, PhD**DeSales University
Center Valley, PA

Co-Chair:

**Douglas H. Ubelaker, PhD** Smithsonian Institution Department of Anthropology Washington, DC

**Educational Objective(s):** After attending this presentation, attendees will gain insights relating to life and work from fellow Academy members.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by providing personal insights into the speakers' journeys throughout their personal and professional lives.

**Program Description:** Many times, professors are asked to give "last lectures" to provide guidance and advice to their students while inspiring them to achieve their dreams and take risks in both their personal and professional lives. Members of the Academy have been asked to share what they believe matters most in living a full and rewarding life, both personally and professionally.

In 2007, Randy Pausch famously presented "The Last Lecture" as the first in a lecture series entitled "Journeys." In these lectures, members of the Carnegie Melon University community shared "their reflections and insights on their personal and professional journeys." Dying of pancreatic cancer, Randy Pausch brought down the house with his talk, "Really Achieving Your Childhood Dreams." This lecture has become infamous for the inspiration it instilled in everyone who has heard it.

In the spirit of this legacy, members of the Academy have been asked to share what they believe matters most in living a full and rewarding life, both personally and professionally, including their childhood dreams and inspirations, taking risks, overcoming obstacles, and the adventures and lessons learned along their journeys. The speakers reflect varying experiences and different walks of life. Share and learn from their joys, challenges, integrity, and recognition during this entertaining and educational session.

## **EVENING SESSION**



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

#### The Last Lecture

Jan Garvaglia, MD, is the retired chief medical examiner for the District Nine Medical Examiner Office in Orlando, FL. She is best known as the reality TV star "Dr. G" on the Discovery Network. The show, "Dr. G: Medical Examiner," won an International Health and Medical Media Award for "Best Health Series" in 2008. Dr. G will share her personal story about the trials of being a forensic pathologist along with the pearls of the profession, while highlighting interesting cases and discussing how the reality-based TV series has impacted her life.

John Lentini, BA, is one of a handful of people certified to conduct both fire scene investigations and fire debris analysis. He has personally conducted more than 2,000 fire scene inspections and has appeared as an expert witness on more than 200 occasions. Mr. Lentini is an independent consultant, working with both prosecution and defense in pending cases and in cases involving the wrongfully convicted.

Ken Melson, JD, has had a long and lively career within the forensic community, serving as a federal prosecutor for more than 20 years. As Director of the Office for United States Attorneys, he was responsible for the oversight of the 94 United States Attorney's Offices. He is a past president of the AAFS and has served on numerous committees. In April 2009, Mr. Melson was named Acting Director of the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) by President Obama, where he served until August 2011. Prior to retiring from the United States Department of Justice in 2012, Mr. Melson was the Senior Advisor on Forensic Science in the Office of Legal Policy and served as co-chair on the Subcomittee on Forensic Science within the Executive Office of the President.

Katherine Ramsland, PhD, is the Director of the Master of Arts in Criminal Justice Program at DeSales University. She also teaches forensic psychology. Dr. Ramsland is a prolific writer, with most of her attention focused on crime, forensics, and serial killers. She recently completed *Confession of a Serial Killer: The Untold Story of Dennis Rader, the BTK Killer.* However, she also authors such inspiring works as *Snap: Seizing your Aha! Moments*, focusing on "the latest neuroscience findings on spontaneous thought processes, or "snaps."" Dr. Ramsland "describes how everyone—not just geniuses—can learn to improve the likelihood of their own "eureka" moments by adopting certain rewarding attitudes and habits."

Douglas Ubelaker, PhD, is a curator and senior scientist at the Smithsonian Institution's National Museum of Natural History in Washington, DC, where he serves as a consultant in forensic anthropology. Dr. Ubelaker has published extensively and has served on editorial boards of leading scientific journals. Dr. Ubelaker is regarded as one of the world's leading anthropologists, receiving many international and national honors and awards throughout his esteemed career in the analysis of human skeletal remains with an emphasis on forensic applications. Dr. Ubelaker served as the AAFS President from 2011-12. Dr. Ubelaker works tirelessly on behalf of human rights internationally. He currently serves as Chair of the AAFS Human & Humanitarian Rights Resource Center, which promotes forensic science principles and applications to global projects requiring special assistance.



## PRE-PLENARY — OPEN FORUM

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

## Wednesday

February 15, 2017 — 8:00 a.m. – 8:45 a.m.

#### The Academy Cup

A Quiz Game to Test Your Knowledge of AAFS

The AAFS 2017 Academy Cup will take place on Wednesday, February 15, 2017, 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 start 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, YFSF volunteers, and 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 their answers turned in, 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 find out who won and 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!



#### **Points of Contact:**

Chair: Laura L. Liptai, PhD;

liptai@biomedicalforensics.com

Co-Chair: Carla M. Noziglia, MS
Co-Chair: Carol E. Henderson, JD
Co-Chair: Matthew R. Wood, MS



Anthropology: Gregory E. Berg, PhD Criminalistics: Karolyn L. Tontarski, MS

Digital & Multimedia Sciences: Marcus Rogers, PhD Engineering Sciences: John Nixon, CEng, MBA

General: Claire E. Shepard, MS

Jurisprudence: Stephanie Domitrovich, JD, PhD

Odontology: Raymond G. Miller, DDS Pathology/Biology: James L. Caruso, MD

Psychiatry & Behavioral Science: Dean M. De Crisce, MD

Questioned Documents: Linton Mohammed, PhD

Toxicology: Dan T. Anderson, MS

**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 15, 2017 — 9:00 a.m. - 11:05 a.m.

2.0 CE Hours



#### Welcoming Remarks

# Our Future Reflects Our Past: The Evolution of Forensic Science Challenges and Advances Over the Decades

John E. Gerns, MFS

President
American Academy of Forensic Sciences

Plenary Session Chair: Joanna L. Collins, MFS Linus Consulting Group, LLC San Antonio, TX Plenary Session Co-Chair:
Nikolas P. Lemos, PhD
University of Califronia, San Francisco
San Francisco, CA

#### **Speakers**

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

Edmund R. Donoghue, MD Georgia Bureau of Investigation Savannah, GA

Barry A.J. Fisher, MS, MBA Indio, CA Carol E. Henderson, JD Stetson University Gulfport, FL

Douglas M. Lucas, DSc Burlington, ON CANADA

Douglas H. Ubelaker, PhD Smithsonian Institution Washington, DC

Kenneth S. Field, MBA
"In His Own Words" (video presentation)
Colorado Springs, CO



## PLENARY SESSION

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

## Our Future Reflects Our Past: The Evolution of Forensic Science Challenges and Advances Over the Decades (continued)

#### Overview:

Since the birth of the American Academy of Forensic Sciences (AAFS) in 1948, the organization has grown to include 11 sections spanning the forensic enterprise. These sections represent more than 6,700 members in diverse disciplines, but there is one thing every member has in common — the desire to strengthen and grow the field of forensic science and transform to meet the challenges and scientific advances of the future. However, the future cannot be considered without examining and learning from our past. The Plenary Session will provide a forum to examine the evolution, challenges, and progress of forensic science and the AAFS from the perspective of former and current leaders in the forensic science community.

Each past president will discuss the challenges, opportunities, and innovations that were encountered during their careers, and more specially, during their terms as president. Their experiences ranged from a contested election to membership considerations based on emerging disciplines. Topics will include: the expansion of AAFS's involvement on the national platform and the impact of international outreach; how forensic practitioners and advocates for research affect the advancement in the respective disciplines; and, how the publication of the 2009 National Academy of Sciences (NAS) Report, *Strengthening Forensic Science in the United States:* A Path Forward, has molded the future and the importance of mentoring the new generations of forensic science practitioners and researchers who will fortify the forensic enterprise.

In addition to the historical presentations of AAFS past presidents, attendees will enjoy a special 20-minute video presentation by AAFS historian, **Kenneth S. Field, MBA**, *In His Own Words*. Mr. Field, nearly 99-years-old, will provide the historical perspective of AAFS's formative years, and attendees will hear his words of encouragement to the younger generation of AAFS members.

#### Program:

9:00 a.m.	-	9:05 a.m.	Welcoming Remarks AAFS President John E. Gerns, MFS
9:05 a.m.	-	9:25 a.m.	AAFS Historian 1992-2010 — "In His Own Words" (video presentation) Kenneth S. Field, MBA
9:25 a.m.	-	9:40 a.m.	AAFS President 1972-1973  Douglas M. Lucas, DSc
9:45 a.m.	-	9:55 a.m.	AAFS President 1998-1999 Barry A.J. Fisher, MS, MBA
9:55 a.m.	-	10:10 a.m.	AAFS President 2005-2006  Edmund R. Donoghue, MD
10:10 a.m.	-	10:25 a.m.	AAFS President 2008-2009 Carol E. Henderson, JD
10:25 a.m.	-	10:40 a.m.	AAFS President 2011-2012 Douglas H. Ubelaker, PhD
10:40 a.m.	-	10:55 a.m.	YFSF President 2016-2017 Brianna B. Bermudez, BS
10:55 a.m.	-	11:05 a.m.	Closing Remarks AAFS President John E. Gerns, MFS



#### Pre-Registration Required — \$50

#### Monday

## #1 The Mummies of Central New York — A Unique Experience for a Medical Examiner's Office

February 13, 2017 — 7:00 a.m. - 8:30 a.m.

.75 CE Hour

#### Ronald Brunelli

Onondaga County Medical Examiner's Office Syracuse, NY

#### Robert Stoppacher, MD

Onondaga County Medical Examiner's Office Syracuse, NY

**Educational Objective(s):** After attending this presentation, attendees will learn about the unique opportunity the Onondaga County Medical Examiner's Office had in examining two Egyptian mummies. Participants will be able to understand how a multidisciplinary approach led to interesting historical findings as well as a cancer diagnosis. The cancer diagnosis discussion will ask the question, "Does this diagnosis change theories that cancer is a result of modern lifestyles and environment?"

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by explaining: (1) how the medical examiner's office examined two Egyptian mummies; (2) the collaborative efforts of other forensic science disciplines; and, (3) the modern forensic techniques that lead to interesting historical information and possible information for the future.

Medical examiner personnel often see the effects of human mummification in their daily operation. This postmortem change typically occurs on human bodies that have been left in a dry, hot environment for a period of time. This type of postmortem change is often referred to as natural mummification.

From 6000 B.C. to 600 A.D., ancient Egyptians were known to have been the first civilization to perform preservation of not only dead humans, but also non-human remains such as cats and birds. This preservation process was performed by removing the brain, evisceration, immersion, dehydration, and wrapping the body in cloth. Egypt's desert environment aided this mummification process. This is an example of artificial mummification.

The Onondaga County Medical Examiner's Office had the opportunity to examine two Egyptian mummies. One mummy was a mummified head that had been found during an estate auction of a World War II United States Army veteran. He had found the head in a castle while he was stationed in Germany and brought it home at the end of his tour. Research revealed that Napoleon stowed two mummy heads there during his raid of Egypt. After this invasion, Napoleon had been known to stay in this castle on his way back to France.

The other mummy was a full body that had been on display at a local library's Egyptian exhibit. This mummy had been brought to this community in the 1800s by a well-known wealthy citizen of this village. When he died, his Last Will and Testament was read in which this mummy and other Egyptian artifacts were donated to the library.

The forensic disciplines involved in these examinations were pathology, anthropology, trace evidence, chemistry, and radiology. Carbon dating was also performed. Information from these disciplines revealed information about the age at time of death, the possible eras in which these people lived, and their possible status in society. The full body mummy was determined to have had cancer. Does this cancer revelation provide humans with any information about future cancer research?

The routine day-to-day death investigations at a medical examiner's office often involve decedents who have been naturally mummified; however, it is a unique experience for a moderate-sized office to have the opportunity to examine two Egyptian mummies within a one-year time frame. This presentation will discuss this involvement.



#### Pre-Registration Required — \$50

#### **Tuesday**

#### #2 Analysis of Black-and-White Documents — Seeing Beyond the Monochrome

February 14, 2017 — 7:00 a.m. - 8:30 a.m.

.75 CE Hour

#### Irina Geiman, MS

United States Secret Service Communications Center (CID) Washington, DC

## **Amanda Moffett, MFS** Fairfax Station, VA

#### Julia M. Barker, MSFS

United States Secret Service Communications Center (CID) Washington, DC

Educational Objective(s): After attending this presentation, attendees will understand the basic scientific methodology used in the forensic examination of black-and-white documents. Attendees will have an opportunity to learn how physical, optical, and chemical analyses are utilized in the examination of inks, toners, and papers.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by demonstrating the importance of using the best analytical practices in the scientific analysis of questioned documents. This presentation will discuss the application of Thin-Layer Chromatography (TLC), Attenuated Total Reflectance/Fourier Transform Infrared (ATR/FTIR) spectroscopy, and X-Ray Fluorescence (XRF) spectroscopy in the analysis of inks, toners, and papers. This presentation will also showcase how the evolution of forensic document examination techniques has improved sample discrimination through the expanded use of analytical chemistry and statistical analysis.

Forensic examination of documents commonly includes microscopic analysis utilizing white light and other energy sources such as Ultraviolet (UV) and Infrared (IR). Although this level of examination may be sufficient for the analysis of color inks and papers, in many instances it does not provide enough discriminating power to differentiate components of black-and-white documents. For example, black toners often appear similar microscopically with the possible difference of fusing patterns. Black inks may, to an extent, be distinguished based on their physical and optical characteristics and white papers may contain IR luminescent fibers or UV brighteners, allowing for a certain degree of discrimination. While optical examinations provide a wealth of information, it is prudent to recognize their limitations, such as false positive results from document contamination or alteration.

The best practice is to continue with chemical analyses upon completion of the physical and optical examinations. Optimally, a suite of analytical techniques should be used to evaluate various aspects of the sample, including colorants, resins, and elemental composition. For example, TLC is a well-established technique for the analysis of soluble colorants in inks and brighteners in papers. It is also successfully used to evaluate resins and waxes found in toner particles. FTIR spectroscopy is employed to characterize toner polymers and paper coatings. XRF spectroscopy is used to examine elemental composition of analytes and may allow discrimination of papers and toners based on concentrations of iron, silicon, sulfur, titanium, or other elements.

This presentation will demonstrate that chemical examination of black-and-white documents provides a significant amount of information that may be crucial in discriminating samples. As forensic examination of documents has progressed significantly over the past century and moved from penmanship teachers conducting physical examinations using a loupe to highly trained chemists performing analyses using sophisticated instrumentation, it is important to employ the current best practices, which include a full spectrum of techniques.



#### Pre-Registration Required — \$50

### **Thursday**

#### **Reliving the Jeffrey Dahmer Case 25 Years Later**

February 16, 2017 — 7:00 a.m. - 8:30 a.m.

.75 CE Hour

Jeffrey M. Jentzen, MD University of Michigan Ann Arbor, MI Carl J. Schmidt, MD Wayne County MEO Detroit, MI

**Educational Objective(s):** After attending this presentation, participants will recognize the characteristics of organized and disorganized serial killers.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by providing a model death investigation of a serial killer and his motives.

On July 23, 1991, personnel from the Milwaukee County Medical Examiner Office and Milwaukee Police Department responded to an apartment where partially skeletonized remains of 11 individuals had been detected. The assailant, Jeffrey Dahmer, was quickly taken into custody. In this unique situation, Dahmer freely discussed his role in the murders with law enforcement and provided a valuable resource for collaboration of scene, anthropological, and autopsy findings to pathologists and law enforcement personnel during the investigation. Scene investigation and autopsy analysis of the bodies provided prosecutors with detailed evidence of motives and the psychological state of Dahmer during the course of a death spree that lasted nine months.

The evaluation of the scene allowed investigators to: (1) establish methods of death; (2) begin the preliminary identification process; and, (3) demonstrate the deteriorating mental capacity of the assailant. Forensic pathologists assisted with the identification, established the cause of death, and documented injuries that allowed investigators to question Dahmer on various injuries he inflicted upon his victims. An anthropological examination assisted with the identification and also resulted in the establishment of victim profiles.

A forensic psychiatrist constructed Dahmer's psychological profile, which was characterized by a destructive behavior in which his collection of fetishistic memorabilia provided an expression of his deep ambivalence and mixed hostility toward his victims. Frustrated with his sexual immaturity and continual rejection, Dahmer channeled his hostility into a sadistic sexual behavior characteristic of the psychopathology of a serial killer.

The multidisciplinary investigation that followed provided a number of conclusions that permitted the successful prosecution and conviction of Jeffrey Dahmer. Dahmer strangled his victims following his use of "chemical" restraints. He experimented with a method of injecting caustic material into the brains of his victims to sedate and pacify them into being helpless "zombies." Forensic autopsies demonstrated the methods of death, postmortem dissection, and disposition. Anthropological analysis suggested Dahmer was attracted to a certain anthropometric body type. Materials recovered from the scene confirmed the methods of an "organized" serial killer with souvenir-taking to enhance sexual pleasure.

The Jeffrey Dahmer case has captured and captivated the American consciousness for the past 25 years. This presentation will discuss pitfalls in the investigative process using the lessons learned in the Dahmer case. Participants will understand the complexity of the crime and relive the experience by confronting the difficulties encountered in real time by investigators at the scene, which played an important role in the judicial proceedings that followed.



#### Pre-Registration Required — \$50

#### **Friday**

## **Cold Cases: An Exploratory Study of the Status of Unresolved Homicides in the United States**

February 17, 2017 — 7:00 a.m. - 8:30 a.m.

.75 CE Hour

#### Sarah L. Stein, PhD

The Center for the Resolution of Unresolved Crimes (CRUC) Ware, MA

James M. Adcock, PhD Collierville, TN

#### Erin H. Kimmerle, PhD

University of South Florida Department of Anthropology Tampa, FL

Sara A. Martin, BS Wallingford, CT

Educational Objective(s): After attending this presentation, attendees will have a better understanding of the status of unresolved homicides in the United States. More specifically, attendees will: (1) realize the total number of unresolved homicides in the country is far greater than previously believed and is increasing each year; (2) understand how each jurisdiction varies in their own definition of what constitutes a "cold" case; (3) see the varying degrees of perspectives as to what does and does not solve cold cases; and, (4) be more informed as to the status and influence of the unidentified dead and missing persons in our system and how this relates to open homicides.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by providing information new to this forum that will hopefully guide future decision making as it relates to: (1) the funding and efforts put forth toward the investigation of not only the unresolved homicides, but also the "hot" cases that are presently being investigated; and, (2) how we can improve the manner in which we are investigating the unidentified dead.

In 2010, *ScrippsNews* reported that from 1980 to 2008, based on Uniform Crime Report (UCR) clearance data, the United States had accumulated nearly 185,000 unresolved homicides.<sup>1</sup> Until now, that figure had not been validated or refuted. In the fall of 2015, an exploratory study was initiated that consisted of three phases: Phase I — survey law enforcement agencies regarding the status of their unresolved homicides; Phase II — survey the coroners and medical examiners concerning the status of their unidentified dead; and, Phase III — perform an analysis of the UCR clearance data for homicides from 1980 to 2014.

**Phase I:** Utilizing Survey Monkey<sup>®</sup>, solicitations were emailed to 10,500 law enforcement agencies. After a 90-day solicitation period, approximately 1,230 responses were received. After culling out those with inconsistent or incomplete information, the survey concluded with 992 responses that were demographically balanced as to population, department sizes, and geographic location.

Some of the overall findings suggest that approximately 73% reported the "lack of investigative leads" as the primary reason for a case going cold; 56% of the agencies said they have cold cases, yet only 19% of those have a dedicated cold case team consisting primarily of one to two detectives; and only about 24% of the teams have a prosecutor assigned to the team, while very few utilize the services of an analyst.

In rating the importance of factors contributing to solving cold cases, DNA was first, followed by interviewing skills of the detectives, detective decisions, cooperation of witnesses, availability of witnesses, latent prints, and other physical evidence. It was not surprising to see DNA identified as the leading solvability factor for cold cases, but this is contrary to what the research tells us about ongoing homicide investigations where DNA's role is minimal compared to detective decisions.<sup>2-4</sup> A further review and analysis of this data with significant correlations will be provided.



#### Pre-Registration Required — \$50

## #4 Cold Cases: An Exploratory Study of the Status of Unresolved Homicides in the United States

**Phase II:** With the support from both the International Association of Coroners & Medical Examiners (IAC&ME) and the National Association of Medical Examiners (NAME), solicitations were sent to association members to participate in a 90-day survey regarding the status of "the unidentified dead." While NAME solicited through their LISTSERV, the IAC&ME sent out email blasts to their members. The results of that survey, along with an analysis, will be presented.

**Phase III:** Lastly, an analysis of the UCR clearance data, augmented by the supplemental homicide reports for the time frame 1980-2014, reflects that we have accumulated approximately 230,355 unresolved homicides and that figure is steadily rising each year; however, according to the Murder Accountability Project, the unresolved figure for the same time frame should be closer to 234,000.<sup>5</sup> Which is correct and why?

The question still lingers, are we doing enough and making the right decisions regarding not only the investigation of cold cases (including the unidentified dead) but also the investigation of ongoing homicides? This study will contribute to understanding the causation, critical variables, and attempts to answer some of these concerns.

#### Reference(s):

- Hargrove, T., Nearly 185,000 homicides since 1980 remain unsolved. Retrieved from http://www.scrippsnews.com/projects/murder-mysteries/nearly-185000-homicides-1980-remainunsolved; retrieved June 2010.
- <sup>2</sup> Baskin, D., & Sommers, I. (2010). The influence of forensic evidence on case outcomes of homicide incidents. Journal of Criminal Justice, 38, 1141–1149.
- <sup>3.</sup> Schroeder DA, White MD. Exploring the use of DNA evidence in homicide investigations: implications for detective work and case clearance. Police O 2009;12(3):319–42.
- <sup>4</sup> McEwen, Tom and Wendy Regoeczi. Forensic Evidence in Homicide Investigations and Prosecutions. J Forensic Sci, September 2015, Vol. 60, No. 5.
- <sup>5.</sup> Murder Accountability Project: http://murderdata.blogspot.com/; retrieved March 30, 2016.



## **LUNCHEON SEMINAR**

#### Pre-Registration Required — \$58

### **Thursday**

## #1 Murder on Campus — Understanding the Critical Incident and Forensic Response to a Targeted Murder on a College Campus

February 16, 2017 — 12:00 p.m. - 1:30 p.m.

1.0 CE Hour

Matthew C. Wietbrock, BS Lafayette, IN Carrie Costello, BA West Lafayette, IN

Educational Objective(s): After attending this presentation, attendees will gain a better understanding of the events surrounding a brutal targeted murder on the campus of Purdue University, including lessons learned from the initial response to the scene of a critical incident and the coordination of processing multiple scenes in separate jurisdictions.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by detailing the facts surrounding the response to a critical incident, the communication challenges faced by first responders, safety concerns when responding to an active scene, and the forensic tasks employed to process multiple crime scenes properly. Subsequent laboratory analysis and court preparation will also be discussed.

In recent years, professional police agencies around the nation and world have trained to confront and to neutralize active shooter events. The Purdue University Police Department is among those agencies. While this incident did not claim multiple victims, as it was a targeted murder, lessons from the initial police response, crime scene investigation, and meeting the subsequent community expectations will be of great impact to the forensic community.

Tuesday, January 21, 2014, was a frigid winter day in West Lafayette. Students had recently returned to campus after the holiday break and were settling in to a new semester. Community members were making lunch plans without an inkling that tragedy was about to strike.

At 12:03 p.m., the Purdue University Police Department started receiving numerous Emergency 911 calls reporting that shots had been fired within the Electrical Engineering Building and that a killer was on the loose. As this report was dispatched via police radios, officers from three area agencies began to respond to the area. Responding officers made entry into the academic building, prepared to confront an active shooter. In accordance with their training, they rushed past the panicked students and faculty and made their way toward the basement. When the first officers made it to the scene, they found to their surprise, that the classroom laboratory was still full of students. Some of the students were even standing over their deceased teaching assistant, too shocked to move. Police quickly took control of the environment by ensuring that the student witnesses were taken care of and sequestered. Officers then began to search the area, looking for the killer. These searches quickly bore positive results, as the suspect surrendered himself outside of the building, not 100 yards from where he had claimed a life. Secondary searches of the building commenced as officers began to look for additional threats to the public. Investigators closest to the apprehension of the suspect were given strong reason to believe that the suspect had acted alone. To the rest of the responding officers, the "fog of war" had descended and situational awareness became the greatest of currency. Rumors of additional shooters abounded in the early minutes of the response. These rumors were compounded by confusing radio communication and the activation of the fire alarm, which triggered a full evacuation of the building.

Even while the scene remained chaotic, crime scene professionals from four separate agencies began to descend upon the scene. A true team effort would take place in the processing of the murder scene. This effort would include many specializations such as blood spatter analysis, photogrammetry, medicolegal death investigation, and computer forensics.

## **LUNCHEON SEMINAR**



#### Pre-Registration Required — \$58

## #1 Murder on Campus — Understanding the Critical Incident and Forensic Response to a Targeted Murder on a College Campus

During the initial survey of the scene, investigators got their first look at this brutal murder. The victim had been shot at point-blank range with a revolver. He had also had his throat cut and eyes stabbed with a pocket knife. Investigators also noted the presence of video surveillance equipment in the room. It was later determined that the equipment had been installed only days before. Investigators moved quickly to ensure that any recorded evidence was preserved to allow for review. At the same time, investigative teams were organizing to search the residences of the suspect and victim to identify and collect any obvious items of evidentiary value. Having multiple teams responding to multiple locations demanded a high degree of communication and coordination. This was one of the largest challenges of the initial investigation.

This presentation will cover, in detail, the facts surrounding the perpetrator of this crime as well as his relationship with the victim. The subsequent processing of multiple crime scenes, spanning two jurisdictions, will be discussed, along with lessons learned regarding resource allocation, communication among the separate forensic teams, and critical incident response. The final disposition of subsequent court proceedings and the eventual death of the suspect in prison will also be covered.



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

## #1 Behind the Curtain: Understanding the Basic Science and Testimony of Latent Prints

Monday, February 13, 2017

8:30 a.m. – 12:30 p.m.

3.5 CE Hours

Educational Objective(s): After attending this presentation, attendees will be well-positioned to critically evaluate latent print reports and testimony. Prosecutors will be more aware of changing trends in testimony and will better understand how to prep their expert witnesses to make sure they aren't falling into "old school" traps and are well prepared to discuss the relevant literature. Defense attorneys will be able to spot unsupported statements and effectively challenge them in court. Judges will gain a basic understanding of the modern scientific research detailing the strengths and limitations of latent print comparisons, which will allow them to be more effective gatekeepers. All legal professionals will be equipped to spot the difference between the "old school" or "dogma" expert and the "transparent" expert and will be able to react accordingly.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by assisting the legal community to better understand the basic scientific principles behind friction ridge comparisons. This workshop will provide the legal community with the tools to critically evaluate friction ridge testimony, which will in turn allow them to better advocate for the science, challenge the science, or fulfill a gatekeeping role, as their positions within the legal system dictate. These skills will improve the application of friction ridge comparison science in the legal system by helping to ensure that it is presented responsibly and used appropriately, increasing its value to the legal system.

Chair:

Heidi Eldridge, MS
RTI International

Research Triangle Park, NC

Co-Chair:

Jeri D. Ropero-Miller, PhD RTI International Research Triangle Park, NC

Faculty:

Brendan Max, JD

Chicago, IL

**Program Description:** This session is being offered as a "Behind the Curtain" look at the basic science and testimony of latent prints for the benefit of the legal community. The workshop will include a description of the scientific foundations of friction ridge comparisons, as well as discussions regarding the way the science is presented in court, encompassing both good and bad practices, and equipping legal practitioners to critically evaluate this evidence in the courtroom. This session is being presented by a forensic scientist and a legal professional in order to present both perspectives. Join us for a peek "Behind the Curtain" into the science of latent print examinations.

#### Program:

8:30 a.m.	-	8:40 a.m.	Welcome Heidi Eldridge, MS
8:40 a.m.	-	9:30 a.m.	Scientific Foundations of Friction Ridge Comparisons <i>Heidi Eldridge, MS</i>
9:30 a.m.	-	10:30 a.m.	Traditional Expression of Conclusions and Their Pitfalls <i>Heidi Eldridge, MS; Brendan Max, JD</i>
10:30 a.m.	-	10:45 a.m.	Break



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

## #1 Behind the Curtain: Understanding the Basic Science and Testimony of Latent Prints (continued)

#### Program cont.:

10:45 a.m. - 11:15 a.m. New Styles in Expression of Conclusions

Heidi Eldridge, MS; Brendan Max, JD

11:15 a.m. - 12:15 p.m. Legal Strategies for Latent Print Evidence

Brendan Max, JD

12:15 p.m. - 12:30 p.m. Questions and Answers

Heidi Eldridge, MS; Brendan Max, JD

Targeted Audience: Jurisprudence

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

Expected Handout Length: 75 Pages



Pre-Registration Required — \$250 w/registration; \$300 workshop only

## **#2** A Computational Framework for Skeletal Age-at-Death Estimation Using Laser Scans of the Adult Pubic Symphysis: Theory, Methods, and Software

Monday, February 13, 2017

8:30 a.m. - 4:30 p.m.

5.75 CE Hour

**Educational Objective(s):** After attending this presentation, attendees will understand state-of-the-art skeletal age estimation, the problems forensic anthropologists face when estimating age by conventional methods, the needs of the medicolegal community, and the potential for advancing the field using new shape-based methods. Attendees will receive instruction in three new methods that apply numerical shape algorithms to laser scans of the skeletal age indicator. Attendees will also receive hands-on training in using the equipment, software, casts, and data.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by delivering instruction on implementing three new fully computational methods for age-at-death estimation from skeletal laser scans that produce estimates that closely approximate true age, with minimal risk of subjectivity or low-method/observer-induced error.

Chair:

Bridget F.B. Algee-Hewitt, PhD Stanford University Department of Biology Stanford, CA

Faculty:

**Cristina Figueroa-Soto, MA**The University of Tennessee
Knoxville, TN

**Diane L. France, PhD** Human Identification Laboratory of CO Fort Collins, CO Co-Chair:
Jieun Kim, PhD
Knoxville, TN

Dennis E. Slice, PhD
Florida State University
Department of Scientific Computing
Tallahassee, FL

**Detelina Stoyanova, PhD**Florida State University
Department of Scientific Computing
Tallahassee, FL

Program Description: The estimation of age at death in forensic anthropology provides an essential component of the biological profile, but it is among the most challenging of the parameters requiring individual determination. In this workshop participants will be shown how improvement in age inference can be achieved by adopting an alternative, fully computational approach to the macromorphoscopic assessment methods traditionally applied to skeletal indicators of age and, specifically, to the pubic symphysis. Participants will understand how accurate, precise, and objective age estimates can be obtained by sourcing 3D coordinate data from laser scans of the pubic symphysis, subjecting these data to shape-analysis algorithms, and combining the resulting shape measures in multivariate regression models. This workshop will introduce forensic practitioners to the theory and application of three newly developed shape-based methods for age-at-death estimation. Participants will have the opportunity to learn how these methods are applied to laser scan-derived data and work directly with the NextEngine scanner and the scan editing and manipulation software, ScanStudio™. For the first time, the "forAge" software will be introduced which can be used by participants to generate individual age estimates from laser scan data. This session will be of broad interest to members of the forensic community as the methods are easily implementable by participants with varying experience, but who are required to obtain robust estimates of age at death in the context of medicolegal investigation.



Pre-Registration Required — \$250 w/registration; \$300 workshop only

# **42** A Computational Framework for Skeletal Age-at-Death Estimation Using Laser Scans of the Adult Pubic Symphysis: Theory, Methods, and Software (continued)

Program:			
8:30 a.m.	-	8:45 a.m.	Age Estimation  Bridget F.B. Algee-Hewitt, PhD
8:45 a.m.	-	9:00 a.m.	Shape Analysis Dennis E. Slice, PhD
9:00 a.m.	-	9:30 a.m.	Data Collection and Scan Editing  Jieun Kim, MA
9:30 a.m.	-	10:00 a.m.	forAge Software  Detelina Stoyanova, PhD
10:00 a.m.	-	10:15 a.m.	Break
10:15 a.m.	-	10:45 a.m.	Recommendations for Field and Labwork  Cristina Figueroa-Soto, MA
10:45 a.m.	-	10:55 a.m.	A Discussion of Age-Determination Casts for Validation Bridget F.B. Algee-Hewitt, PhD; Diane L. France, PhD
10:55 a.m.	-	11:15 a.m.	Questions and Answers Bridget F.B. Algee-Hewitt, PhD; Dennis E. Slice, PhD; Detelina Stoyanova, PhD; Jieun Kim, MA; Cristina Figueroa-Soto, MA
11:15 a.m.	-	12:45 p.m.	Lunch
12:45 p.m.	-	1:45 p.m.	Hands-On Training: Session I  Bridget F.B. Algee-Hewitt, PhD; Dennis E. Slice, PhD; Detelina Stoyanova, PhD;  Jieun Kim, MA; Cristina Figueroa-Soto, MA
1:45 p.m.	-	2:00 p.m.	Break
2:00 p.m.	-	3:00 p.m.	Hands-On Training: Session II  Bridget F.B. Algee-Hewitt, PhD; Dennis E. Slice, PhD; Detelina Stoyanova, PhD;  Jieun Kim, MA; Cristina Figueroa-Soto, MA
3:00 p.m.	-	3:15 p.m.	Break



Pre-Registration Required — \$250 w/registration; \$300 workshop only

**42** A Computational Framework for Skeletal Age-at-Death Estimation Using Laser Scans of the Adult Pubic Symphysis: Theory, Methods, and Software (continued)

Program cont.:

3:15 p.m. - 4:15 p.m. Hands-On Training: Session III

Bridget F.B. Algee-Hewitt, PhD; Dennis E. Slice, PhD; Detelina Stoyanova, PhD;

Jieun Kim, MA; Cristina Figueroa-Soto, MA

4:15 p.m. - 4:30 p.m. Closing Remarks and Discussion

Bridget F.B. Algee-Hewitt, PhD

Targeted Audience: Anthropology, General, Pathology/Biology

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

**Expected Handout Length: 50 Pages** 

**Restricted Audience Size: 25** 

Registration is limited to the first 25 registrants. Participants should bring their own laptop for hands-on activities.



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

### **#3** Shooting Reconstruction

Monday, February 13, 2017

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

6.75 CE Hours

**Educational Objective(s):** After attending this presentation, attendees will learn some of the phenomena that must be taken into consideration when assessing a shooting scene. Several different types of ammunition will be discussed, along with their interactions with several different substrates commonly encountered. Attendees will also become familiar with evidence recognition, documentation, and recovery for laboratory analysis.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by exploring some of the techniques used in shooting scene reconstruction and subsequent laboratory analysis of related evidence.

Chair: Co-Chair:

Peter J. Diaczuk, PhDJack Hietpas, PhDPenn State UniversityPenn State UniversityState College, PAUniversity Park, PA

Faculty: Andrew J. Winter, MS

Linda Tran, BS Middlesex County Prosecutor's Office

Jefferson Parish Sheriff's Office New Brunswick, NJ

Harvey, LA

**Program Description:** Shooting reconstruction is a complex endeavor, requiring a thorough knowledge of bullets, firearms, and impact dynamics. This workshop will attempt to elucidate some of the situations encountered and offer solutions to questions that arise at shooting scenes, including ricochets.

#### Program:

8:30 a.m.	-	9:20 a.m.	Ammunition
			Peter J. Diaczuk, PhD; Jack Hietpas, PhD; Andrew J. Winter, MS
9:20 a.m.	-	10:10 a.m.	Bullet Ricochet
			Peter J. Diaczuk, PhD
10:10 a.m.	-	10:20 a.m.	Break
10:20 a.m.	-	11:10 a.m.	Bullet Interactions With Substrates
			Peter J. Diaczuk, PhD; Jack Hietpas, PhD; Andrew J. Winter, MS
11:10 a.m.	_	12:00 p.m.	Determining Bullet Paths at the Scene
		-	Peter J. Diaczuk, PhD; Andrew J. Winter, MS
12:00 p.m.	_	1:30 p.m.	Lunch
F		F	
1:30 p.m.	_	2:20 p.m.	Practical Exercises: Identify Ricocheted Bullets
1		•	Peter J. Diaczuk, PhD; Jack Hietpas, PhD; Andrew J. Winter, MS; Linda Tran, BS



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

## **#3** Shooting Reconstruction (continued)

#### Program cont.:

2:20 p.m. - 3:10 p.m. Practical Exercise: Interpreting Powder Patterns

Peter J. Diaczuk, PhD; Jack Hietpas, PhD; Andrew J. Winter, MS; Linda Tran, BS

3:10 p.m. - 3:20 p.m. Break

3:20 p.m. - 4:10 p.m. Practical Exercise: Determining Bullet Paths

Peter J. Diaczuk, PhD; Jack Hietpas, PhD; Andrew J. Winter, MS; Linda Tran, BS

4:10 p.m. - 5:00 p.m. Results and Discussion

Peter J. Diaczuk, PhD; Jack Hietpas, PhD; Andrew J. Winter, MS; Linda Tran, BS

**Targeted Audience:** Criminalistics

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

**Expected Handout Length:** 40 Pages

Restricted Audience Size: 24

Supported by: Leica Microsystems

Registration is limited to the first 24 registrants.



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

#4 Sex-Related Homicide and Death Investigations: Practical and Clinical Perspectives

— The Significance of Pornography, Sexual Deviance, Autoerotic Fatalities,
Signature and *Modus Operandi* (M.O.) in Serial Murder Investigation and Criminal
Investigative Analysis

Monday, February 13, 2017

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

6.25 CE Hours

**Educational Objective(s):** After attending this presentation, attendees will be aware of common assumptions made by responders on scene, such as, a death is an autoerotic asphyxia death prior to investigating if more than one person may have been involved. Attendees of this presentation will better understand the significance of sexual deviancy, fantasy, and pornography in sex-related events, as well as the investigative and behavioral analysis and medicolegal considerations involved in these types of cases. This presentation will provide attendees with practical, proven procedures for crime scene documentation, law enforcement investigation, and medicolegal investigations.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by providing and familiarizing forensic scientists and investigators with the investigative expertise and medicolegal science involved in the professional examination of sex-related homicide and death investigations. There will be case examples that focus on determining whether or not the death is a paraphilic accident or a sex-related homicide.

Chair:

**Vernon J. Geberth, MS, MPS**Practical Homicide Investigation
Marco Island, FL

Faculty:

**Barbara C. Wolf, MD**District 5 Medical Examiner's Office
Leesburg, FL

Co-Chair:

Thomas C. McAndrew, MA Pennsylvania State Police Orefield, PA

Andrea Zaferes, BA

Dutchess County Medical Examiner Office Shokan, NY

**Program Description:** This presentation will provide examples and information on human sexuality, sexual deviance, and paraphilic considerations in these types of investigations, as well as the medicolegal analysis and evaluation of sex-related events, including the current knowledge regarding autoerotic fatalities (e.g., definitions and crime scene characteristics).

This session will focus on the dynamics of sex-related homicides, including rape, lust murder, and serial killings through both case history and research information. This session will also focus, through case histories and research, on the investigative strategies employed in the behavioral analysis of serial and lust murders, concentrating on the "signature and M.O." employed by sex offenders. There will be a discussion of the significance of sexual posing in crime scenes.

#### Program:

8:30 a.m. - 10:00 a.m. Sexual Deviance and the Significance of Fantasy and Pornography

Vernon J. Geberth, MS, MPS; Andrea Zaferes, BA

10:00 a.m. - 10:30 a.m. Break



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

#4 Sex-Related Homicide and Death Investigations: Practical and Clinical Perspectives

— The Significance of Pornography, Sexual Deviance, Autoerotic Fatalities,
Signature and *Modus Operandi* (M.O.) in Serial Murder Investigation and Criminal
Investigative Analysis (continued)

Program cont.:	
10:30 a.m 12:00 p.m.	Medicolegal Evaluation and the Role of the Medical Examiner in the Evaluation of Sex-Related Homicides and Death Investigations Barbara C. Wolf, MD
12:00 p.m 1:15 p.m.	Lunch
1:15 p.m 3:00 p.m.	Case Histories of Sex-Related Homicides and Death Investigations, Including Sex-Related Aquatic Deaths  Thomas C. McAndrew, MA; Andrea Zaferes, BA
3:00 p.m 3:30 p.m.	Break
3:30 p.m 4:45 p.m.	Investigative and Behavioral Analysis in Criminal Personality Profiling: Signature and M.O. Case Studies of Sex-Related Homicides — The Frequency of Sexual Posing in Homicide <i>Vernon J. Geberth, MS, MPS; Thomas C. McAndrew, MA</i>
4:45 p.m 5:00 p.m.	Discussion Vernon J. Geberth, MS, MPS; Thomas C. McAndrew, MA; Barbara C. Wolf, MD; Andrea Zaferes, BA

Targeted Audience: General, Pathology/Biology

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

Expected Handout Length: 150 Pages

**Restricted Audience Size: 125** 

Registration is limited to the first 125 registrants.



Pre-Registration Required — \$250 w/registration; \$275 workshop only

## #5 The Opioid Epidemic: Trends, Challenges, and a Path Forward

Monday, February 13, 2017

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

6.75 CE Hours

Educational Objective(s): After attending this presentation, attendees will be able to: (1) describe the current epidemiology of prescription and non-prescription opioid drugs in North America and around the world; (2) identify and distinguish between the various chemical categories of novel emerging opioid drugs; (3) implement a drug-screening protocol for novel emerging opioid drugs, looking for the most relevant drugs; and, (4) apply data from intoxication cases involving traditional and emerging opioid agonists in the interpretation of forensic toxicology and death investigation casework.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by providing an update to the current state of the opioid epidemic in which emerging novel opioid drugs are challenging professionals in forensic chemistry, toxicology, emergency response, and death investigation.

Chair:

**Donna M. Papsun, MS**Willow Grove, PA

Faculty:

Kavita Babu, MD

University of Massachusetts Medical Center Worcester, MA

Melissa Friscia, MSFS

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

Graham R. Jones, PhD

Alberta Office of the Chief Medical Examiner Edmonton, AB, CANADA

Amanda L.A. Mohr, MSFS

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

Co-Chair:

Barry K. Logan, PhD
NMS Labs/The Center for
Forensic Science Research and Education

Forensic Science Research and Education

Willow Grove, PA

Roumen Sedefov, MD

European Monitoring Centre for Drugs and Drug Addiction Lisbon, PORTUGAL

Istvan Ujvary, PhD

Budapest University of Technology & Economics Budapest, HUNGARY

Jeff Walterscheid, PhD

Armed Forces Medical Examiner System Division of Forensic Toxicology Dover AFB, DE

Joshua Yohannan, MS

Allegheny County Medical Examiner's Office Pittsburgh, PA

**Program Description:** This workshop will cover the opioid epidemic that is ravaging the United States and other countries and is affecting agencies at all levels, including crime laboratories, law enforcement, public health officials, and toxicologists.

#### Program:

8:30 a.m. - 8:35 a.m. Welcome and Introduction *Donna M. Papsun, MS* 

8:35 a.m. - 9:20 a.m. Opioid Prevalence in Death Investigations

Barry K. Logan, PhD



Pre-Registration Required — \$250 w/registration; \$275 workshop only

## **The Opioid Epidemic: Trends, Challenges, and a Path Forward (continued)**

Program cont.:	
9:20 a.m 10:20 a.m.	The United States Illicit Opioids Market and Trends — Manufacturing, Marketing, and Distribution of Illicit Opioids <i>Joshua Yohannan, MS</i>
10:20 a.m 10:35 a.m.	Break
10:35 a.m 11:15 a.m.	Medical Toxicology Experience With Novel Opioid Abuse and Experiences With the Expansion of Naloxone Reversals <i>Kavita Babu, MD</i>
11:15 a.m 12:00 p.m.	The European Experience With Opioids Roumen Sedefov, MD
12:00 p.m 1:15 p.m.	Lunch
1:15 p.m 2:15 p.m.	Quantitative Structure-Activity Relationship (QSAR) Studies and the Opioid Receptors <i>Istvan Ujvary, PhD</i>
2:15 p.m 2:55 p.m.	Loperamide Abuse  Jeff Walterscheid, PhD
2:55 p.m 3:10 p.m.	Break
3:10 p.m 3:40 p.m.	The Arrival of Designer Opioids: Case Studies in Acetylfentanyl, Butyryl Fentanyl, AH-7921, and MT-45 <i>Donna M. Papsun, MS</i>
3:40 p.m 4:05 p.m.	The Emerging Opioids of 2016: Case Reports of U-47700 and Furanyl Fentanyl <i>Amanda L.A. Mohr, MSFS</i>
4:05 p.m 4:30 p.m.	Case Reports Involving 3-Methyl Fentanyl  Melissa Friscia, MSFS
4:30 p.m 5:00 p.m.	W-18/W-15 Graham R. Jones, PhD

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

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

**Expected Handout Length: 200 Pages** 

Supported by: The Center for Forensic Science Research and Education



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

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



## #6 Taking a Bite Out of Crime and Other Hairy Situations

Monday, February 13, 2017

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

6.5 CE Hours

Educational Objective(s): After attending this presentation, attendees will understand how wrongful convictions and exonerations come to light through the post-conviction process and will be provided examples of how to respond when mistakes are uncovered.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by highlighting what has been learned from two forensic disciplines under fire and how addressing these weaknesses has led and can lead to a stronger forensic future.

Chair: Co-Chair:

Anjali A. Ranadive, JD
SciLawForensics, Ltd
Pamela A.W. King, JD
Rochester, MN

Brookings, SD

Faculty:

Cynthia Brzozowski, DMD
Sea Cliff, NY
Undisclosed

Anthony R. Cardoza, DDS
Santee, CA
Washington, DC

Maxwell Christopher Fabricant, JD

The Innocence Project

Christopher J. Plourd, JD

Superior Court

New York, NY El Centro, CA

Lynn Garcia, JD Sherry Elizabeth Sabol, JD

Texas Forensic Science Commission Washington, DC Austin, TX

**Program Description:** This program will focus on two exonerations, the missteps that led to them, and the global forensic reform efforts undertaken in response. In addition, a look at how we can continue to improve and strengthen our forensic systems will be highlighted.

#### Program:

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

Anjali A. Ranadive, JD

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

Lynn Garcia, JD

9:45 a.m. - 10:30 a.m. A Case Study: Kirk Odom

Sandra Levick, JD

10:30 a.m. - 10:45 a.m. Break



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

### #6 Taking a Bite Out of Crime and Other Hairy Situations (continued)

#### Program cont.:

10:45 a.m. - 11:15 a.m. A Case Study: Kirk Odom

Sandra Levick, JD; Sherry Elizabeth Sabol, JD

11:15 a.m. - 12:00 p.m. A Case Study: Keith Harward

Maxwell Christopher Fabricant, JD

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

1:00 p.m. - 1:30 p.m. A Case Study: Keith Harward

Anthony R. Cardoza, DDS

1:30 p.m. - 2:00 p.m. A Case Study: Keith Harward

Cynthia Brzozowski, DMD

2:00 p.m. - 2:45 p.m. A Case Study: Keith Harward

Maxwell Christopher Fabricant, JD; Keith Harward

2:45 p.m. - 3:15 p.m. Break

3:15 p.m. - 3:45 p.m. Judiciary Responsibilities

Christopher J. Plourd, JD

3:45 p.m. - 4:15 p.m. Judiciary Responsibilities

Pamela A.W. King, JD

4:15 p.m. - 5:00 p.m. Questions, Answers, and Wrap-Up

Anjali A. Ranadive, JD; Cynthia Brzozowski, DMD; Anthony R. Cardoza, DDS;

Maxwell Christopher Fabricant, JD; Lynn Garcia, JD; Pamela A.W. King, JD;

Sandra Levick, JD; Christopher J. Plourd, JD

Targeted Audience: All Disciplines

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

Expected Handout Length: 50 Pages

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





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

#### **How to Manage the Multidisciplinary Response to a Mass Fatality Event**

Monday, February 13, 2017

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

6.5 CE Hours

**Educational Objective(s):** After attending this presentation, attendees will: (1) understand what to expect if they are involved in a mass fatality event; (2) understand who is involved; (3) understand what the expectations are of the different parties; (4) learn how to work with different government agencies, private parties, media, and families; (5) know how to provide leadership and direction; and, (6) understand the practical lessons learned from multiple events so they can review existing plans, update them if needed, and be better prepared for the variety of events in which they are likely to be involved.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by providing practical, experienced guidance on what to expect, how to manage, and how to avoid the very common mistakes that medical examiners, coroners, law enforcement, and others who have the responsibility of preparing for and responding to mass fatality events will face when these events occur.

Chair:

**Robert A. Jensen, BS**Kenyon International Emergency Services
Spring, TX

Co-Chair:

Anthony B. Falsetti, PhD
Arizona State University
New College of Interdisciplinary Arts and Sciences
Glendale, AZ

**Program Description:** The goal of this session is to provide a big-picture, practical, mass fatality event management strategy. Topics covered in this session include: (1) an overview of who's involved, from occurrence of the event to final litigation in court and managing the best practice teamwork that is needed for success; (2) an overview of what's involved (i.e., the functional areas beyond the morgue that need to be addressed, such as collecting antemortem information, establishing call centers to register missing persons, and family briefings); (3) media and communications management (i.e., how and what to say; secure websites; family, media, and political briefings); (4) common mistakes in the identification and release of human remains; (5) dealing with Hazardous Materials (HAZMAT) (including deliberately introduced) or infectious (public health) and/or contaminated human remains and scenes; and, (6) managing the critical incident stress impact on oneself and staff.

8:30 a.m.	- 9:40 a.m.	An Overview of Who's Involved: Review the Various Disciplines, Skills Sets, and Roles of People Involved in a Mass Fatality Event Robert A. Jensen, BS; Anthony B. Falsetti, PhD
9:40 a.m.	- 9:55 a.m.	Break
9:55 a.m.	- 10:45 a.m.	Overview of What's Involved: Review the Functional Areas Involved in a Mass Fatality Event <i>Anthony B. Falsetti, PhD; Robert A. Jensen, BS</i>
10:45 a.m.	- 11:00 a.m.	Break
11:00 a.m.	- 12:00 p.m.	Media and Communications Management Robert A. Jensen, BS; Anthony B. Falsetti, PhD
12:00 p.m.	- 1:15 p.m.	Lunch



Common Mistakes in the Identification and Release of Human Remains

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

#### **How to Manage the Multidisciplinary Response to a Mass Fatality Event (continued)**

#### Program cont.:

2:25 p.m.

1:15 p.m.

Anthony B. Falsetti, PhD; Robert A. Jensen, BS

2:25 p.m. - 2:40 p.m. Break

2:40 p.m. - 3:40 p.m. Dealing With Contaminated Human Remains *Robert A. Jensen, BS; Anthony B. Falsetti, PhD* 

3:40 p.m. - 4:30 p.m. Manage the Critical Incident Stress

Robert A. Jensen, BS; Anthony B. Falsetti, PhD

4:30 p.m. - 5:00 p.m. Conclusions, Questions, and Answers

Anthony B. Falsetti, PhD; Robert A. Jensen, BS

Targeted Audience: Anthropology, Criminalistics, Engineering Sciences, General, Jurisprudence, Odontology,

Pathology/Biology

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

Expected Handout Length: 20 Pages



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

## #8 Applications of Hair Testing in Toxicology: Legal, Technical, and Medical Challenges

Monday, February 13, 2017

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

7.0 CE Hours

Educational Objective(s): After attending this presentation, attendees will be able to evaluate the usefulness of hair testing in forensic casework by becoming more knowledgeable, which will allow attendees to: (1) describe and explain the existing consensus documents on hair analysis, recognize the importance of guidelines in hair testing, and evaluate their own laboratory routines in the light of the existing guidelines; (2) describe how Ethyl Glucuronide (EtG) is incorporated into hair and interpret the results of this type of analysis; (3) describe the differences between urine/blood testing and hair testing for doping agents and be more knowledgeable concerning sport regulations in cases of doping offenses in addition to relevant political issues in using hair for doping purposes; (4) realize the possible applications of hair analysis in forensic toxicology and the circumstances and challenges that must be considered for the correct interpretation of the results; and, (5) gain an overview of workplace drug testing and the challenges of hair testing in a production laboratory.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by allowing attendees to gain insight into the broader scope of the analysis of hair for drugs and toxins in a range of fields applicable to forensic science. By including discussion on recent changes in legislation and standards, the usefulness of these tests in the greater context of the law and recent regulatory changes will be clearer to the forensic science community.

Chair:

Karen S. Scott, PhD Arcadia University Glenside, PA

Faculty:

Gail Audrey Ann Cooper, PhD
New York City Office of the Chief Medical Examiner
New York State, NY

Joseph Jones, MS
United States Drug Testing Laboratories
Des Plaines, IL

**Carmen Jurado, PhD**National Institute of Toxicology and Forensic Science Seville, SPAIN

Co-Chair:

Robert Kronstrand, PhD
National Board of Forensic Medicine
Department of Forensic Toxicology
Linkoping, SWEDEN

Pascal Kintz, PhD X-Pertise Consulting Oberhausbergen, FRANCE

Lauren M. Vinsick, BS Omega Labs Mogadore, OH

**Program Description:** This workshop provides an overview of the current status of hair testing in a variety of toxicological areas and includes references to current standards and consensus agreements as set by the Society of Hair Testing. By providing both an overview and more detailed information in workplace testing, pediatric and maternal testing, doping and alcohol biomarkers, as well as forensic toxicological testing of hair, this session is not only amenable to toxicologists but also relevant to pathologists and criminalists with an interest in expanding their understanding of the importance of these tests in criminal investigations. Each of the internationally renowned speakers has expert knowledge in their specific topics and discussion will center on the challenges faced in this growing field and how best practices are of use in developing reliable methods and gaining better insight for interpretation. Attendees will be invited to bring their own cases and experiences to the panel for detailed discussion during the workshop.



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

## **48** Applications of Hair Testing in Toxicology: Legal, Technical, and Medical Challenges (continued)

Program:		
8:30 a.m.	- 9:00 a.m.	Introduction Karen S. Scott, PhD
9:00 a.m.	- 10:00 a.m.	The Society of Hair Testing Guidelines and Consensus Agreements <i>Robert Kronstrand, PhD</i>
10:00 a.m.	- 10:15 a.m.	Break
10:15 a.m.	- 11:15 a.m.	Applications and Challenges of Hair Analysis in Forensic Toxicology <i>Carmen Jurado, MSc</i>
11:15 a.m.	- 12:15 p.m.	Hair Testing in Neonatal, Pediatric, and Maternal Casework  Gail Audrey Ann Cooper, PhD
12:15 p.m.	- 1:15 p.m.	Lunch
1:15 p.m.	- 2:15 p.m.	Workplace Drug Testing and Challenges of Hair Testing in a Production Laboratory <i>Lauren M. Vinsick, BS</i>
2:15 p.m.	- 3:15 p.m.	Hair Testing for Doping Agents: Science and Politics Pascal Kintz, PhD
3:15 p.m.	- 3:30 p.m.	Break
3:30 p.m.	- 4:30 p.m.	The Detection of EtG in Hair: Advantages, Limitations, and Current Applications <i>Joseph Jones, MS</i>
4:30 p.m.	- 5:30 p.m.	Faculty Panel Case Discussion Karen S. Scott, PhD; Robert Kronstrand, PhD; Carmen Jurado, MSc; Gail Audrey Ann Cooper, PhD; Lauren M. Vinsick, BS; Pascal Kintz, PhD; Joseph Jones, MS

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

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

Expected Handout Length: 175 Pages



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

## #9 Staged Crime Scenes: Crime Scene Clues to Suspect Misdirection of the Investigation

Monday, February 13, 2017

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

7.5 CE Hours

Educational Objective(s): After attending this presentation, attendees will learn three new categories of staged scenes, with case examples of different types of crimes where staging is prevalent. Additionally, attendees will learn the "red flags" or common findings in staged scenes.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by introducing the distinct categories of staging based on the intent of the offender's scene alteration. Ultimately, applying these categories may help in the quick recognition of scene alterations or staging.

Chair: Co-Chair:

Arthur S. Chancellor, MA Grant D. Graham, Sr., MFS

Angier, NC Fayetteville, NC

**Program Description:** This session is targeted toward persons in forensic pathology, criminalistics, crime scene analysts, and criminal investigations. It introduces three new categories of staged scenes, provides case examples, and explains the "red flags" commonly encountered when confronted with a staged scene. The session culminates with case studies for each attendee to work through and identify the various "red flags" in real cases.

#### Program:

8:30 a.m.	- 10:20 a.m.	Primary Staged Scenes Grant D. Graham, Sr., MFS; Arthur S. Chancellor, MA
10:20 a.m.	- 10:35 a.m.	Break
10:35 a.m.	- 12:30 p.m.	Primary and Secondary Staged Scenes Grant D. Graham, Sr., MFS; Arthur S. Chancellor, MA
12:30 p.m.	- 1:30 p.m.	Lunch
1:30 p.m.	- 3:20 p.m.	Secondary and Tertiary Staged Scenes and Red Flags of Staged Scenes Grant D. Graham, Sr., MFS; Arthur S. Chancellor, MA
3:20 p.m.	- 3:35 p.m.	Break
3:35 p.m.	- 5:30 p.m.	Staged Crime Scene Red Flags and Practical Case Study Exercises Grant D. Graham, Sr., MFS; Arthur S. Chancellor, MA

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

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

Expected Handout Length: 50 Pages



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

#### #10 Child Abuse: A Multidisciplinary Approach

Monday, February 13, 2017

8:30 a.m. - 5:45 p.m.

7.5 CE Hours

Educational Objective(s): After attending this presentation, attendees will be able to: (1) identify the neuropathological findings of abusive head trauma, understand how the biomechanical mechanisms of inertial brain injury create these injuries, and recognize how the distinction between focal and diffuse brain injury determines the clinical presentation of timing of symptoms, such as level of consciousness; (2) properly perform a gross and microscopic examination of the eye and document the significant pathological features of retinal hemorrhages; (3) properly perform and document the evaluation of a child's fracture; and, (4) identify and exclude cases of abusive trauma to children using all relevant clinical and pathological data and information.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by assisting in the evaluation of head injuries in infants and young children as well as assisting in the evaluation of traumatic injuries to the chest, abdomen, extremities, and bones of young children. Child abuse deaths are fairly common deaths seen by forensic pathologists in jurisdictions of all sizes. These cases are extremely complex and represent some of the most difficult cases handled by forensic pathologists. Forensic pathologists can be assisted in their work on these cases by input from other medical specialties and areas of interest, including child abuse pediatrics, pediatric ophthalmology, pediatric neurosurgery, neuroradiology, as well as a general knowledge of developmental pediatrics. Familiarity with these other areas of expertise will allow forensic pathologists to better decide upon cause and manner of death and to answer questions about forensic issues such as timing of injuries and onset of unconsciousness.

Chair:

Mary E.S. Case, MD St. Louis, MO

Faculty:

Andrew M. Baker, MD Hennepin County Medical Examiner's Office Minneapolis, MN

Ronald G. Barr, MD University of British Columbia Faculty of Medicine Vancouver, BC, CANADA

Tracey S. Corey, MD Louisville, KY Co-Chair:

James R. Gill, MD

Office of the Chief Medical Examiner
Farmington, CT

Mark S. Dias, MD Penn State University College of Medicine Hershey, PA

Carole Jenny, MD University of Washington School of Medicine Seattle, WA

**Program Description:** Child abuse pediatricians, neurosurgeons, ophthalmologists, neuroradiologists, and forensic pathologists have a common interest in accurately identifying (or excluding) cases of inflicted injury in children. Inflicted injuries in infants and young children are common injuries but are particularly challenging because they tend to be inflicted in private and outside the view of non-biased witnesses to document accurately what happened to the child. Unless a caregiver provides a history of the injury event, the diagnosis may be problematic. The purpose of this session is to bring together a variety of practitioners of the medical specialties usually concerned with abusive injuries to discuss their viewpoints on several aspects of child abuse. The most common cause of severe traumatic brain injury in young children is abuse, which accounts for most cases of head injury in children under one year of age and 10% of all traumatic deaths under five years of age. Recognition of Abusive Head Trauma (AHT) is important to assure proper administration of justice for those who have injured a child and to prevent future injury to other children. As many as 27% of victims of non-fatal AHT are reinjured after a missed diagnosis. This session will provide an overview of fatal AHT, including the



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

#### #10 Child Abuse: A Multidisciplinary Approach (continued)

forensic pathologist's approach to the examination of the deceased child, the neuropathology of AHT, and the clinical aspects of AHT from a child protection pediatrician and a pediatric neurosurgeon. There will be discussion of the mechanism of shaking as a cause for AHT in young children. This session will include discussion of developmental pediatric research on the relationship of the agerelated incidence curve of infant crying and the convergent curve for infant shaking as evidence for crying as a trigger to shaking of infants. There will also be discussion of inflicted injuries to the chest, abdomen, and extremities of young children, including bruise interpretation. Lastly, there will be discussion of fracture evaluation in young children and how to examine and document fractures from the forensic pathologist's viewpoint.

8:30 a.m.	-	8:45 a.m.	Overview and Introduction  Mary E.S. Case, MD
8:45 a.m.	-	9:45 a.m.	Autopsy Procedures in Abusive Head Trauma — National Association of Medical Examiners (NAME) Position Paper James R. Gill, MD
9:45 a.m.	-	10:45 a.m.	The Neuropathology of Abusive Head Trauma <i>Mary E.S. Case, MD</i>
10:45 a.m.	-	11:00 a.m.	Break
11:00 a.m.	-	12:00 p.m.	Clinical Aspects of Abusive Head Trauma Carole Jenny, MD
12:00 p.m.	-	12:15 p.m.	Questions and Answers
12:15 p.m.	-	1:15 p.m.	Lunch
1:15 p.m.	-	2:15 p.m.	The Case for Shaking as a Mechanism of Abusive Head Trauma <i>Mark S. Dias, MD</i>
2:15 p.m.	-	3:15 p.m.	The Relationship of Crying to Abusive Head Trauma Ronald G. Barr; MD
3:15 p.m.	-	3:30 p.m.	Break
3:30 p.m.	-	4:30 p.m.	Inflicted Injuries of the Chest, Abdomen, and Extremities of Young Children <i>Tracey S. Corey, MD</i>



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

#10 Child Abuse: A Multidisciplinary Approach (continued)

#### **Program cont.:**

4:30 p.m. - 5:30 p.m. Fracture Evaluation in the Deceased Child

Andrew M. Baker, MD

5:30 p.m. - 5:45 p.m. Questions and Answers

Targeted Audience: General, Pathology/Biology

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

Expected Handout Length: 10 Pages



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

## #11 Extreme Violence in the Military: Multiple Case Studies and the Exploration of Murder, Rape, and Cold Cases in the United States Military

Monday, February 13, 2017

8:30 a.m. - 6:00 p.m.

7.5 CE Hours

**Educational Objective(s):** After attending this presentation, attendees will understand: (1) the processing of mass murder scenes; (2) the forensic roles of military criminal investigators; (3) the responsibilities of the Armed Forces Medical Examiner; (4) investigations of United States personnel in foreign countries; (5) use of digital media in death investigations; (6) linking child pornography to cold cases; (7) gunshot range determination in suspected suicides; (8) multimodal crime scene investigation methods of rape and death scenes; (9) post-blast analysis; and, (10) methods to solve an array of violent crimes.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community through the detailed accounts of multiple violent crime scenes observed around the world, as described by the 21 special agents and a medical examiner who solved the cases. All of the crimes were investigated by the military criminal investigative organizations. The investigations will present multimodal approaches elaborating on crime scene processing, evidence collection, interrogation methodology, post-black reconstruction, medicolegal death determinations, and judicial hurdles and findings.

Chair:

Brian L. Janysek, MFS

Oakton, VA

Faculty:

Ryan P. Brokaw, MFS

U.S. Army Criminal Investigation Command (CID)

Benning CID Battalion Fort Benning, GA

Anna Y. Castillo

United States Air Force Office of Special Investigation

San Antonio, TX

Edgar A. Collins VI, MFS

U.S. Army Criminal Investigation Command (CID)

Quantico, VA

Phillip M. Curran, MFS

Quantico, VA

Louis N. Eliopulos, BA

Naval Criminal Investigative Service (NCIS)

Occuquan, VA

Co-Chair:

David J. Zeliff, MFS

Stafford, VA

Kiyomi M. Griffey, MFS

Carlsbad, CA

Walt Henson, BA

Naval Criminal Investigative Service (NCIS)

Jacksonville, FL

Jason J. Keller, MFS

Naval Criminal Investigative Service (NCIS)

NCISRA Great Lakes

Great Lakes, IL

Edward Mazuchowski II, MD, PhD

Dover AFB, DE

Erin Michaels, MFS

Naval Criminal Investigative Service

Washington DC Field Office

Anacostia Annex, DC



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

## #11 Extreme Violence in the Military: Multiple Case Studies and the Exploration of Murder, Rape, and Cold Cases in the United States Military (continued)

Faculty cont.:

Steven Geniuk, MS
Fort Huachuca, AZ
United States Air Force Office of

Special Investigation (AFOSI)

Honolulu, HI

T.L. Williams, MFS

Fredericksburg, VA

Elizabeth Richards, PhD
Defense Forensic Science Center

Forest Park, GA

Scott Roeske, MFS

Jessica Ann Veltri, MS

Fort Sill, OK U.S. Army Criminal Investigation Command (CID)

22<sup>nd</sup> Military Police Battalion (CID) Joint Base Lewis-McChord, WA

Kristan A. Troop, BS Rachel A. Wynalda, MS

United States Air Force Office of Naval Criminal Investigative Service

Special Investigation (AFOSI) Haleiwa, HI

Aurora, CO

**Program Description:** A group of 21 special agents and military forensic science consultants, each bringing decades of federal law enforcement experience within the United States Army Criminal Investigation Division (U.S. Army CID), Air Force Office of Special Investigations (AFOSI), and Navy Criminal Investigation Service (NCIS), will present first-hand accounts of 11 all-new, high-profile investigations from the past five years. A presentation by the Armed Forces Medical Examiner as to their capabilities will be made while also providing further insight into the various death investigations in this workshop.

#### Program:

8:30 a.m.	-	8:40 a.m.	Introduction Brian L. Janysek, MFS; David J. Zeliff, MFS
8:40 a.m.	-	9:00 a.m.	A U.S. Army CID, AFOSI, and NCIS Overview of Responsibilities and Capabilities <i>Edgar A. Collins VI, MFS; Elizabeth Richards, PhD; Louis N. Eliopulos, BA</i>
9:00 a.m.	-	9:40 a.m.	The Use of Specialized Forensic Techniques to Assist a Joint Homicide Investigation of a Japanese National <i>Alicia Marie Swartz Pitts, MS</i>
9:40 a.m.	-	10:15 a.m.	A Death Investigation Which Occurred Over Skype in a Deployed Location Ryan P. Brokaw, MFS; T.L. Williams, MFS; Jessica Ann Veltri, MS
10:15 a.m.	-	10:25 a.m.	Break
10:25 a.m.	-	11:00 a.m.	An Investigation of a Nude and Partially Decomposed Body and the Important Role Electronic Media Now Plays in Criminal Investigations

Louis N. Eliopulos, BA; Kiyomi M. Griffey, MFS



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

## #11 Extreme Violence in the Military: Multiple Case Studies and the Exploration of Murder, Rape, and Cold Cases in the United States Military (continued)

Program cont.:	
11:00 a.m 11:40 a.m.	Mass Casualty and Multiple Crime Scene Investigations When a Soldier Went on an Eight-Location Shooting Spree Scott Roeske, MFS; Phillip M. Curran, MFS
11:40 a.m 12:20 p.m.	The Armed Forces Medical Examiner System — As Detailed by the Armed Forces Medical Examiner Edward Mazuchowski II, MD, PhD
12:20 p.m 1:50 p.m.	Lunch
1:50 p.m 2:25 p.m.	30-Year-Old Child Sexual Abuse Case  Anna Y. Castillo
2:25 p.m 3:00 p.m.	The Death of a United States Navy Member and a False Confession — The Importance of Collecting Arrestee DNA <i>Erin Michaels, MFS</i>
3:00 p.m 3:40 p.m.	Child Murder and Multiple Forms of Attempted Suicide Steven Geniuk, MS
3:40 p.m 3:55 p.m.	Break
3:55 p.m 4:30 p.m.	A Gunshot Wound to the Head in a Suspected Suicide in Which Range Determination Was Critical to the Manner-of-Death Determination Rachel A. Wynalda, MS; Walt Henson, BA
4:30 p.m 5:10 p.m.	The Death of an Air Force Cadet With 28 Stab Wounds Kristan A. Troop, BS
5:10 p.m 5:50 p.m.	A Post-Blast Scene Examination Following the Unexpected Detonation of Approximately 345 Explosive Rounds Killing Four Explosive Ordnance Disposal (EOD) Marines <i>Jason J. Keller, MFS</i>
5:50 p.m 6:00 p.m.	Questions and Answers  Brian L. Janysek, MFS; David J. Zeliff, MFS

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

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

Expected Handout Length: 200 Pages



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

#### #12 Forensic Digital Multimedia: Enhancement and Authentication

Monday, February 13, 2017

8:30 a.m. - 6:00 p.m.

8.0 CE Hours

**Educational Objective(s):** After attending this presentation, attendees will understand the important components to digital audio and image/video enhancement and to digital audio and image/video authentication.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by providing a short training opportunity on the concepts of multimedia enhancement and authentication.

Chair: Co-Chair:

Jeff M. Smith, MS Catalin Grigoras, PhD

National Center for Media Forensics – CU Denver, CO

Denver, CO

Program Description: This workshop is a two-part, full-day workshop covering digital multimedia enhancement in the morning and digital multimedia authentication analysis in the afternoon. The goal of this workshop is to provide an overall view of conducting comprehensive digital multimedia examinations that rely on the results of multiple analyses to enhance recordings or to inform an ultimate finding or opinion. During the discussion of digital multimedia enhancement, common image and audio filters, which can be useful in processing recordings to increase intelligibility or visual details, will be discussed and presented within their respective order of operations. This order is based on the effects of sequential processing that have been researched and optimized into an order that provides optimal results. In the second half of the workshop, multimedia authentication analysis frameworks will be presented, focusing on different aspects of image/audio creation to determine both source and authenticity. Global analysis investigates the validity of multimedia as a whole, while local analysis determines temporal or pixel-level manipulation. Also, it will be demonstrated how both container and content analysis can be used to determine authenticity of recordings as well as the purported source. Container analysis exploits characteristics of the multimedia file format, which can be used to establish media provenance. Content analysis will cover both global and local analysis.

8:30 a.m.	- 10:30 a.m.	Forensic Audio Enhancement Jeff M. Smith, MS
10:30 a.m.	- 10:45 a.m.	Break
10:45 a.m.	- 12:45 p.m.	Forensic Image/Video Enhancement Jeff M. Smith, MS
12:45 p.m.	- 1:45 p.m.	Lunch
1:45 p.m.	- 3:45 p.m.	Forensic Audio Authentication Catalin Grigoras, PhD
3:45 p.m.	- 4:00 p.m.	Break
4:00 p.m.	- 6:00 p.m.	Forensic Image/Video Authentication Catalin Grigoras, PhD



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

**#12** Forensic Digital Multimedia: Enhancement and Authentication (continued)

Targeted Audience: Digital & Multimedia Sciences

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

Expected Handout Length: 100 Pages



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

## #13 Forensics and Social Media: The Intersection of Education, Personal Promotion, and Professionalism

Monday, February 13, 2017

9:00 a.m. - 12:00 p.m.

2.75 CE Hours

**Educational Objective(s):** After attending this presentation, attendees will be able to harness the power of social media for professional promotion while learning to avoid potential pitfalls and classic mistakes. Social media platforms to be addressed include: Instagram<sup>™</sup>, Twitter<sup>™</sup>, LinkedIn<sup>®</sup>, ResearchGate, Snapchat<sup>™</sup>, Academia.edu, Facebook<sup>®</sup>, Hootsuite<sup>™</sup>, and YouTube<sup>®</sup>.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by instructing attendees in the appropriate use, advantages, and pitfalls of social media engagement for the purposes of professionalism, education, and outreach. It is hoped that by defining and demystifying some common platforms, attendees will be encouraged to explore this brave new world of social connectivity.

Chair:

Marianne Hamel, MD, PhD

Bethlehem, PA

Co-Chair:

Kimberlee Sue Moran, MSc

Arcadia University Glenside, PA

Faculty:

Anna N. Dhody, MFS

Mütter Museum

The College of Physicians of Philadelphia

Philadelphia, PA

**Program Description:** According to the Pew Research Center, nearly three-quarters of Americans use social media in some form and engage with it on a daily basis. Despite the substantial user-base, the forensic science community has done little to nothing to address the phenomenon or to integrate itself into the social media landscape. While many forensic scientists avoid social media for fear of appearing unprofessional or violating confidentiality, social media is a powerful tool for professional promotion, education of the general public, and recruitment of potential new scientists. This session intends to introduce a range of social media platforms, their use, and their potential within the forensic science community. By demystifying social media, the presenters, all of whom have extensive social media experience, hope to empower participants to become active members of the social media community.

9:00 a.m.	- 9:45 a.m.	The Professional Use of Instagram <sup>TM</sup> , Twitter <sup>TM</sup> , and Other Social Media Platforms <i>Marianne Hamel, MD, PhD</i>
9:45 a.m.	- 10:30 a.m.	Career and Professional Development Through Social Media Kimberlee Sue Moran, MSc
10:30 a.m.	- 10:45 a.m.	Break
10:45 a.m.	- 11:30 a.m.	Institutional/Agency Promotion and Educational Outreach <i>Anna N. Dhody, MFS</i>
11:30 a.m.	- 12:00 p.m.	Questions and Answers Marianne Hamel, MD, PhD; Anna N. Dhody, MFS; Kimberlee Sue Moran, MSc



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

#13 Forensics and Social Media: The Intersection of Education, Personal Promotion, and Professionalism (continued)

Targeted Audience: All Disciplines

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

**Expected Handout Length: 2 Pages** 



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

# #14 Retinal Hemorrhages (RHs) Associated With Pediatric Abusive and Non-Abusive Head Injury — Systematic Reviews and Their Evidence Base: A Review

Monday, February 13, 2017

9:00 a.m. - 1:30 p.m.

4.25 CE Hours

**Educational Objective(s):** After attending this presentation, attendees will be able to: (1) list the limitations of systematic reviews of retinal hemorrhages in childhood head injuries; (2) recognize observational studies employing imprecise case definition, circularity, selection or information bias, and misrepresentation of data; (3) discuss the use of confessions in case definition for abusive head trauma; and, (4) review issues with proposed statistical tools for the diagnosis of abusive head trauma.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by exploring the value and pitfalls of systematic reviews and the selected observational studies focused on the diagnostic specificity of RHs in Abusive Head Trauma/Shaken Baby Syndrome (AHT/SBS) and of a proposed analytical tool intended to make the diagnosis of AHT/SBS more objective. This presentation will help physicians understand how to identify common problems in the underlying studies and the analyses, including logical fallacies, circularity, selection and information bias, imprecise case definition including confessions, and even misrepresentation of data.

Chair:

Patrick E. Lantz, MD Wake Forest University School of Medicine Winston-Salem, NC Co-Chair:

**Candace H. Schoppe, MD**Southwestern Institute of Forensic Sciences Dallas, TX

Faculty:

Maria Cuellar, MS Carnegie Mellon University Pittsburgh, PA Robert G. Stanulis, PhD

Portland, OR

Anna G. McDonald, MD

Wake Forest Baptist Medical Center Winston Salem, NC

**Program Description:** After attending this presentation, attendees will better understand the role of systematic reviews and observational studies and will become more familiar with current research regarding the diagnostic specificity of RHs in pediatric AHT or SBS. Well-founded systematic reviews strive to formulate a detailed and comprehensive search strategy derived *a priori*, with the goal of reducing bias by identifying, appraising, and synthesizing all relevant studies on a subject. The strength of a systematic review depends on the reliability of the primary studies it incorporates and on the accurate assessment of those studies by the reviewers.

#### Program:

9:00 a.m. - 9:05 a.m. Welcome and Introduction Patrick E. Lantz, MD

9:05 a.m. - 9:30 a.m. Observational Studies and Systematic Reviews

Maria Cuellar, MS; Robert G. Stanulis, PhD



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

# #14 Retinal Hemorrhages (RHs) Associated With Pediatric Abusive and Non-Abusive Head Injury — Systematic Reviews and Their Evidence Base: A Review (continued)

Program cont.:		
9:30 a.m 10:00 a.m.	Togioka et al. (2009): A Systematic Review of Retinal Hemorrhages in Abusive Head Trauma and Evidence Base Candace H. Schoppe, MD	
10:00 a.m 10:30 a.m.	Bhardwaj et al. (2010): Systematic Review of Retinal Hemorrhages in Abusive Head Trauma and Evidence Base Candace H. Schoppe, MD; Anna G. McDonald, MD	
10:30 a.m 10:45 a.m.	Break	
10:45 a.m 11:15 a.m.	Piteau et al. (2012): Systematic Review of Retinal Hemorrhages in Abusive Head Trauma and Evidence Base <i>Anna G. McDonald, MD</i>	
11:15 a.m 11:45 a.m.	Maguire et al. (2013): Systematic Review of Retinal Hemorrhages in Abusive Head Trauma and Evidence Base <i>Patrick E. Lantz, MD</i>	
11:45 a.m 12:15 p.m.	Validity of Confessions in Cases of Abusive Head Trauma Robert G. Stanulis, PhD	
12:15 p.m 12:45 p.m.	Review of a Statistical Tool to Aid in the Diagnosis of Abusive Head Trauma <i>Maria Cuellar, MS</i>	
12:45 p.m 1:00 p.m.	Summary and Conclusions Patrick E. Lantz, MD	
1:00 p.m 1:30 p.m.	Questions and Discussion Patrick E. Lantz, MD; Candace H. Schoppe, MD; Anna G. McDonald, MD; Maria Cuellar, MS; Robert G Stanulis, PhD	

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

 $\label{lem:knowledge Level Required:} \textbf{Intermediate (some knowledge of subject presented)}$ 

**Expected Handout Length: 25** 

**Restricted Audience Size: 150** 

Registration is limited to the first 150 registrants.



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

## #15 Considerations for Crime Scene Analysis When Utilizing Forensic Science Experts for Post-Scene Analysis

Monday, February 13, 2017

1:00 p.m. - 5:30 p.m.

4.25 CE Hours

Educational Objective(s): After attending this presentation, attendees will understand how forensic science experts collaborate with crime scene personnel in evaluating physical evidence present and will be able to render expert opinions and testimony for the successful outcome of the investigation. Attendees will be better able to assess which items of physical evidence could generate more probative value from expert analysis. Methods to minimize evidence contamination prior to expert analysis will also be addressed.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by challenging law enforcement personnel, crime scene investigators (death investigators), and forensic science specialists (entomologists and anthropologists) to recognize and increase their knowledge base on how a collaborative effort with experts can and will increase the successful outcome of a criminal investigation.

Chair:

**Sharon L. Plotkin, MS** Miami Dade College Miami, FL

Faculty:

Teresa A. White, MA Missoula, MT Co-Chair:

Jason H. Byrd, PhD University of Florida Maples Center for Forensic Medicine Gainesville, FL

**Program Description:** This session will be presented by a crime scene investigator and two forensic experts who will address issues that have been present at crime scenes, discuss the difficulties in rendering expert testimony due to crime scene-related issues, and explain how to overcome such obstacles in the hope of assisting in such cases in the future.

1:00 p.m	2:00 p.m.	Aspects of Some Crime Scenes That May Impact Expert Witness Testimony Sharon L. Plotkin, MS
2:00 p.m	3:15 p.m.	What Crime Scene Investigators Should Know About Forensic Entomology and Working With Reports From Forensic Entomologists <i>Jason H. Byrd, PhD</i>
3:15 p.m	3:30 p.m.	Break
3:30 p.m	4:45 p.m.	How Forensic Anthropologists Can Assist Investigators With Crime Analysis <i>Teresa A. White, MA</i>
4:45 p.m	5:15 p.m.	A Multidisciplinary Crime Scene Scenario Case Study Utilizing a Multidisciplinary Approach <i>Jason H. Byrd, PhD; Teresa A. White, MA</i>
5:15 p.m	5:30 p.m.	Questions and Answers Sharon L. Plotkin, MS; Jason H. Byrd, PhD; Teresa A. White, MA



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

#15 Considerations for Crime Scene Analysis When Utilizing Forensic Science Experts for Post-Scene Analysis (continued)

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

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

**Expected Handout Length:** 12 pages



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

#### The AAFS Humanitarian and Human Rights Resource Center: Year Two #16

Tuesday, February 14, 2017

8:30 a.m. - 12:00 p.m.

3.0 CE Hours

Educational Objective(s): After attending this presentation, attendees will understand the structure of the AAFS Humanitarian and Human Rights Resource Center (HHRRC) and its impact on multiple global projects.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by raising awareness of the structure and accomplishments of the AAFS HHRC and the important developments in the global application of humanitarian and human rights forensic science.

Chair:

Douglas H. Ubelaker, PhD Smithsonian Institution Department of Anthropology

Washington, DC

Faculty:

Eric J. Bartelink, PhD

California State University, Chico Department of Anthropology Chico, CA

Roxana Enriquez, MA

Equipo Mexicana de Antropologia Forense, A.C. Queretara, MEXICO

Julie M. Fleischman, MS

Michigan State University

East Lansing, MI

Luis Fondebrider, PhD

Buenos Aires, ARGENTINA

Co-Chair:

Morris V. Tidball-Binz, MD

International Committee of the Red Cross

Geneva, SWITZERLAND

Katie M. Rubin, MS

C.A. Pound Human Identification Laboratory

Gainesville, FL

**Dolores Soto, PhD** 

Fray Juan de Larios Human Rights Center

Mexico City, MEXICO

Duarte Nuno Vieira, MSc, PhD, MD

Coimbra, PORTUGAL

Program Description: This workshop will provide current information on the development, structure, and progress sustained with the AAFS Humanitarian and Human Rights Resource Center. This workshop will also provide perspective from key practitioners regarding global developments and issues relating to humanitarian and human rights forensic science.

#### Program:

8:45 a.m. 8:30 a.m. Introduction

Douglas H. Ubelaker, PhD

9:05 a.m. 8:45 a.m. Humanitarian and Human Rights Forensic Science in Today's World

Morris V. Tidball-Binz, MD

9:05 a.m. 9:25 a.m. Forensic Investigation and Documentation of Torture and Ill-Treatment

Duarte Nuno Vieira, MSc, PhD, MD



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

#### #16 The AAFS Humanitarian and Human Rights Resource Center: Year Two (continued)

Program cont.:		
9:25 a.m 9:45 a.m.	South-South Cooperation in Building Local Forensic Capacity  Luis Fondebrider, PhD	
9:45 a.m 10:05 a.m.	The Uptake and Detection of Nerve Agents in Human Bone: A Potential Application of Forensic Toxicology to Forensic Anthropological Analyses of Mass Graves <i>Katie M. Rubin, MS</i>	
10:05 a.m 10:20 a.m.	Break	
10:20 a.m 10:40 a.m.	Government and Civil Society Strategies: Strengthening the Human Identification Department of the PGJE-Tlaxcala, Mexico <i>Roxana Enriquez, MA</i>	
10:40 a.m 11:00 a.m.	The Exhumation and Identification Program of Coahuila, Mexico: An Agenda Pull by Relatives of Disappeared Persons in the Midst of a Human Rights Crisis <i>Dolores Soto, PhD</i>	
11:00 a.m 11:20 a.m.	Stable Isotope Forensics as an Investigative Tool for Geolocating Unidentified Border Crossers From the Texas-Mexico Border <i>Eric J. Bartelink, PhD</i>	
11:20 a.m 11:40 a.m.	The Conservation and Analysis of Human Remains From the Khmer Rouge Era Mass Violence: An Anthropological Project in Krang Ta Chan, Cambodia <i>Julie M. Fleischman, MS</i>	
11:40 a.m 12:00 p.m.	Summary and Discussion  Douglas H. Ubelaker, PhD	

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

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

**Expected Handout Length: 5 Pages** 



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

## #17 Communication Strategies to Mitigate Bias and Strengthen Scientific Foundations in Forensic Science

Tuesday, February 14, 2017

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

3.0 CE Hours

Educational Objective(s): After attending this presentation, attendees will recognize the myriad ways in which cognitive and linguistic biases can inadvertently affect judgment and, with heightened awareness, attendees will be able to select from a variety of potential solutions for reducing bias.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by providing immediate methods for reducing cognitive and confirmation biases in the forensic science workflow from initiation of forensic analysis to trial.

Chair:

Carole E. Chaski, PhD
ALIAS Technology, LLC
Institute for Linguistic Evidence
Georgetown, DE

Co-Chair:

Roderick T. Kennedy, JD New Mexico Court of Appeals Albuquerque, NM

Faculty:

Cristina Aggazzotti, MS Harvard University Department of Linguistics Cambridge, MA E. Allyn Smith, PhD

University of Quebec at Montreal Dépt de Linguistique Montreal, PQ, CANADA

Katherine Ramsland, PhD

DeSales University Center Valley, PA

**Program Description:** This workshop includes presentations by a range of experts presenting state-of-the-art strategies for mitigating bias and strengthening methodologies in the laboratory, workplace, and courtroom. Hands-on exercises will follow each presentation to encourage interaction with the audience and to enable attendees to practice each skill as soon as they have learned about it as well as to tailor it to their own job-specific environments. The exercises will also create topics for the discussion period at the end of the workshop, when attendees will be able to ask questions of the panelists and propose topics for further discussion across the represented fields.

8:30 a.m.	-	9:00 a.m.	Introduction Cristina Aggazzotti, MS
9:00 a.m.	-	9:30 a.m.	Overcoming Cognitive Defaults  Katherine Ramsland, PhD
9:30 a.m.	-	10:00 a.m.	Combating Bias: The Metalinguistic Filter and Reliable Science Carole E. Chaski, PhD
10:00 a.m.	-	10:30 a.m.	Open Discussion and Questions and Answers Cristina Aggazzotti, MS



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

## #17 Communication Strategies to Mitigate Bias and Strengthen Scientific Foundations in Forensic Science (continued)

#### Program cont.:

10:30 a.m. - 11:00 a.m. Break

11:00 a.m. - 11:30 a.m. Requests, Questions, and Statements: How We Say Things Matters E. Allyn Smith, PhD

11:30 a.m. - 12:00 p.m. Insulating Experts, Protecting Results Roderick T. Kennedy, JD

12:00 p.m. - 12:30 p.m. Open Discussion and Questions and Answers Cristina Aggazzotti, MS

**Targeted Audience:** Criminalistics, Digital & Multimedia Sciences, Engineering Sciences, Jurisprudence, Psychiatry & Behavioral Science, Questioned Documents

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

Expected Handout Length: 50 Pages



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

#18 The Opiate Crisis, Dirty Bombs, Big Data/Big Problems, and Driverless Cars: On the Leading Edge of Forensic Science — 2017 Theoretical Forensic Sciences "Think Tank"

Tuesday, February 14, 2017

8:30 a.m. – 12:30 p.m.

3.5 CE Hours

**Educational Objective(s):** The goal of this presentation is to describe how new developments might impact forensic scientists in their work. Practical examples will be presented on lab automation, driverless cars, designer drugs, nuclear forensics, cybercrime, and big data.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by providing an overview of some of the new developments in forensic science and by opening a forum for the discussion of issues that arise regarding such developments.

Chair:

Laura L. Liptai, PhD BioMedical Forensics Moraga, CA

Faculty:

Ivo Alberink, PhD
Netherlands Forensic Institute
The Hague, Zuid-Holland, NETHERLANDS

**Eoghan Casey, PhD**University of Lausanne
Lausanne, Vaud, SWITZERLAND

**Pierre G. Cassigneul, MA** NMS Labs Willow Grove, PA

Lucy A. Davis, BHS LDH Consultants Pikeville, KY Co-Chair:

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

Barry K. Logan, PhD NMS Labs/The Center for Forensic Science Research and Education Willow Grove, PA

Michael F. Rieders, PhD NMS LABS Willow Grove, PA

**Eduard Van Zalen, MSc**Netherlands Forensic Institute
The Hague, South Holland, NETHERLANDS

**Program Description:** Digital cameras were invented in 1975; as with all exponential technologies, 10,000 pixels were a disappointment until digital capabilities became superior and went mainstream in a matter of years. This will now happen with artificial intelligence, health, autonomous cars, education, 3D printing, agriculture, jobs, and ... yes, forensics. Big data, cybercrime and privacy, as well as genetic profiling, can become privacy issues if not handled well. This workshop will delve deeply into nuclear forensics, designer drugs, as well as new insights given on how to keep up with these fast-moving developments.

#### Program:

8:30 a.m. - 8:40 a.m. Opening Remarks and Introductions

Laura L. Liptai, PhD; Zeno J. Geradts, PhD



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

#18 The Opiate Crisis, Dirty Bombs, Big Data/Big Problems, and Driverless Cars: On the Leading Edge of Forensic Science — 2017 Theoretical Forensic Sciences "Think Tank" (continued)

Program cont.:			
8:40 a.m.	- 8:50 a.m.	The World is Revolutionizing: Technological Advances Including Driverless Vehicle System Performance  Laura L. Liptai, PhD	
8:50 a.m.	- 9:50 a.m.	Designer Drugs Are Changing the Practice of Forensic Toxicology Pierre G. Cassigneul, MA; Barry K. Logan, PhD; Michael F. Rieders, PhD	
9:50 a.m.	- 10:20 a.m.	Virtual Identities and Forensic Science: Cybercrime, Digital Evidence, and Privacy Eoghan Casey, PhD	
10:20 a.m.	- 10:35 a.m.	Break	
10:35 a.m.	- 11:05 a.m.	Examples of Bayesian Approach in Reports  Ivo Alberink, PhD	
11:05 a.m.	- 11:35 a.m.	Nuclear Forensics and Chemical, Biological, Radiological, and Nuclear (CBRN) Eduard Van Zalen, MSc	
11:35 a.m.	- 12:05 p.m.	Genetic Information: Who You Are Out in the World and What Do You Think? <i>Lucy A. Davis, BHS</i>	
12:05 p.m.	- 12:25 p.m.	Big Data, Dark Networks, and Future Expectations Zeno J. Geradts, PhD	
12:25 p.m.	- 12:30 p.m.	Closing Remarks Laura L. Liptai, PhD; Zeno J. Geradts, PhD	

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

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

Expected Handout Length: 100 Pages



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

## **Women in the Sciences: Examining Systemic Barriers and Becoming Agents of Change**

Tuesday, February 14, 2017

8:30 a.m. - 12:55 p.m.

3.75 CE Hours

**Educational Objective(s):** After attending this presentation, attendees will become better acquainted with the state of female representation in the sciences. Attendees will also learn how this representation has shifted over the past several decades, the systemic inequalities in equity and parity between the sexes, and gender-specific micro- and macro-aggressions. Finally, attendees will discuss how these issues manifest within the forensic sciences and how to work collaboratively to conceive strategies for change.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by demonstrating how gender-specific societal bias in the sciences creates barriers for the advancement of women, contributes to gender inequity in leadership positions, and undermines forensic science's ability to live up to its full potential.

Chair: Co-Chair:

Ann H. Ross, PhD Shanna E. Williams, PhD

North Carolina State University
University of South Carolina School of Medicine
Department of Biological Sciences
Greenville Biomedical Sciences Department

Raleigh, NC Greenville, SC

Faculty:

Chelsey A. Juarez, PhD
North Carolina State University
Department of Sociology and Anthropology
Phoebe R. Stubblefield, PhD
University of North Dakota
Department of Anthropology

Raleigh, NC Grand Forks, ND

**Program Description:** This four-part, half-day workshop will begin by providing an overview of the current trajectory of women in the sciences and conclude by discussing current approaches and best practices to capturing and capitalizing on female talent. Finally, the audience will be challenged to create action plans to limit systemic barriers and societal biases that deprive the American Academy of Forensic Sciences and their own institutions/organizations of talented and accomplished women across all levels of leadership.

8:30 a.m.	-	8:50 a.m.	Introduction of Panelists Ann H. Ross, PhD; Shanna E. Williams, PhD; Chelsey A. Juarez, PhD; Phoebe R. Stubblefield, PhD
8:50 a.m.		9:15 a.m.	An Overview of Challenges to Women in Forensic Science Ann H. Ross, PhD; Shanna E. Williams, PhD; Chelsey A. Juarez, PhD; Phoebe R. Stubblefield, PhD
9:15 a.m.	-	9:30 a.m.	Small Group Session: Word Network Analysis  Ann H. Ross, PhD; Shanna E. Williams, PhD; Chelsey A. Juarez, PhD;  Phoebe R. Stubblefield, PhD



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

## **Women in the Sciences: Examining Systemic Barriers and Becoming Agents of Change (continued)**

Program cont.:	
9:30 a.m 10:00 a.m.	A Review of Networks and a Development of Recruitment Strategies: Overcoming Perceived Costs to a Science Career Ann H. Ross, PhD; Shanna E. Williams, PhD; Chelsey A. Juarez, PhD; Phoebe R. Stubblefield, PhD
10:00 a.m 10:20 a.m.	Reasonable Professional Progress in an Institution: Probation, Promotions, Transfers, and Tenure  Ann H. Ross, PhD; Shanna E. Williams, PhD; Chelsey A. Juarez, PhD;  Phoebe R. Stubblefield, PhD
10:20 a.m 10:40 a.m.	Individual Reflective Writing
10:40 a.m 10:55 a.m.	Break
10:55 a.m 11:25 a.m.	The Major Work-Life/Education-Life Challenges: Sexual Harassment — Recognizing Predatory Behavior, Title IX Responses, Grievances, and Life Balance (Family Building, Physical Health, and Mental Health)  Ann H. Ross, PhD; Shanna E. Williams, PhD; Chelsey A. Juarez, PhD; Phoebe R. Stubblefield, PhD
11:25 a.m 11:55 a.m.	Small Group Ann H. Ross, PhD; Shanna E. Williams, PhD; Chelsey A. Juarez, PhD; Phoebe R. Stubblefield, PhD
11:55 a.m 12:25 p.m.	The Future of Science Careers and How It May Affect Women: Automation and Distance Education  Ann H. Ross, PhD; Shanna E. Williams, PhD; Chelsey A. Juarez, PhD;  Phoebe R. Stubblefield, PhD
12:25 p.m 12:40 p.m.	Small Group Review: A Summary of Strategies at Each Level — Institutional Culture, Recruitment, Work-Life, and Major Challenges  Ann H. Ross, PhD; Shanna E. Williams, PhD; Chelsey A. Juarez, PhD;  Phoebe R. Stubblefield, PhD
12:40 p.m 12:55 p.m.	Closing Remarks, Discussion, and Distribution of Additional Resources Ann H. Ross, PhD; Shanna E. Williams, PhD; Chelsey A. Juarez, PhD; Phoebe R. Stubblefield, PhD



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

**Women in the Sciences: Examining Systemic Barriers and Becoming Agents of Change (continued)** 

Targeted Audience: All Disciplines

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

**Expected Handout Length: 25 Pages** 

**Restricted Audience Size: 30** 

Registration is limited to the first 30 registrants.



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

## **#20** Instrumental Chromatographic Separation Techniques for Forensic Analyses: Application to the Analysis of Emerging Drugs

Tuesday, February 14, 2017

8:30 a.m. - 4:30 p.m.

5.75 CE Hours

**Educational Objective(s):** After attending this presentation, attendees will be better able to evaluate and select the proper chromatographic technique(s) for separating complex mixtures that are necessary for the analysis of emerging drugs present in seized drug-evidence submissions and toxicological samples.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by providing attendees with a respectable and fundamental understanding of the different modern separation techniques and how they have been applied to the analysis of emerging drugs in forensic exhibits. This workshop has a strong interdisciplinary focus.

Chair:

**Ira S. Lurie, PhD**George Washington University
Department of Forensic Science
Washington, DC

Co-Chair:

Bruce R. McCord, PhD
Florida International University
Department of Chemistry
Miami, FL

Faculty:

H. Chip Walls, BS

Forensic, Analytical & Clinical Toxicology Lab Miami, FL

**Program Description:** This workshop will provide attendees with a helpful overview of the use of modern instrumental chromatographic techniques such as capillary Gas Chromatography (GC), Ultra High-Performance Liquid Chromatography (UHPLC), and Ultra High-Performance Supercritical Fluid Chromatography (UHPSFC) for the separation of emerging drugs in both drug seizures and toxicological samples.

8:30 a.m.	- 8:45 a.m.	Introduction Ira S. Lurie, PhD
8:45 a.m.	- 9:15 a.m.	The Theory of Chromatography <i>Bruce R. McCord, PhD</i>
9:15 a.m.	- 10:00 a.m.	Sample Preparation Techniques Bruce R. McCord, PhD
10:00 a.m.	- 11:00 a.m.	Gas Chromatography H. Chip Walls, BS
11:00 a.m.	- 11:15 a.m.	Break
11:15 a.m.	- 12:30 p.m.	HPLC, UHPLC, SFC, and UHPSFC <i>Ira S. Lurie, PhD</i>



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

## **#20** Instrumental Chromatographic Separation Techniques for Forensic Analyses: Application to the Analysis of Emerging Drugs (continued)

Program cont.:		
12:30 p.m	2:00 p.m.	Lunch
2:00 p.m	2:45 p.m.	A Comparison of GC, UHPLC, and UHPSFC for the Analysis of Emerging Drugs Present in Seized Drugs <i>Ira S. Lurie, PhD</i>
2:45 p.m	3:30 p.m.	Chromatographic Analysis of Emerging Drugs in Toxicological Samples <i>H. Chip Walls, BS</i>
3:30 p.m	3:45 p.m.	Break
3:45 p.m	4:30 p.m.	Discussion and Future Directions  Ira S. Lurie, PhD: Bruce R. McCord, PhD: H. Chin Walls, BS

Targeted Audience: Criminalistics, Toxicology

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

Expected Handout Length: 80 Pages



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

#### Forensic Photography and the Exposure Triangle: #21 What Every Forensic **Professional Should** About ISO, **Depth** of **Field** Know (DOF), and **Shutter Speed (SS)**

Tuesday, February 14, 2017

8:30 a.m. - 4:30 p.m.

6.25 CE Hours

Educational Objective(s): After attending this presentation, attendees will better understand the proper use of a Digital Single-Lens Reflex (DSLR) camera for crime scene, sexual assault, autopsy, and laboratory work. Specific focus will be placed on understanding the "exposure triangle," which includes settings for ISO, DOF, and SS, and the importance of knowing how to adjust each component in order to properly capture forensic evidence for presentation at a later date in a criminal or civil trial. In addition, best practices and legal standards will be presented. Compression levels and when to utilize which level of compression will be taught, so attendees can properly image crime scenes and other forensic evidence in the proper format.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing professionals with a greater understanding of how photography is one of the three primary means of documenting crime scenes, autopsy findings, physical injury, and forensic evidence; yet, it remains the least-understood and least-trained discipline. This training will enhance the attendees' knowledge and competency when using a DSLR camera in the performance of their duties to properly document crime scenes and forensic evidence.

Chair:

David G. Pauly, MFS Methodist University Forensic Science Program TruForensics, LLC Fayetteville, NC

Co-Chair:

Steven L. Downs, MFS Methodist University Fayetteville, NC

Faculty:

**Dyer Bennett, BS** Sirchie

Youngsville, NC

Kelly Taylor, BS

Womack Army Medical Center

Fort Bragg, NC

Serena Hare, BS

Fayetteville, NC

Program Description: This hands-on practical session will guide the attendee from understanding basic camera operations to comprehending the exposure triangle and aspects of macro, telephoto, and complex scene photography.

#### Program:

8:30 a.m. 9:45 a.m. The Basics of the Exposure Triangle

David G. Pauly, MFS

9:45 a.m. - 10:00 a.m. Break

10:00 a.m. - 11:15 a.m. Hands-On Practical Exercise: Changing ISO and the Impact of Various ISO's

David G. Pauly, MFS; Steven L. Downs, MFS; Dyer Bennett, BS; Serena Hare, BS

11:15 a.m. - 11:30 a.m. Break



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

#21 Forensic Photography and the Exposure Triangle: What Every Forensic Professional Should Know About ISO, Depth of Field (DOF), and Shutter Speed (SS) (continued)

Program cont.:			
11:30 a.m 12:30 p.m.	Hands-On Practical Exercise: Shutter Speed Settings and the Impact of Long Versus Fast Exposure David G. Pauly, MFS; Steven L. Downs, MFS; Dyer Bennett, BS; Kelly Taylor, BS; Serena Hare, BS		
12:30 p.m 1:30 p.m.	Lunch		
1:30 p.m 2:00 p.m.	Hands-On Practical Exercise Continued: SS, ISO, DOF, and Painting With Light (PWL) David G. Pauly, MFS; Steven L. Downs, MFS; Dyer Bennett, BS; Kelly Taylor, BS; Serena Hare, BS		
2:00 p.m 2:45 p.m.	Sexual Assault Imaging of Victim and Suspect Wounds or Absence of Injuries <i>Kelly Taylor, BS</i>		
2:45 p.m 3:00 p.m.	Break		
3:00 p.m 4:15 p.m.	Discussion of Macro Photography and Macro Lens Practical Hands-On Exercise David G. Pauly, MFS; Steven L. Downs, MFS; Dyer Bennett, BS; Kelly Taylor, BS; Serena Hare, BS		
4:15 p.m 4:30 p.m.	Conclusion and Review  David G. Pauly, MFS		

**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: 30 Pages** 

**Restricted Audience Size: 70** 

Supported by: Sirchie and Methodist University

This workshop is limited to the first 70 registrants. This workshop includes hands-on practical training. Participants are encouraged to bring a work or personal camera to the workshop.



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

## **#22** Viewing Research Through Different Lenses: How to Achieve Success in Court

Tuesday, February 14, 2017

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

7.25 CE Hours

**Educational Objective(s):** After attending this presentation, attendees will better understand the value of scientific research in their courtroom practice. Participants will understand the value of scientific research and how to identify credible reference material, interpret information, and access such materials through the internet. Practitioners, such as forensic investigators, researchers, and lawyers, view scientific information through different lenses. Determining what is valuable and where to locate these resources is often challenging.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by raising awareness of practitioners, scientists, and lawyers to high-quality, no-cost, as well as paid, resources available through the internet and online materials. Those in attendance will take such awareness back to their respective employers and potentially increase the use of such materials by associated individuals and their organizations. Improving participants' skills in evaluating and locating information sources could decrease their reliance on materials of questionable value.

Chair:

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

Faculty:

Sarah Bankston, MS Texas A&M University Medical Sciences Library College Station, TX

M. Eric Benbow, PhD Michigan State University

Department of Entomology & Osteopathic Medical Specialties
East Lansing, MI

Diana Botluk, JD

Barry University School of Law Law Library Orlando, FL

Jonathan A. Cammack, PhD

Texas A&M University Department of Entomology College Station, TX

**Stephanie Domitrovich, JD, PhD**Sixth Judicial District of PA

Erie County Court House

Erie, PA

Co-Chair:

**Heather R. Jordan, PhD**Mississippi State University
Mississippi State, MS

Pamela A.W. King, JD

Rochester, MN

Joseph J. Maltese, JD, PhD

New York Supreme Court, Appellate Division Second Judicial Department Staten Island, NY

Jennifer L. Pechal, PhD

Michigan State University Department of Entomology East Lansing, MI

Haskell M. Pitluck, JD

Crystal Lake, IL

Laura Sare, MS
Texas A&M University

College, TX



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

## **#22** Viewing Research Through Different Lenses: How to Achieve Success in Court (continued)

Faculty cont.:

Roderick T. Kennedy, JD New Mexico Court of Appeals Albuquerque, NM **Donald E. Shelton, JD, PhD**University of Michigan-Dearborn
Criminal Justice Program
Dearborn, MI

**Program Description:** Practitioners, such as forensic practitioners, researchers, and lawyers, view scientific and associated legal information through different lenses. This workshop will provide participants with valuable tools to allow them to assess published research and determine the most appropriate materials for use in court.

8:30 a.m.	-	8:40 a.m.	Welcoming Remarks  Jeffery K. Tomberlin, PhD
8:40 a.m.	-	9:00 a.m.	Forensic Entomology and Its Applications  Jeffery K. Tomberlin, PhD; Jonathan A. Cammack, PhD
9:00 a.m.	-	9:20 a.m.	Limitations and Applications of Forensic Entomology  Jeffery K. Tomberlin, PhD; Jonathan A. Cammack, PhD
9:20 a.m.	-	9:40 a.m.	Forensic Microbiology and Its Applications Today Heather R. Jordan, PhD; M. Eric Benbow, PhD
9:40 a.m.	-	10:00 a.m.	Limitations and Applications of Forensic Microbiology  Heather R. Jordan, PhD; Jennifer L. Pechal, PhD
10:00 a.m.	-	10:15 a.m.	Break
10:15 a.m.	-	11:45 a.m.	Panel: Academic, Law, Practitioner — What's Available?  Sarah Bankston, MS; Diana Botluk, JD, MS; Laura Sare, MS
11:45 a.m.	-	12:30 p.m.	Ethics in Research and Perturbations in the Courtroom: A View From the Bench Jeffery K. Tomberlin, PhD; Stephanie Domitrovich, JD, PhD
12:30 p.m.	-	1:30 p.m.	Lunch
1:30 p.m.	-	2:10 p.m.	Breakout Session 1  Jeffery K. Tomberlin, PhD; Heather R. Jordan, PhD; Sarah Bankston, MS;  M. Eric Benbow, PhD; Diana Botluk, JD, MS; Jonathan A. Cammack, PhD;  Stephanie Domitrovich, JD, PhD; Roderick T. Kennedy, JD; Pamela A.W. King, JD;  Joseph J. Maltese, JD, PhD; Jennifer L. Pechal, PhD; Haskell M. Pitluck, JD;  Laura Sare, MS; Donald E. Shelton, JD, PhD



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

## **Viewing Research Through Different Lenses: How to Achieve Success in Court (continued)**

Program cont.:			
2:10 p.m	2:40 p.m.	Breakout Session 1 — Discussion  Jeffery K. Tomberlin, PhD; Heather R. Jordan, PhD; Sarah Bankston, MS;  M. Eric Benbow, PhD; Diana Botluk, JD, MS; Jonathan A. Cammack, PhD;  Stephanie Domitrovich, JD, PhD; Roderick T. Kennedy, JD; Pamela A.W. King, JD;  Joseph J. Maltese, JD, PhD; Jennifer L. Pechal, PhD; Haskell M. Pitluck, JD;  Laura Sare, MS; Donald E. Shelton, JD, PhD	
2:40 p.m	3:20 p.m.	Breakout Session 2  Jeffery K. Tomberlin, PhD; Heather R. Jordan, PhD; Sarah Bankston, MS;  M. Eric Benbow, PhD; Diana Botluk, JD, MS; Jonathan A. Cammack, PhD;  Stephanie Domitrovich, JD, PhD; Roderick T. Kennedy, JD; Pamela A.W. King, JD;  Joseph J. Maltese, JD, PhD; Jennifer L. Pechal, PhD; Haskell M. Pitluck, JD;  Laura Sare, MS; Donald E. Shelton, JD, PhD	
3:20 p.m	3:35 p.m.	Break	
3:35 p.m	4:05 p.m.	Breakout Session 2 — Discussion  Jeffery K. Tomberlin, PhD; Heather R. Jordan, PhD; Sarah Bankston, MS;  M. Eric Benbow, PhD; Diana Botluk, JD, MS; Jonathan A. Cammack, PhD;  Stephanie Domitrovich, JD, PhD; Roderick T. Kennedy, JD; Pamela A.W. King, JD;  Joseph J. Maltese, JD, PhD; Jennifer L. Pechal, PhD; Haskell M. Pitluck, JD;  Laura Sare, MS; Donald E. Shelton, JD, PhD	
4:05 p.m	4:45 p.m.	Breakout Session 3  Jeffery K. Tomberlin, PhD; Heather R. Jordan, PhD; Sarah Bankston, MS;  M. Eric Benbow, PhD; Diana Botluk, JD, MS; Jonathan A. Cammack, PhD;  Stephanie Domitrovich, JD, PhD; Roderick T. Kennedy, JD; Pamela A.W. King, JD;  Joseph J. Maltese, JD, PhD; Jennifer L. Pechal, PhD; Haskell M. Pitluck, JD;  Laura Sare, MS; Donald E. Shelton, JD, PhD	
4:45 p.m	5:15 p.m.	Breakout Session 3 — Discussion  Jeffery K. Tomberlin, PhD; Heather R. Jordan, PhD; Sarah Bankston, MS;  M. Eric Benbow, PhD; Diana Botluk, JD, MS; Jonathan A. Cammack, PhD;  Stephanie Domitrovich, JD, PhD; Roderick T. Kennedy, JD; Pamela A.W. King, JD;  Joseph J. Maltese, JD, PhD; Jennifer L. Pechal, PhD; Haskell M. Pitluck, JD;  Laura Sare, MS; Donald E. Shelton, JD, PhD	
5:15 p.m	5:30 p.m.	A Review of the Resources Available and the Next Steps Forward  Jeffery K. Tomberlin, PhD; Heather R. Jordan, PhD; Sarah Bankston, MS;  M. Eric Benbow, PhD; Diana Botluk, JD, MS; Jonathan A. Cammack, PhD;  Stephanie Domitrovich, JD, PhD; Pamela A.W. King, JD; Jennifer L. Pechal, PhD;  Laura Sare, MS	



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

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Targeted Audience: All Disciplines

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

**Expected Handout Length:** 10 Pages

**Restricted Audience Size: 54** 

Registration is limited to the first 54 registrants.



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

### **#23** Fundamentals of Printing and Graphic Arts Examinations

Tuesday, February 14, 2017

9:00 a.m. - 5:00 p.m.

6.5 CE Hours

Educational Objective(s): After attending this presentation, attendees will: (1) learn about the various types of office and commercial printing processes as well as the basic microscopic characteristics used to differentiate printing technologies through discussion of the fundamental concepts associated with examination and comparison of various printing technologies; and, (2) gain experience regarding printing/graphic arts examinations by case studies and hands-on assessment of actual specimens.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by providing forensic document examiners with the knowledge and introductory experience to conduct printing process examinations.

Chair:

Lindsey N. Dyn, MFS

Quantico, VA

Co-Chair:

Linton Mohammed, PhD

Forensic Science Consultants, Inc.

Burlingame, CA

Faculty:

**Peter J. Belcastro, Jr., MA**Federal Bureau of Investigation
Quantico, VA

**Program Description:** This workshop will address the classification and recognition of various printing processes by their physical and microscopic characteristics. This workshop will encompass an overview of office technologies (e.g., ink jet and toner processes) and commercial technologies (e.g., lithographic and relief processes) and will involve the practical application of the information provided to the identification of various printing samples. The examination process and standards needed for comparisons will be introduced and reinforced via comparison exercises. Various conclusions and results verbiage will also be discussed.

#### Program:

9:00 a.m.	-	10:45 a.m.	Printing Classification  Lindsey N. Dyn, MFS; Peter J. Belcastro, Jr., MA
10:45 a.m.	-	11:00 a.m.	Break
11:00 a.m.	-	12:30 p.m.	Hands-On Classification Exercises  Lindsey N. Dyn, MFS; Peter J. Belcastro, Jr., MA
12:30 p.m.	-	1:30 p.m.	Lunch
1:30 p.m.	-	3:15 p.m.	Printing Identification and Source Determination: Case Studies, Discussion, and Practical Problems  Lindsey N. Dyn, MFS; Peter J. Belcastro, Jr., MA
3:15 p.m.	-	3:30 p.m.	Break
3:30 p.m.	-	4:30 p.m.	Source Determination: Examples of Wording  Lindsey N. Dyn, MFS; Peter J. Belcastro, Jr., MA



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

### **#23** Fundamentals of Printing and Graphic Arts Examinations (continued)

#### Program cont.:

4:30 p.m. - 5:00 p.m. Questions and Answers

Lindsey N. Dyn, MFS; Peter J. Belcastro, Jr., MA

Targeted Audience: Questioned Documents

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

**Expected Handout Length:** 15 Pages

Restricted Audience Size: 24

Supported by: Vashaw Scientific

Registration is limited to the first 24 registrants. Registration is limited to AAFS members until January 15, 2017. Participants should bring a 3-5x magnification loupe to the workshop.



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

#### #24 **Navigating the Sea of Resources for Sexual Assault Programs**

Tuesday, February 14, 2017

1:30 p.m. - 4:30 p.m.

2.75 CE Hours

Educational Objective(s): After attending this presentation, attendees will understand best practices for seeking resources, including federal funding to improve policy, efficiency, and operational sustainability in the processing of Sexual Assault Kits (SAKs) and forensic evidence in their agencies and forensic laboratories. Furthermore, this workshop will bring an understanding of the benefits, comparative differences, and requirements to enable funding consideration and use.

Impact on the Forensic Science Community: This workshop will impact the forensic science community by highlighting how federal resources in the United States can advance victim-centered support programs, investigations, and forensic services that aid sexual assault programs, especially the processing of untested SAKs and forensic evidence, which bolster the criminal justice process.

Chair:

Jeri D. Ropero-Miller, PhD

RTI International

Research Triangle Park, NC

Faculty:

Patricia A. Foley-Melton, PhD

RTI International Center for Forensic Science

Research Triangle Park, NC

Heather LaSalle, MS

FBI Laboratory

**DNA** 

Quantico, VA

Kimberly B. Murga, MFS

Las Vegas Metro Police Department

Forensic Laboratory

Las Vegas, NV

Co-Chair:

Charles M. Heurich, MFS

National Institute of Justice Department of Justice

Washington, DC

Jill L. Spriggs, MBA

Sacramento County District Attorney's Office

Laboratory of Forensic Sciences

Sacramento, CA

Heather E. Waltke, MS

National Institute of Justice

Office of Investigative and Forensic Sciences

Washington, DC

Program Description: This workshop will include federal agency representatives, laboratory practitioners, researchers, and technology advocates who will provide varying perspectives for resources of sexual assault programs. Each will share how the programs they represent, or have used, continue to transform the landscape of sexual assault investigations and forensic services using evidenced-based practices to advance the latest technology, improve program policy, and reduce the number of untested SAKs and other forensic evidence nationwide.

#### Program:

Opening Remarks and Program Overview 1:30 p.m. 1:35 p.m.

Jeri D. Ropero-Miller, PhD

Research in Investigative and Forensic Sciences 1:35 p.m. -1:45 p.m.

Heather E. Waltke, MS



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

## **#24** Navigating the Sea of Resources for Sexual Assault Programs (continued)

Program con	t.:	
1:45 p.m	2:15 p.m.	DNA Funding for Sexual Assault Cases: Capacity Enhancement and Backlog Reduction (CEBR) in Cold Case Investigations  Charles M. Heurich, MFS
2:15 p.m	2:35 p.m.	National Sexual Assault Kit Initiative Patricia A. Foley-Melton, PhD
2:35 p.m	2:45 p.m.	Questions and Answers  Jeri D. Ropero-Miller, PhD; Charles M. Heurich, MFS; Heather E. Waltke, MS;  Patricia A. Foley-Melton, PhD
2:45 p.m	3:00 p.m.	Break
3:00 p.m	3:20 p.m.	National Institute of Justice-Federal Bureau of Investigation (NIJ-FBI) Sexual Assault Kit Partnership Heather E. Waltke, MS; Heather LaSalle, MS
3:20 p.m	3:40 p.m.	Utilization of Multiple Funding Sources Effectively Kimberly B. Murga, MFS
3:40 p.m.	4:00 p.m.	DNA Programs and Exploring Laboratory Efficiency  Jill L. Spriggs, MBA
4:00 p.m.	4:10 p.m.	Sexual Assault Forensic Evidence Reporting (SAFER) Working Group Heather E. Waltke, MS
4:10 p.m.	4:20 p.m.	The Forensic Technology Center of Excellence (FTCoE) — Sexual Assault Initiatives <i>Jeri D. Ropero-Miller, PhD</i>
4:20 p.m.	4:30 p.m.	Questions and Answers  Jeri D. Ropero-Miller, PhD; Charles M. Heurich, MFS; Heather E. Waltke, MS;  Patricia A. Foley-Melton, PhD

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

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

Expected Handout Length: 100 Pages





## **American Society of Forensic Odontology**

### 47th Annual Scientific Session

Registration can be accomplished on the ASFO website at www.asfo.org.

# The State and the Future of State-Operated Disaster Mortuary Operational Response Team (DMORT) Forensic Odontology Casework — All for the Love

Tuesday	<b>February</b>	14	2017
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7:00 a.m. - 5:30 p.m.

Program:		
7:00 a.m.	- 8:00 a.m.	Registration and Breakfast
8:00 a.m.	- 8:10 a.m.	Welcome  David R. Senn, DDS  President, American Society of Forensic Odontology
8:10 a.m.	- 8:30 a.m.	Program Introduction  Eric S. Wilson, DDS  President-Elect, American Society of Forensic Odontology
8:30 a.m.	- 10:00 a.m.	The Future of State-Operated DMORT Teams  Kevin Tweedy; Joan Harding
10:00 a.m.	- 10:15 a.m.	Break
10:15 a.m.	- 10:45 a.m.	The Future of State-Operated DMORT Teams (continued) Kevin Tweedy; Joan Harding
10:45 a.m.	- 11:10 a.m.	Michigan State Team Design/Organization (MiMORT)  Gary M. Berman, DDS
11:10 a.m.	- 11:35 a.m.	Ohio State Team Design/Organization Charles E. Berner, DDS
11:35 a.m.	- 12:00 p.m.	Nebraska State Team Design/Organization Kenneth P. Hermsen, DDS
12:00 p.m.	- 1:45 p.m.	Luncheon and Annual Business Meeting
1:45 p.m.	- 2:15 p.m.	Forensic Odontology Casework Peter W. Loomis, DDS



## A.S.F.O.

# The State and the Future of State-Operated Disaster Mortuary Operational Response Team (DMORT) Forensic Odontology Casework — All for the Love

#### Program cont.:

2:15 p.m. -2:45 p.m. Forensic Odontology Casework Amber R. Riley, MS; Anthony R. Cardoza, DDS 2:45 p.m. -Forensic Odontology Casework 3:15 p.m. 3:15 p.m. 3:30 p.m. Break 3:30 p.m. 4:00 p.m. Forensic Odontology Casework John E. Filippi, DDS 4:00 p.m. 4:30 p.m. Forensic Odontology Casework Richard M. Scanlon, DMD Forensic Odontology Casework — For the Love of Money 4:30 p.m. 5:10 p.m. Bruce A. Schrader, DDS American Board of Forensic Odontology (ABFO) — Board Certification Application and 5:10 p.m. -5:30 p.m. **Examination Requirements** Bruce A. Schrader, DDS

ASFO is designated as an Approved PACE Program Provider. FAGD/MAGD Credit Approval does not imply acceptance by a state or provincial board of dentistry or AGD endorsement. ASFO offers 7.0 hours FAGD/MAGD Credit Subject Code #145.

## N.A.M.E.



## **National Association of Medical Examiners**

### 2017 Interim Scientific Program

### **Hyatt Regency New Orleans**

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.

### **Deaths in Custody: A Comprehensive Conversation**

#### Tuesday, February 14, 2017

12:55 p.m. – 5:15 p.m.

This program will include presentations with unique perspectives on deaths in custody as well as a multidisciplinary panel discussing a broad range of topics relating to deaths in custody.

#### Program:

12:55 p.m.	-	1:00 p.m.	Welcome Brian L. Peterson, MD
1:00 p.m.	-	1:10 p.m.	Opening Remarks Roger A. Mitchell, Jr., MD
1:10 p.m.	-	1:30 p.m.	Introduction and Definition (Introduction of Case Presenters)  Michelle A. Jorden, MD
1:30 p.m.	-	1:50 p.m.	Police Shootings — Investigation, Autopsy Protocol, Death Certification and Surveillance, and Media and Public Relations  Sean C. Kelly, MD
1:50 p.m.	-	2:10 p.m.	Excited Delirium — Investigation, Autopsy Protocol, Death Certification and Surveillance, and Media and Public Relations  Judy Melinek, MD
2:10 p.m.	-	2:30 p.m.	Barricade/Suicide — Investigation, Autopsy Protocol, Death Certification and Surveillance, and Media and Public Relations  Dwayne A. Wolf, MD, PhD
2:30 p.m.	-	2:50 p.m.	Incarcerated — Investigation, Autopsy Protocol, Death Certification and Surveillance, and Media and Public Relations Francisco J. Diaz, MD; Tanisha V. Henson, MFS
2:50 p.m.	-	3:00 p.m.	Questions & Answers
3:00 p.m.	-	3:30 p.m.	Break



### N.A.M.E.

### **Deaths in Custody: A Comprehensive Conversation**

#### Program cont.:

3:30 p.m. - 5:00 p.m. Multidisciplinary Panel Discussion

Moderator: Roger A. Mitchell, Jr., MD

Margaret Noonan; Margaret Warner, PhD; Stephany E. Fiore, MD; Alfredo E. Walker, MBBS;

Thomas P. Gilson, MD

5:00 p.m. - 5:15 p.m. Questions and Answers

#### 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<sup>TM</sup>. 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 \$100 and \$150 for on-site registration. The pre-registration fee for non-members is \$150 and \$200 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.

## N.I.J.



## **National Institute of Justice**

### Forensic Science Research and Development Symposium

### American Academy of Forensic Sciences 69th Annual Scientific Meeting

The 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 14, 2017

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 — Impression, Pattern, and Trace Evidence Moderated by Gregory Dutton, PhD
8:40 a.m.	-	9:05 a.m.	The Fluid Dynamics of Droplet Impact on Inclined Surfaces With Application to Forensic Blood Spatter Analysis  Marc Smith
9:05 a.m.	-	9:30 a.m.	Illuminating Lifestyles by Metabolomics of Personal Objects <i>Amina Bouslimani</i> , <i>PhD</i>
9:30 a.m.	-	9:55 a.m.	Audio Forensics of Gunshot Sounds Rob Maher
9:55 a.m.	-	10:20 a.m	Characterization of Organic Firearms Discharge Residue: Progress and Potential Suzanne Bell, PhD
10:20 a.m.	-	10:35 a.m.	Break
			Morning Session II — Forensic Biology/DNA Moderated by Minh Nguyen
10:35 a.m.	-	11:00 a.m.	Forensic DNA Phenotyping of Quantitative Pigment in Human Physical Appearance Prediction Susan Walsh, PhD
11:00 a.m.	-	11:25 a.m.	Proteomic Analysis of Menstrual Blood for Forensic Identification Erin R. Butler, MS

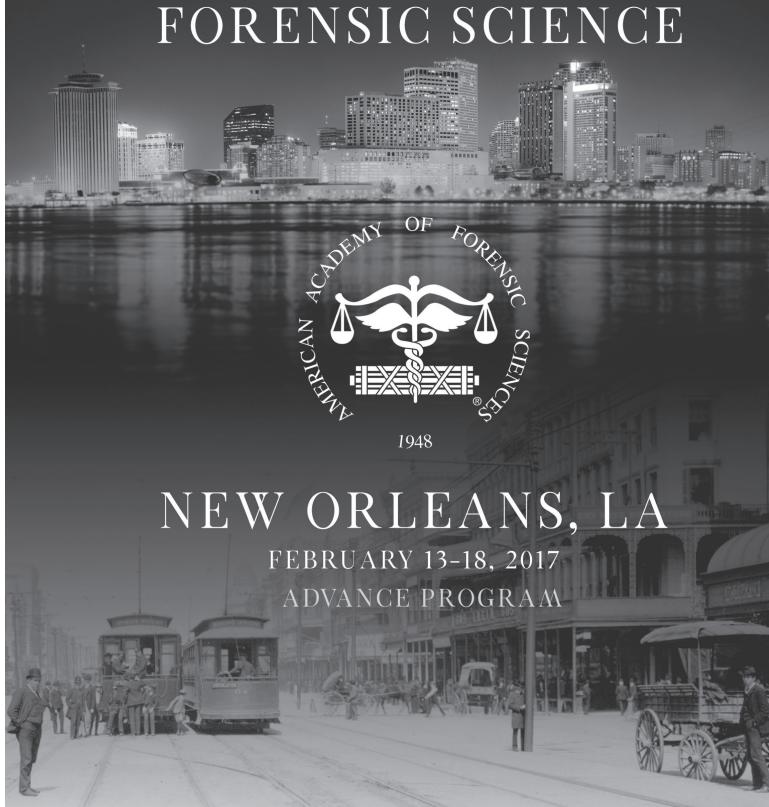


## N.I.J.

## Forensic Science Research and Development Symposium

Program cont.:	
11:25 a.m 11:50 a.m.	An Optimized DNA Analysis Workflow for the Sampling, Extraction, and Concentration of DNA Obtained From Archived Latent Fingerprints  Tracey Dawson Cruz, PhD
11:50 a.m 12:15 p.m.	The Enhancement of the Native American Combined DNA Index System Short Tandem Repeat Database for Use in Forensic Casework Sreetharan Kanthaswamy, PhD
12:15 p.m 1:35 p.m.	Lunch
	Afternoon Session I — Anthropology and Microbial Forensics Moderated by Danielle L. McLeod-Henning, MFS
1:35 p.m 2:00 p.m.	Measuring Desiccation: A System Using Bioelectrical Impedance Analysis Christiane Baigent, MSc
2:00 p.m 2:25 p.m.	Statistical Methods for Combining Multivariate and Categorical Data in Postmortem Interval Estimation  Jeffrey D. Wells, PhD
2:25 p.m 2:50 p.m.	The Isotopic Taphonomy of Human Hair Gwyneth W. Gordon, PhD
2:50 p.m 3:15 p.m.	Adult Skeletal Age Estimation: Tackling Long-Standing Problems With a New Approach Sara M. Getz, MS
3:15 p.m 3:30 p.m.	Break
	Afternoon Session II — Controlled Substances and Toxicology Moderated by Frances Scott, PhD
3:30 p.m 3:55 p.m.	Novel Blood Protein Modification Assay for Retrospective Detection of Drug Exposure Anthony P. DeCaprio, PhD
3:55 p.m 4:20 p.m.	Stability of Synthetic Cathinones in Biological Evidence  Lindsay Glicksberg, BS
4:20 p.m 4:45 p.m.	Toward Development of a Mass Spectrometric Database for Rapid Identification of Plant Drugs of Abuse Using Ambient Ionization Mass Spectrometry Rabi A. Musah, PhD
4:45 p.m 5:10 p.m.	One Pot Methamphetamine Effluent Characterization  Jarrad R. Wagner, PhD; David Pretorius





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.





## Wednesday

### **Poster Session**

11:30 a.m.	-	1:00 p.m.	A1	Quantifying and Visualizing Skeletal Thoracic Trauma Cortney N. Hulse, BS*; Kyra E. Stull, PhD; Ashley Weaver, PhD
11:30 a.m.	-	1:00 p.m.	<b>A2</b>	Improving Non-Metric Sex Classification for Hispanic Individuals Alexandra R. Klales, PhD*; Stephanie J. Cole, BA
11:30 a.m.	-	1:00 p.m.	<b>A3</b>	Sex-Specific Patterns of Ossification in Macerated Thyroid Cartilages Katelyn L. Bolhofner, MA*; Laura C. Fulginiti, PhD*
11:30 a.m.	-	1:00 p.m.	A4	A Craniometric Recapitulation of Genetic Estimates of Ancestry for Individuals of Hispanic Identity: Temporal, Geographic, and Identification Trends Bridget F.B. Algee-Hewitt, PhD*; Cris E. Hughes, PhD; Bruce E. Anderson, PhD
11:30 a.m.	-	1:00 p.m.	A5	Population Identifiability From Forensic Genetic Markers: Ancestry Variation in Latin America  Cris E. Hughes, PhD*; Bridget F.B. Algee-Hewitt, PhD*
11:30 a.m.	-	1:00 p.m.	<b>A6</b>	Vulture Scavenging of Pig Remains at Varying Grave Depths Aryn Klein, MA*
11:30 a.m.	-	1:00 p.m.	A7	3D Image Technology in Forensic Anthropology: Assessing the Validity of Biological Profiles Derived From Computed Tomography (CT) 3D Images of the Skeleton  M. Julia Garcia de Leon Valenzuela, MSc*
11:30 a.m.	-	1:00 p.m.	<b>A8</b>	The Accuracy and Reliability of the Klales et al. Non-Metric Pelvic Sexing Method Kate M. Lesciotto, JD, MS*; Lily J. Doershuk, BS
11:30 a.m.	-	1:00 p.m.	<b>A9</b>	Organic Staining on Bone Corey Pollock*; James Pokines, PhD; Jonathan D. Bethard, PhD
11:30 a.m.	-	1:00 p.m.	A10	Postmortem Environment and DNA Quality: Investigating the Effect of Seasonal Taphonomy on Skeletal DNA Quality  Lauren J. Swift, MSc*; Ambika Flavel, MSc; Daniel Franklin, PhD
11:30 a.m.	-	1:00 p.m.	A11	A Transition Analysis of Pediatric Fracture Repair Stages Nicholas V. Passalacqua, PhD*; Michael W. Kenyhercz, PhD; Diana L. Messer, MS
11:30 a.m.	-	1:00 p.m.	A12	Musculoskeletal Stress Markers as Evidence of Manual Labor: The Allumiere Cemetery Case Marica Baldoni, MA*; Matteo Borrini, PhD*; Cristina Martinez Labarga, PhD



2017				
11:30 a.m.	-	1:00 p.m.	A13	A Statistical Method for Reassociating Human Tali and Calcanei From a Commingled Context Ioanna Anastopoulou, BSc; Fotios A. Karakostis, MSc; Matteo Borrini, PhD*; Konstantinos Moraitis, PhD
11:30 a.m.	-	1:00 p.m.	A14	Long-Term Observer Error, Observer Experience, and the Value of Trait Standardization in Macromorphoscopic Trait Analysis Kelly R. Kamnikar, MA*; Joseph T. Hefner, PhD
11:30 a.m.	-	1:00 p.m.	A15	WITHDRAWN
11:30 a.m.	-	1:00 p.m.	A16	Collagen Structural Changes and Decomposition in Burnt Bone and Their Significance for Forensic Anthropology — New Insights Via Amino Acid Racemization  Sarah Ellingham, PhD*
11:30 a.m.	-	1:00 p.m.	A17	Trace Element Analysis of Dental Enamel for the Geographic Attribution of Unidentified Remains Robert H. Stein, BS*; Tal Simmons, PhD; Christopher J. Ehrhardt, PhD; Jennifer L. Hankle, DMD
11:30 a.m.	-	1:00 p.m.	A18	Traditional Morphometrics of the Juvenile Skull: An Analysis of Ontogenetic Growth Patterns  Jacqueline Noble, MFS*; Ambika Flavel, MSc; Daniel Franklin, PhD
11:30 a.m.	-	1:00 p.m.	A19	A Preliminary Investigation Into the Effects of Previous Freezing on Human Decomposition Lindsey G. Roberts, MA*; Gretchen R. Dabbs, PhD; Jessica R. Spencer, MA; Kaleigh C. Best, MS
11:30 a.m.	-	1:00 p.m.	A20	The Influence of Stature on Sex Estimation Haley E. Horbaly, BS*
11:30 a.m.	-	1:00 p.m.	A21	The Potential Use of Five Cranial Traits for Sex Assessment in Forensic Cases Joe Adserias, DDS, PhD*; Heli Maijanen, PhD; Sara C. Zapico, PhD; Dawnie W. Steadman, PhD
11:30 a.m.	-	1:00 p.m.	A22	Forensic Proteomics: A New Perspective for Age of Death and Postmortem Interval (PMI) Estimation in Porcine Bone Within the Burial Context Noemi Procopio, MSc*; Anna Williams, PhD; Michael Buckley, PhD
11:30 a.m.	-	1:00 p.m.	A23	Making Up for Missing Pieces: Scanning Electron Microscopy With Energy-Dispersive X-Ray Spectroscopy (SEM/EDX) Gunshot Residue (GSR) Analysis of the Human Cranial Bone  James J. West, MS; Natalie R. Langley, PhD*; Stan Kunigelis, PhD;  Cassie Boggs, MD
11:30 a.m.	-	1:00 p.m.	A24	Testing the Performance of a New-Age-Estimation Method on an Asian Sample Beatrix Dudzik, PhD*; Natalie R. Langley, PhD; Jieun Kim, PhD; Wu Jian, MD; Benison Mangel, BS



## **Thursday**

### Taphonomy: DNA, Postmortem Interval (PMI), and More

Moderator:	In	ra C. Zapico, ternational Co eneva, SWITZI	mmittee d	Co-Moderator: of the Red Cross	Janet E. Finlayson, MA University of Florida Gainesville, FL
8:30 a.m.	-	8:45 a.m.	A25	Evaluating Differential Nuclear DNA Yie A Synchrotron Micro-Computed Tomogr Janna M. Andronowski, PhD*; Amy Z. Mun	1 0 1 7 11
8:45 a.m.	-	9:00 a.m.	A26	The Effect of Embalming on Discoloration Michael Peer*	on of Burnt Bone
9:00 a.m.	-	9:15 a.m.	A27	Modeling Thermal Alterations on Burne Amanda Williams, MA*; Elayne J. Pope, P Mary E. Cablk, PhD; Alison Galloway, Ph	hD; Marin A. Pilloud, PhD;
9:15 a.m.	-	9:30 a.m.	A28	Scavengers at Real and Taxidermied Can Lauren R. Pharr, PhD*	rrion
9:30 a.m.	-	9:45 a.m.	A29	WITHDRAWN	
9:45 a.m.	-	10:00 a.m.	A30	Robbed Burial Sites: A Comparative Information Software (GIS) to Locate Someonia Mikellide, MA; Derek Congram, Ph.	econdary Burial Sites
10:00 a.m.	-	10:15 a.m.	A31	Its Potential Value as an Indicator of Pos	Terrestrial and Aquatic Decomposition and stmortem Interval (PMI) wanborough, MSc; Kestutis Soblinskas, BSc;
10:15 a.m.	-	10:30 a.m.	A32	Estimating the Postmortem Interval (PM Natalie R. Langley, PhD*; Paul Wood, PhD Dawnie W. Steadman, PhD	II): A Metabolomics/Lipidomics Approach  O; Patrick Herling, MS;
10:30 a.m.	-	10:45 a.m.		Break	



#### **Sex Determination: From Head to Shin**

Co-Moderator: Allysha P. Winburn, MA Moderator: Joan E. Baker, PhD

Defense POW/MIA Accounting Agency University of New Hampshire Washington, DC

Department of Anthropology

Durham, NH

10:45 a.m. - 11:00 a.m. A33 The Growth and Development of Secondary Sex Characteristics in the

**Human Skull** 

Michala K. Stock\*

11:00 a.m. - 11:15 a.m. A34 Sex Estimation: A Novel Protein-Based Sex Assignment Technique Using

**Human Tooth Enamel and Mass Spectrometry** 

Katelyn Mason, PhD\*; Caleb Kiesow; Laura A. Regan, PhD; Haagen D. Klaus, PhD; Bethany L. Turner-Livermore, PhD; Deon Anex, PhD; Bradley Hart, PhD; Glendon Parker, PhD

11:15 a.m. - 11:30 a.m. A35 **Sex Estimation Using Relative Pubis Length** 

Caitlynn Cole\*

The Accuracy of Nutrient Foramen Versus Midshaft Measurements of the Tibia 11:30 a.m. - 11:45 a.m. **A36** 

for Sex Determination

Ashley C. Dafoe\*; David R. Hunt, PhD

11:45 a.m. - 1:15 p.m. Lunch

#### **Poster Session**

11:30 a.m. -1:00 p.m. **A37** Skeletal DNA Preservation and Bone-Associated Microbes: The Implications

for DNA Sampling Strategies in Forensic Identification

Alexandra L. Emmons, MA\*; Sarah W. Keenan, PhD; Amy Z. Mundorff, PhD;

Jon Davoren, MS; Jennifer M. DeBruyn, PhD

11:30 a.m. -1:00 p.m. **A38** A Morphometric Analysis of the Neurocranium in an Adult South

**African Sample** 

Jacqui Friedling, PhD\*; Petra Maass, MSc

11:30 a.m. -1:00 p.m. A39 Additional Information for Identification Purposes Via the Study of Cam-Type

**Deformity of the Hip** 

Laura Donato\*; Marco Straccamore, MD; Alessandro Di Luca, MD;

Costantino Ciallella

11:30 a.m. -1:00 p.m. A40 A Cranial-Postcranial Approach to Metric Ancestry Estimation Among Modern

**South Africans** 

Gabriele C. Kruger, MSc; Leandi Liebenberg, MS; Janice Lucinda Geel, BSc;

Ericka N. L'Abbe, PhD\*



				2017
11:30 a.m.	-	1:00 p.m.	A41	The Decomposition of Child-Sized Remains in Different Depositions Ann H. Ross, PhD*; Amanda R. Hale, MA*
11:30 a.m.	-	1:00 p.m.	A42	Changing Impact Angles: The Mechanics Involved in Blunt Force Cranial Trauma and Their Importance in Investigating Curb-Stomping Cases Carole A.L. Davenport, BSc*; James C. Ohman, PhD; Matteo Borrini, PhD
11:30 a.m.	-	1:00 p.m.	A43	Comparing the Decomposition of Partially Suspended (Semi-Recumbent) Pigs With Fully Suspended Hanging Pigs and Fully Recumbent Pigs in Direct Contact With the Ground  Jeanne Lynch-Aird, PhD*; Colin Moffatt, PhD; Tal Simmons, PhD
11:30 a.m.	-	1:00 p.m.	A44	The Effects of Cranial and Pelvic Asymmetry on Accurate Sex Classification Stephanie J. Cole, BA*; Luis L. Cabo, MS; Alexandra R. Klales, PhD
11:30 a.m.	-	1:00 p.m.	A45	Experimentally Derived Protocols for Generating 3D Cranial Surface Scans for Forensic Anthropological Applications  Taylor J. Rider*; Megan J. Rue, BA; Heather M. Garvin, PhD
11:30 a.m.	-	1:00 p.m.	A46	Testing Computational Age Estimation Methods Using Laser Scans of the Adult Pubic Symphysis on Modern Hispanic Populations Cristina Figueroa-Soto, MA*; Detelina Stoyanova, PhD*; Jieun Kim, PhD*; Dennis E. Slice, PhD*; Bridget F.B. Algee-Hewitt, PhD*
11:30 a.m.	-	1:00 p.m.	<b>A47</b>	Recording Total Skeletal Completeness: Introducing a New Approach Samantha K. Rowbotham, MA*; Soren Blau, PhD; Jacqueline Hislop-Jambrich, PhD
11:30 a.m.	-	1:00 p.m.	A48	A Study of Modern Commingled Human Remains From a Korean War Recovery Site — Gum Riverside, Junia Province Nahyok Im, PhD*; Youngsoon Shin, MS*; Hae Joung Cho*; Minho Cha, MS*; Yu Ryang Jang, PhD*
11:30 a.m.	-	1:00 p.m.	A49	The New Method of Implementing 3D Scanners and X-Rays on Commingled Remains Recovered From a Korean War Recovery Site Yu Ryang Jang, PhD*; Jung Min Lim, PhD; Jeung Sang Park, MA; Na-Hyok Im, PhD
11:30 a.m.	-	1:00 p.m.	A50	A Grading System to Assess the Sex and Parity Status for the Preauricular Sulcus: A Step Forward Sarah E. Canty, BSc*; Silvia Gonzalez, PhD; Constantine Eliopoulos, PhD; Matteo Borrini, PhD*
11:30 a.m.	-	1:00 p.m.	A51	Biological Indicators of Aging and Their Application in Individualized Biological Anthropology Ivana Kruzic, PhD*; Zeljana Basic, PhD; Ivan Jerkovic, MSc; Ozren Polašek, PhD; Simun Andjelinovic, PhD
11:30 a.m.	-	1:00 p.m.	A52	The Use of the Palate for Ancestry and Sex Estimation Natalie L. Andras*; Alexandra R. Klales, PhD



11:30 a.m.	-	1:00 p.m.	A53	Subaerial Bone Weathering in North Africa: An Experimental Study in Algiers, Algeria  Ammar Lahouel, MD*; M. Y. Guellati, MD; Habdelhamid Grait, MD;  Moussa Toumi, BA; A. Boudaba, MD; Brahim Djedouani, BA; A. Atrouz, MD;  A. Djebbouri, BA; Miles Benalia, BA; A. Mezhoudi, BA; R. Boussahla, BA;  A. Slimani, BA; Jonathan D. Bethard, PhD*; Elizabeth A. DiGangi, PhD*
11:30 a.m.	-	1:00 p.m.	A54	Metric Pair-Matching of Calcanei in Commingled Remains Cases: A Case Study From South Africa Kayla L. Orr, BSc*; Tanya R. Peckmann, PhD; Susan B. Meek, PhD; Claudia Garrido Varas, MSc
11:30 a.m.	-	1:00 p.m.	A55	A Validation Study of the Mandibular Canine Index Method of Sexual Assesment Using Two American Populations Samantha W. Coberly, MS*
11:30 a.m.	-	1:00 p.m.	A56	Identity by the Numbers: Cancerous Lesions and Likelihood Ratios William D. Cawley, BA*; Dawnie W. Steadman, PhD
11:30 a.m.	-	1:00 p.m.	A57	The Application and Accuracy of 3D Surface-Scanned Postcranial Bones Victoria N. Harrington, MSc*; Heather McKillop, PhD
11:30 a.m.	-	1:00 p.m.	A58	An Exploration of the Variation in the Sternal Rib Ends of Infants  Julia R. Prince-Buitenhuys, MA*; Deborrah C. Pinto, PhD; Christian Crowder, PhD;  Jason M. Wiersema, PhD; Sharon M. Derrick, PhD; Miriam E. Soto Martinez, PhD
11:30 a.m.	-	1:00 p.m.	A59	Reciprocating Saws as Tools of Dismemberment  Jacqueline M. Berger*; James Pokines, PhD; Tara L. Moore, PhD
11:30 a.m.	-	1:00 p.m.	A60	Assessing the Accuracy of Historical Associations in a Commingled Assemblage Carrie A. Brown, PhD; Carrie B. LeGarde, MA; Franklin E. Damann, PhD*; John E. Byrd, PhD

#### Commingled Remains: Minimum Number of Individuals (MNI) and Reassociation

Moderator: Joan A. Bytheway, PhD Co-Moderator: Ashley C. Smith, MSc Sam Houston State University University of Toronto Toronto, CANADA

College of Criminal Justice

Huntsville, TX

1:15 p.m. -1:30 p.m. A61 An Age-Based Approach to Establishing Minimum Number of Individuals

(MNI) in Commingled Juvenile Skeletal Material

Maria L. Cox, BA; Valerie Sgheiza, BS\*

Accuracy in Osteometric Reassociation: Comparing Geometric Morphometric 1:30 p.m. -1:45 p.m. A62

**Landmark Data and Linear Measurements** 

Kyle A. McCormick, PhD\*



1:45 p.m. - 2:00 p.m. A63 Performance Assessment for Osteometric Pair-Matching

John E. Byrd, PhD\*; Carrie B. LeGarde, MA

2:00 p.m. - 2:15 p.m. **Break** 

### The Great Teacher Inspires: In Honor of Walter H. Birkby, PhD

Moderator:	Laura C. Fulginiti, PhD Forensic Science Center Phoenix, AZ	
2:15 p.m.	- 2:30 p.m. <b>A64</b>	Mentoring by Example: Lessons in Cremation Analysis From the Forensic Case Files of Walter H. Birkby, PhD Thomas Michael Fink, MA*
2:30 p.m.	- 2:45 p.m. <b>A65</b>	Walter H. Birkby's Influence on the Science of Mummy Studies Karl J. Reinhard, $PhD^*$
2:45 p.m.	- 3:00 p.m. <b>A66</b>	Birkby, Bones, and Bodies: The Making of a Mentor Madeleine J. Hinkes, PhD*
3:00 p.m.	- 3:15 p.m. <b>A67</b>	The Birkby Paradox — Forensic Anthropology Participation and Gender Alison Galloway, PhD*
3:15 p.m.	- 3:30 p.m.	Break
3:30 p.m.	- 3:45 p.m. <b>A68</b>	The Recordkeeping of Walter H. Birkby, PhD Bruce E. Anderson, PhD*
3:45 p.m.	- 4:00 p.m. <b>A69</b>	The Skeletal Trauma Casework of Walter H. Birkby, PhD: Setting a Standard for Future Generations  Todd W. Fenton, PhD*; Caitlin C.M. Vogelsberg, MS; Jennifer M. Vollner, PhD
4:00 p.m.	- 4:15 p.m. <b>A70</b>	Human Bone Taphonomy and the Use of Consolidants: An Example From Cyprus Sherry C. Fox, PhD*; Jessica S. Johnson, MA
4:15 p.m.	- 4:30 p.m. <b>A71</b>	Standing on the Shoulders of Giants: The Evolving Legacy of Walter H. Birkby, PhD  Laura C. Fulginiti, PhD*



## Friday — Session I

Ancestry: Dentition, Cranial Metric, and Non-Metric Methods

Moderator:	Donna C. Boyd, PhD Radford University Forensic Science Institute Radford, VA			sity	Co-Moderator: Julie M. Fleischman, MS East Lansing, MI
8:30 a.m.	-	=	8:45 a.m.	A72	A New Application for Estimating Ancestry Based on Dental Morphology Marin A. Pilloud, PhD*; G. Richard Scott, PhD; David Senhora Navega, MSc; João Pedro Valente de Oliveira Coelho, MSc; Eugenia Cunha, PhD; Joel D. Irish, PhD
8:45 a.m.	-		9:00 a.m.	A73	Molar Crenulation Trait Definition and Population Variation Marin A. Pilloud, PhD; Christopher A. Maier, MA*; G. Richard Scott, PhD
9:00 a.m.	-	•	9:15 a.m.	A74	Observer Error and Its Impact on Ancestry Estimation Using Dental Morphology Donovan M. Adams, MS*; Marin A. Pilloud, PhD; Heather J.H. Edgar, PhD; Joseph T. Hefner, PhD
9:15 a.m.	-	-	9:30 a.m.	A75	The Utility of Stable Isotope Ratios of Tap Water and Human Teeth as Predictors of Region of Origin in Central and Southern Mexico Chelsey A. Juarez, PhD*
9:30 a.m.	-	•	9:45 a.m.	A76	Cranial Non-Metric Variability and Ancestry Assessment in Modern Japanese and Thai Individuals Sean $D$ . Tallman, $PhD^*$
9:45 a.m.	-	-	10:00 a.m.	A77	Population Classification Using Discriminant Function Analysis of Combined Mandibular Osteometrics and Non-Metric Traits  Paul D. Emanovsky, PhD*; Nicolette Parr, PhD
10:00 a.m.	-		10:15 a.m.		Break



### Age Assessment: From Head to Toe

Moderator:	Ashley E. Kendel University of Mo Department of A Missoula, MT	ontana	Co-Moderator: Liotta N. Dowdy, MA University of South Florida Department of Anthropology Tampa, FL
10:15 a.m.	- 10:30 a.m.		Forensic Age Estimation by Medial Clavicle Epiphysis Ossification Using Computed Tomography (CT)  Venkatesh Maled, MD*
10:30 a.m.	- 10:45 a.m.		The Role of Third Molar Impaction on Dental Development and Age Estimation in Males Kelly Heim, MA*; Marin A. Pilloud, PhD
10:45 a.m.	- 11:00 a.m.		The Challenges of Comparative Radiography in the Developing Skeleton Carolyn V. Isaac, PhD*; Jered B. Cornelison, PhD; Joseph A. Prahlow, MD
11:00 a.m.	- 11:15 a.m.		Examining the Effect of Region Of Interest (ROI) Size on the Ability to Accurately Estimate Age at Death From Osteon Population Density (OPD)  Megan E. Ingvoldstad, PhD; Timothy P. Gocha, PhD*; Christian Crowder, PhD; Victoria M. Dominguez, MA
11:15 a.m.	- 11:30 a.m.		Age Estimation Using the Development of the Foot and Ankle Kelsey A. Carpenter, MS*; Stephen D. Ousley, PhD
11:30 a.m.	- 11:45 a.m.		The Influence of a Pathological State on Fetal Biometric Age Estimation Sarah Humez, MD*; Mélissa Niel, MS; Valéry C. Hedouin, MD, PhD; Pascal Adalian; Marie-Dominique Piercecchi-Marti, PhD
11:45 a.m.	- 1:15 p.m.		Lunch
Poster Se	ssion		
11:30 a.m.	- 1:00 p.m.		Exploring the Gap Between Anthropological and Clinical Literature on Pediatric Fracture Healing  Diana L. Messer, MS*; Amanda M. Agnew, PhD
11:30 a.m.	- 1:00 p.m.		Skeletal Sun Bleaching and Weathering Patterns in Central Florida: An Approach for Estimating Time Since Death (TSD)  Michelle M. Hawkins, BSc*; John J. Schultz, PhD; Alexander T. Mitchell
11:30 a.m.	- 1:00 p.m.		Optimization of a Protocol for Visualizing Vascular and Cellular Pore Networks in Human Bone Using Multiphoton Confocal Microscopy  Main F. Cola. M4*: Sam D. Stout. PhD.

\*Presenting Author

Mary E. Cole, MA\*; Sam D. Stout, PhD



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11:30 a.m.	-	1:00 p.m.	A87	Reconstructing Personhood: A Historical Perspective on Fragmentary Remains, DNA Technology, and Family Acceptance of Positive Identifications of United States War Dead  Christine M. Pink, PhD*; Allysha P. Winburn, MA*
11:30 a.m.	-	1:00 p.m.	A88	Changing the Mentorship Paradigm: Survey Data and Interpretations From Forensic Anthropology Practitioners  Allysha P. Winburn, MA*; Audrey L. Scott, PhD; Cate E. Bird, PhD;  Sean D. Tallman, PhD
11:30 a.m.	-	1:00 p.m.	A89	Rethinking Adult Skeletal Age Estimation: An Expanded Approach to Transition Analysis Using Binary Traits Sara M. Getz, MS*; George R. Milner, PhD; Jesper L. Boldsen, PhD
11:30 a.m.	-	1:00 p.m.	A90	Examining the Effectiveness of Mastoid Process Measurements in Estimating Sex Sarah C. Kindschuh, $PhD^*$
11:30 a.m.	-	1:00 p.m.	A91	The Effect of Body Composition on Outdoor Human Decomposition Saskia Ammer; MSc*
11:30 a.m.	-	1:00 p.m.	A92	The Accuracy of Estimating Ancestry in Undocumented Migrants Along the South Texas Border Using Dental Morphological Traits: A Comparison to Craniometrics  Chaunesey Clemmons, BA*; Nandar Yukyi, BA; Kate Spradley, PhD
11:30 a.m.	-	1:00 p.m.	A93	What Stature and Weight Do We Actually Estimate? Yangseung Jeong, PhD*; Heli Maijanen, PhD*
11:30 a.m.	-	1:00 p.m.	A94	A Retrospective Analysis of FORDISC® Performance at the C.A. Pound Human Identification Laboratory (CAPHIL)  Amanda N. Friend, MA*; Janet E. Finlayson, MA; Katie M. Rubin, MS;  Michala K. Stock
11:30 a.m.	-	1:00 p.m.	A95	The Undergraduate Forensic Internship Experience: A Path to Employment for Anthropology Students  A. Joanne Curtin, PhD*
11:30 a.m.	-	1:00 p.m.	A96	The Detection of Genetic Information in the Enamel Proteome Caleb Kiesow*; Katelyn Mason, PhD; Deon Anex, PhD; Bonnee Rubinfeld, MSc; Laura A. Regan, PhD; Bradley Hart, PhD; Glendon Parker, PhD*
11:30 a.m.	-	1:00 p.m.	A97	Accumulated Decomposition Score (ADS): An Alternative Method to Total Body Score (TBS) for Quantifying Gross Morphological Changes Associated With Decomposition  Devora S. Gleiber, BA*; Lauren A. Meckel, MA*; Courtney C. Siegert, BA*; Chloe P. McDaneld, MA*; Justin Alexander Pyle, BS; Daniel J. Wescott, PhD
11:30 a.m.	-	1:00 p.m.	A98	To Group or Not to Group?  Carrie B. LeGarde, MA*



11:30 a.m.	-	1:00 p.m.	A99	Disturbed Soil: Unexplored Variables and the Postmortem Interval (PMI) in Southwest Florida  Matthew D. Rolland, BS*; Shawn R. Dahl, BS; Heather A. Walsh-Haney, PhD
11:30 a.m.	-	1:00 p.m.	A100	Mapping Surface Scatter of Scavenged Human Remains Using Drone Aerial Photography Krystle Lewis, BS*; Daniel J. Wescott, PhD; Eugene J. Robinson; John Buell; Michael Josephs
11:30 a.m.	-	1:00 p.m.	A101	Assigning Region of Origin in the Southeastern United States Using Stable Oxygen Isotopes of Modern Human Enamel Monica M. Warner, MA*; Amber M. Plemons, MA; Nicholas P. Herrmann, PhD; Laura A. Regan, PhD
11:30 a.m.	-	1:00 p.m.	A102	The Differences in the Rate of Decomposition Between Frozen and Non-Frozen Human Remains Shelby Garza*; Daniel J. Wescott, PhD
11:30 a.m.	-	1:00 p.m.	A103	The Use of Industrial Computed Tomography (CT) in Forensic Anthropology Angi M. Christensen, PhD*; Michael A. Smith, PhD; Deborah L. Cunningham, PhD; Daniel J. Wescott, PhD; Devora S. Gleiber, BA
11:30 a.m.	-	1:00 p.m.	A104	Prostheses and Medical Devices: Their Value in Forensic Anthropology Eugenia Cunha, PhD*; Maria Teresa Ferreira, PhD; Catarina Coelho, MSc; David Senhora Navega, MSc; Francisco Curate, PhD; David Gonçalves, PhD; Carlos Durão
11:30 a.m.	-	1:00 p.m.	A105	Bones and Teeth as Osteological Signatures of the Identity of Human Remains Excavated From a 160-Year-Old Abandoned Well: A Forensic Anthropological Case Report From India  Jagmahender Singh Sehrawat, PhD*; Raj Kamal, PhD
11:30 a.m.	-	1:00 p.m.	A106	The First Case of a Mummified Face and Skull-Photo Superimposition in the United Arab Emirates Khudooma S. Al Na'imi, MSc*
11:30 a.m.	-	1:00 p.m.	A107	Documenting Fracture Time Since Injury (TSI) Through a National Archival Database of Antemortem Fracture Healing Donna C. Boyd, PhD*; Cliff Boyd, PhD



#### **Identification of Unknown Remains**

Moderator:	Krista E. Latham, PhD	Co-Moderator:	Rebecca L. George, MA
	University of Indianapolis		Reno NV

University of Indianapolis Biology Departmentt Indianapolis, IN

1:15 p.m. - 1:30 p.m. A108 Rediscovering the Unknowns of South Jersey: The Long-Term Initiative to Develop a Standard Methodology for Unidentified Remains at the Southern Regional Medical Examiner Office (SRMEO)

Evonne Turner-Byfield, MA\*; Bobbi-Jean Brooks, BSc\*

1:30 p.m. - 1:45 p.m. A109 The Identify Indiana Initiative: A Collaborative Approach to Reinvestigating Cold Cases of Human Remains in the State of Indiana

Krista E. Latham, PhD\*; Stephen P. Nawrocki, PhD; Justin R. Maiers, BS;

Eric J. Bartelink, PhD

 $1:45\ p.m. \quad -\quad 2:00\ p.m. \qquad \textbf{A110} \qquad \textbf{Are They Full Siblings? The Distribution of the Sibship Index and Its}$ 

**Application in Forensic Identification** 

Jennie J. Jin, PhD\*; Michael O'Rourke, BS; John E. Byrd, PhD

2:00 p.m. - 2:15 p.m. All1 A New Complex Investigation Model for Searching, Mapping, and Identifying

**Disappeared Persons in Argentina** 

Delida I. Caridi, PhD\*; Carlos Somigliana, MS; Enrique Enrique Alvarez, PhD;

Mercedes Salado Puerto, PhD

2:15 p.m. - 2:30 p.m. A112 Antemortem vs. Postmortem Measured Statures of Korean War Casualties

Alexander F. Christensen, PhD\*

2:30 p.m. - 2:45 p.m. A113 Stature Determination From the Adult Human Clavicle: A Medicolegal Autopsy

Study on the Indian Population of the Northwest Region of India

Jasbir Singh, MD\*

2:45 p.m. - 3:00 p.m. A114 The Role of Stigma in the Medicolegal Investigation of Unidentified Persons

Cate E. Bird, PhD\*; Jaime D. Sykes, BA; Jason D.P. Bird, PhD

3:00 p.m. - 3:15 p.m. A115 The Applications and Practicality of Dental 3D Scanning in

Forensic Anthropology Teresa V. Wilson, PhD\*

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



### Morphology: Micro- and Macromorphoscopic Features

Metropolitan State University of Denver

Moderator: Christine M. Pink, PhD

		epartment of S enver, CO	Sociology	and Anthropology Colorado Mesa University Grand Junction, CO
3:30 p.m.	-	3:45 p.m.	A116	The Curious Case of Cranial Dysraphism: How a Cranial Variant Appears as Trauma or Trephination Christine L. Halling, MS*; Ryan M. Seidemann, MA
3:45 p.m.	-	4:00 p.m.	A117	The Relationship of Palatal Suture Complexity and Fusion Carrie A. Brown, PhD*
4:00 p.m.	-	4:15 p.m.	A118	Elliptical Fourier Analysis of the Human Nasal Aperture Justin R. Maiers, BS*; Stephen P. Nawrocki, PhD

4:15 p.m. - 4:30 p.m. A119 Is Quantitative Ultrasound (QUS) a Useful Tool for Evaluating the Mechanical **Properties of Infant Cortical Bone?** 

Miriam E. Soto Martinez, PhD; Christian Crowder, PhD\*; Catherine G. Ambrose, PhD;

Co-Moderator: Christiane Baigent, MSc

Forensic Investigation Research Station

Juantia M. Deaver

4:30 p.m. - 4:45 p.m. A120 A Histomorphological Analysis on the Variability of the Entire Human Skeleton:

Implications for Differentiating Human From Non-Human

Annalisa Cappella, BS\*; Marco Cummaudo, MSc; Miranda Biraghi, BSc; Caterina Raffone, BSc; Nicholas Márquez-Grant, PhD; Cristina Cattaneo, PhD

4:45 p.m. - 5:00 p.m. A121 Introducing the Macromorphoscopic Databank (MaMD): A Data Collection and

Analytical Tool for the Analysis of Macromorphoscopic Trait Data

Joseph T. Hefner, PhD\*; Amber M. Plemons, MA

### Friday – Session II

Multidisciplinary Session: Anthropology Session II/General Session II/Pathology/Biology Session I — **Forensic Taphonomy** 

Moderator: David O. Carter, PhD Co-Moderator: Eriek S. Hansen, PhD

> Chaminade University of Honolulu Colorado Mesa University Forensic Sciences Unit Dept Biological Science Honolulu, HI Grand Junction, CO

A122 Postmortem Interval Estimation Using the Blackened Osteocyte Method 1:00 p.m. 1:15 p.m. Sarah Long, BS\*; Lynne S. Bell, PhD; Joan A. Bytheway, PhD



1:15 p.m.	-	1:30 p.m.	H128	Changes in Bacterial Community Structure and the Estimation of Long-Term Postmortem Interval (PMI)  Michael S. Woolf, MS*; Vanessa Sufrin, MS; Tal Simmons, PhD;  Baneshwar Singh, PhD*
1:30 p.m.	-	1:45 p.m.	E110	Bioelectrical Impedance Analysis as a Technique for Estimating the Postmortem Interval (PMI) in Human Remains  Eriek S. Hansen, PhD*; Melissa A. Connor, PhD; Christiane Baigent, MSc
1:45 p.m.	-	2:00 p.m.	E111	Measuring Desiccation Using Qualitative Changes Melissa A. Connor, PhD*; Christiane Baigent, MSc; Eriek S. Hansen, PhD
2:00 p.m.	-	2:15 p.m.	A123	A New Approach to Estimating Accumulated Degree Days (ADD): Using Binary Observations From Various Regions of the Body With Random Forest Modeling (RFM) and Geographic Information Systems (GIS)  Michael W. Kenyhercz, PhD*; Dawnie W. Steadman, PhD; Annemarie C. Gundel, BA
2:15 p.m.	-	2:30 p.m.	A124	Validation of the Total Body Score/Accumulated Degree Days (TBS/ADD) Equation at 100, 300, 500, and 1,000 ADD on 30 Human Subjects With a Known Postmortem Interval (PMI) From Three Human Decomposition Facilities Joan A. Bytheway, PhD*; Nichole Miller; Dawnie W. Steadman, PhD; Kelly Sauerwein, MA; Daniel J. Wescott, PhD; Chaunesey Clemmons, BA; Devora S. Gleiber, BA; Chloe P. McDaneld, MA; Lauren A. Meckel, MA
2:30 p.m.	-	2:45 p.m.	H129	Myiasis and Death: Factors and Complications Related to Estimating Time of Colonization After Antemortem Fly Colonization Followed by Death Michelle R. Sanford, PhD*; Darshan R. Phatak, MD; Alex John, MD; Michael R. Condron II, MD
2:45 p.m.	-	3:00 p.m.		Break

# $\label{lem:multidisciplinary Session II/Pathology/Biology Session II-Pathology/Biology Session II-Pat$

Moderator: Elizabeth A. Miller, PhD Co-Moderator: Audrey L. Meehan, BS

California State University, Los Angeles Ewa Beach, HI

Department of Anthropology

Los Angeles, CA

3:00 p.m. - 3:15 p.m. H130 Coupled Microbiome and Insect Evidence in Death Investigation

M. Eric Benbow, PhD\*; Jennifer L. Pechal, PhD; Heather R. Jordan, PhD;

McKinley Brewer, BS; Carl J. Schmidt, MD

3:15 p.m. - 3:30 p.m. **E112 WITHDRAWN** 



3:30 p.m.	-	3:45 p.m.	H131	Analyses of Necrobiome Structure and Function for Utility in Forensic Science Heather R. Jordan, PhD*; Zachary M. Burcham, BS; Jeffrey L. Bose, PhD; Jennifer L. Pechal, PhD; Jason Rosch, PhD; Carl J. Schmidt, MD; M. Eric Benbow, PhD
3:45 p.m.	-	4:00 p.m.	E113	What Forensic Archaeology and Forensic Taphonomy Can Offer to Medicolegal Death Investigation  Dennis C. Dirkmaat, PhD*; Luis L. Cabo, MS
4:00 p.m.	-	4:15 p.m.	E114	Trauma and/or Taphonomy? Analysis of Peri-Mortem Trauma Observed in a Post-Battle World War II Cemetery and the Complications of Taphonomy in Discerning Trauma  Kristen N. Baker, MA*; Hillary R. Parsons, PhD*
4:15 p.m.	-	4:30 p.m.	A125	Vulture Scavenging of Small-Sized Pig Carcasses in Central Florida: Utilizing Geographic Information Systems (GIS) to Analyze Site Variables Affecting Skeletal Dispersal John J. Schultz, PhD*; Alexander T. Mitchell
4:30 p.m.	-	4:45 p.m.	A126	Differential Temperatures of the Human Body and Fire Elayne J. Pope, PhD*; Amanda Williams, MA; Alison Galloway, PhD
4:45 p.m.	-	5:00 p.m.	H132	Digging Up the Past — An Atypical Medical Examiner's Case Haley K. Scott, BSc*; Joseph T. Hefner, PhD; Philip R. Croft, MD, JD

## Friday – Session III

### **International Association of Forensic Sciences**

Moderator:	Kathy L. Gruspi Ontario Forensi North York, CA	ic Patholo		Michael S. Pollanen, MD Ontario Forensic Pathology Service Toronto, CANADA
1:30 p.m.	- 1:45 p.m.	A127	A Multiple Fatality Response to Nine Inc Pikangikum, Ontario: An Overview of t Meeting of the International Association Forensic Pathology Service (OFPS) Kathy L. Gruspier, JD, PhD*	he Procedures of the Hosts of the Triennial
1:45 p.m.	- 2:00 p.m.	A128	A Mass Fatality Response and the Indige Between Science, Death, and Culture Kona Williams, MD*	enous Community: The Intersection
2:00 p.m.	- 2:15 p.m.	A129	A Multiple Fatality Response to Nine Inc Pikangikum, Ontario: The Scene and It Renee C. Kosalka, MA*	9



2:15 p.m	2:30 p.m.	A130	A Multiple Fatality Response to Nine Indigenous Deaths in a Burned House in Pikangikum, Ontario: Postmortem Investigations Rebekah Jacques*; Kona Williams, MD; Jayantha Herath, MD; Kris Cunningham, MD
2:30 p.m	2:45 p.m.	A131	A Multiple Fatality Response to Nine Indigenous Deaths in a Burned House in Pikangikum, Ontario: The Interdisciplinary Approach to Dental Identification Yolanda Nerkowski, BA*; Taylor L. Gardner, BFSc*; Robert E. Wood, DDS, PhD*
2:45 p.m	3:00 p.m.	A132	A Multiple Fatality Response to Nine Indigenous Deaths in a Burned House in Pikangikum, Ontario: Forensic Anthropology Renee C. Kosalka, MA*; Kathy L. Gruspier, JD, PhD
3:00 p.m	3:15 p.m.	A133	A Multiple Fatality Response to Nine Indigenous Deaths in a Burned House in Pikangikum, Ontario: Disaster Victim Identification (DVI)  Kathy L. Gruspier, JD, PhD*; Renee C. Kosalka, MA; Reuven R. Jhirad, MD;  Yolanda Nerkowski, BA; Taylor L. Gardner, BFSc; Rebekah Jacques;  Robert E. Wood, DDS, PhD; Kona Williams, MD; Jayantha Herath, MD

## Saturday

### Trauma: Peri- vs. Postmortem, Sharp and Blunt Force

Moderator:	Ur De	nathan D. Be niversity of So epartment of A mpa, FL	outh Florid	da East Lansing, MI
8:00 a.m.	-	8:15 a.m.	A134	The Use of Laser Scanning Confocal Microscopy in Distinguishing Between Peri-Mortem Trauma and Postmortem Damage Using Histotaphonomic and Histochemical Techniques  Ashley C. Smith, MSc*
8:15 a.m.	-	8:30 a.m.	A135	Skeletal Trauma Resulting From Falls Involving Stairs: An Analysis of Fracture Patterns and Morphologies Using Postmortem Computed Tomography (PMCT) Samantha K. Rowbotham, MA*; Soren Blau, PhD; Jacqueline Hislop-Jambrich, PhD
8:30 a.m.	-	8:45 a.m.	A136	Concentrated Four-Point Bending and Fracture Behavior in the Human Femora Mariyam I. Isa, BS*; Todd W. Fenton, PhD; Patrick E. Vaughan, BS; Feng Wei, PhD; Roger C. Haut, PhD
8:45 a.m.	-	9:00 a.m.	A137	Differentiating Between Sharp Force Trauma (SFT) Defects and Insect Invasion of the Skin of Human Cadavers Throughout the Decomposition Process in a Terrestrial and Fluvial Environment Sierra Smith, BA*; Kevin R. Derr; Joan A. Bytheway, PhD



9:00 a.m. - 9:15 a.m. A138 Constricting Structures: A Critical Analysis of a Past Forensic Anthropology Case

Through the Systematic Examination of a Neck Organ Block Traumatic Injury in

the Present

Austin L. Polonitza, BS\*; Heather A. Walsh-Haney, PhD

9:15 a.m. - 9:30 a.m. **Break** 

#### **Forensic Border Coalition**

Moderator: Kate Spradley, PhD Co-Moderator: Christine M. Kovic, PhD

Texas State University University University of Houston-Clear Lake

Department of Anthropology Houston, TX
San Marcos, TX

9:30 a.m. - 9:45 a.m. A139 Searching for the Unidentified in South Texas: The Forensic Border Coalition (FBC) Cemetery Survey Project

Kate Spradley, PhD\*; Mercedes Doretti; Christine M. Kovic, PhD; Eduardo Canales, BS; Molly Miranker, MA; Rachel Daniell, MPhil; Timothy P. Gocha, PhD; Ryan Strand, BS; Alberto Giordano, PhD

9:45 a.m. - 10:00 a.m. A140 The Forensic Border Coalition (FBC): Collaborations in Forensic Sciences, Human Rights, and Public Policy

Christine M. Kovic, PhD\*; Mercedes Doretti; Kate Spradley, PhD;

Eduardo Canales, BS; Molly Miranker, MA; Rachel Daniell, MPhil; Ryan Strand, BS;

Timothy P. Gocha, PhD; Robin C. Reineke, PhD; Chelsea Halstead, BA

10:00 a.m. - 10:15 a.m. A141 The Role of the Anthropologist in the Identification and Repatriation of Deceased Migrants Along the United States-Mexico Border

Timothy P. Gocha, PhD\*; Kate Spradley, PhD; Ryan Strand, BS;

Bruce E. Anderson, PhD; Alicia Lusiardo

10:15 a.m. - 10:30 a.m. A142 Addressing the Challenges of Migrant Death Investigations Through Non-

Governmental Organization (NGO) and Government Agency Collaborations

Ryan Strand, BS\*; Eduardo Canales, BS; Molly Miranker, MA; Robin C. Reineke, PhD

10:30 a.m. - 10:45 a.m. A143 Missing Migrant Data Managed by the Forensic Border Coalition (FBC)

Robin C. Reineke, PhD\*; Carmen E. Osorno Solís; Mercedes Doretti; Rachel Daniell, MPhil; Ryan Strand, BS; Chelsea Halstead, BA

10:45 a.m. - 11:00 a.m. A144 Identification Notifications and Their Applicability to Families of Missing Migrants

Carmen E. Osorno Solis\*: Mercedes Doretti: Karla Hernandez. BA

11:00 a.m. - 11:15 a.m. **Break** 



#### **Odds and Ends**

Moderator: Lauren R. Pharr, PhD Co-Moderator: Amber M. Plemons, MA

Knoxville, TN Michigan State University
Department of Anthropology

East Lansing, MI

11:15 a.m. - 11:30 a.m. A145 The Evolution of Forensic Anthropology and the Influence of Court Rulings,

Legislative Actions, and Social Trends

Jennifer C. Love, PhD\*; Laura C. Fulginiti, PhD

11:30 a.m. - 11:45 a.m. A146 Virtual Skeletal Data — The Ethical, Technical, and Legal Questions

**Anthropology Faces When Working With Virtual Skeletal Remains** 

Roland Wessling, MSc\*

11:45 a.m. - 12:00 p.m. A147 A Review of Statutes in Place to Stem the Commodification of Human Skeletal

**Remains in the United States** 

Ryan M. Seidemann, MA\*; Christine L. Halling, MS



## Wednesday

### **Poster Session**

11:30 a.m.	-	1:00 p.m.	B1	The Development and Initial Evaluation of a MicroRNA (miRNA) System for Forensically Relevant Body Fluids Using Capillary Electrophoresis Carrie Mayes, BS*; David A. Gangitano, PhD; Sheree R. Hughes-Stamm, PhD
11:30 a.m.	-	1:00 p.m.	B2	The Development and Evaluation of Real-Time Polymerase Chain Reaction (PCR) Methods for DNA Methylation-Based Identification of Semen and Blood Ken Watanabe*; Ayari Takamura, MS; Tomoko Akutsu, PhD
11:30 a.m.	=	1:00 p.m.	В3	Investigating the Identification of Vaginal Material Using Histological, Spectroscopic, and Molecular Methods Claire Glynn, PhD; Justine Kawa, BS*
11:30 a.m.	-	1:00 p.m.	B4	The Use of Proximity Ligation Assays Coupled With Real-Time Polymerase Chain Reaction (PCR) as a Detection Method for Proteins Within Blood for Forensic Analysis  Katherine Hargett, BS*; Daniele S. Podini, PhD
11:30 a.m.	=	1:00 p.m.	В5	The Effect of Washing and Blood-Enhancement Reagents on the Use of Raman Spectroscopy for Human Blood Identification  Tyler J. Schlagetter*; Claire Glynn, PhD
11:30 a.m.	-	1:00 p.m.	В6	A Comparative Analysis of Commercially Available Protein and Peroxidase Reagents for Blood Detection and Enhancement on Laundered Clothing of Varying Fabric Types  Gabrielle A. Hartley*; Claire Glynn, PhD
11:30 a.m.	-	1:00 p.m.	В7	Rapid and Reliable Validation of Body Fluids Using Paper Microfluidic Device (µPAD) Chips Rosa L. Cromartie, BS*; Ashley T. Wardlow; George T. Duncan, PhD; Bruce R. McCord, PhD
11:30 a.m.	-	1:00 p.m.	В8	The Detection of MicroRNAs (miRNAs) in DNA Extraction Methods Commonly Used for Forensic Casework Carolyn Lewis, BS*; Tiffany R. Layne, MS; Sarah J. Seashols Williams, PhD
11:30 a.m.	-	1:00 p.m.	В9	Y-Screening and Direct Amplification of Casework Samples  Jeanne Bourdeau-Heller, PhD; Robert McLaren, PhD; Amy McGuckian, MSFS;  Jerome G. Remm, MFS; Julie Conover Sikorsky, MS; Anupama Gopalakrishnan, PhD;  Lotte Downey, MSc*; Douglas R. Storts, PhD
11:30 a.m.	-	1:00 p.m.	B10	Evaluating the Success of DNA Analysis and Latent Print Examinations on Submitted Firearms  Karlee Rock, BA*; Victor Murillo, BA; Season E. Seferyn, MSFS; Terry Fenger, PhD



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11:30 a.m.	-	1:00 p.m.	B11	The Persistence of Ignitable Liquids on Laundered T-Shirts Michelle Corbally, MS*; Katherine D. Hutches, PhD
11:30 a.m.	-	1:00 p.m.	B12	Trace Chemical Analysis of Potassium Permanganate Hypergolic Mixtures Analyzed With Inductively Coupled Plasma/Optical Emission Spectroscopy (ICP/OES)  Waldon Chen, BSc*; Joseph B. McGee Turner, PhD; Eric Hazelrigg, MS; Christopher J. Ehrhardt, PhD
11:30 a.m.	-	1:00 p.m.	B13	Updates From the Drug Enforcement Administration National Forensic Laboratory Information System (NFLIS): Benzodiazepines Reported in the NFLIS — 2009-2015  DeMia P. Pressley, MS; Artisha Polk, MS; Liqun Wong, MS; Kevin Strom, PhD; Katherine N. Moore, MS*; David Heller, BS; Jeffrey M. Ancheta, BS; BeLinda J. Weimer, MA; Hope Smiley-McDonald, PhD; Jeri D. Ropero-Miller, PhD
11:30 a.m.	-	1:00 p.m.	B14	Hand Odor Volatiles and Drug Abuse: A Pilot Study Using a Chemical-Dependent Target Group Silas Kibet Kemboi, BA*; Megan Thoen, PhD; Paola A. Prada, PhD
11:30 a.m.	-	1:00 p.m.	B15	Forensic Drug Analysis by Thermal Desorption and Pyrolysis Combined With Direct Analysis in Real Time-Mass Spectrometry (TDP/DART®-MS)  Hiroko Abe, MA; Chikako Takei*; Yasuo Shida, PhD; Motoshi Sakakura, PhD;  Teruhisa Shiota; Kayako Suga; Daisuke Yajima, MD; Hirotaro Iwase, PhD
11:30 a.m.	-	1:00 p.m.	B16	Semi-Quantitation of Trace Drug Residues on Fabric by Direct Analysis in Real-Time (DART*) Samantha B. Josselyn; David Cunningham, PhD*
11:30 a.m.	-	1:00 p.m.	B17	Microcrystalline Tests for Emerging Drugs of Abuse Matthew Quinn*; Monica Joshi, PhD
11:30 a.m.	-	1:00 p.m.	B18	The Development of a Characterization Scheme for Emerging Synthetic Phenethylamines Alexandria Anstett, BS*; David Alonso, PhD; A. Daniel Jones, PhD; Ruth Waddell Smith, PhD
11:30 a.m.	-	1:00 p.m.	B19	Portable Trace Vapor Sampling With Field-Capable Porous Layer Open Tubular (PLOT) -Cryoadsorption  Megan Harries, BS; Thomas J. Bruno, PhD*
11:30 a.m.	-	1:00 p.m.	B20	An Examination of Hypergolic Mixtures Involving Potassium Permanganate and Select Fuels Stephanie R. Harrold, BS*; Wayne Moorehead, MS
11:30 a.m.	-	1:00 p.m.	B21	A Comparison of Headspace Cannabinoid Profiles Detected From Different Structures of Dried Cannabis Inflorescences  Austin L. McDaniel, BS*; Jorn Chi-Chung Yu, PhD; James D. Sweet, PhD



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11:30 a.m.	-	1:00 p.m.	B22	Validation of Various Fingerprint Processes in a Medium-Size  Municipal Laboratory  Dave Castle, BS; Catherine G. Rushton, MSFS; Ted Smith, MS; Terry Fenger, PhD;  Amanda A. Wilberg, BS*
11:30 a.m.	-	1:00 p.m.	B23	An Appropriate and Practical Sample Preparation Procedure for Clean-Up and Analysis of Explosives Residues Hui Si Lim*
11:30 a.m.	-	1:00 p.m.	B24	Seeing Through Noise: Investigating Information Sampling and Weighting in Fingerprint Recognition Silke Jensen*; Doug Barrett, PhD; Lisa L. Smith, PhD
11:30 a.m.	-	1:00 p.m.	B25	Gold Nanoparticles (AuNPs)/Aptamer-Based Paper Microfluidic Devices Developed for the Detection of Cocaine  Bruce R. McCord, PhD; Ling Wang, MS*
11:30 a.m.	-	1:00 p.m.	B26	The Analysis of 2,5-Dimethoxy-N-(N-methoxybenzyl)phenethylamine (NBOMe) Isomers Using Traditional and Fast Gas Chromatography/Mass Spectrometry (GC/MS)  Jay T. Davidson, BS*; Glen P. Jackson, PhD
11:30 a.m.	-	1:00 p.m.	B27	Profiling the Use of Explosives in Automated Teller Machine (ATM) Robberies in Brazil  Joao Carlos L. Ambrosio, MSc*; Lucio L. Logrado, MS; Natália H. Puentes, BS
11:30 a.m.	-	1:00 p.m.	B28	The Development and Preliminary Validation of an App for Recording and Interpreting Colorimetric Drug Test Results Kelly M. Elkins, PhD*; Thomas Boise*; Alicia Quinn, BS; Subrata Acharya, PhD
11:30 a.m.	-	1:00 p.m.	B29	Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) Detection of Cocaine in Packaging Residue  Jonas Widness*; Jason Dickmeyer*; Douglas Beussman, PhD
11:30 a.m.	-	1:00 p.m.	B30	Direct Thermal Desorption Coupled to Gas Chromatography/Mass Spectrometry (GC/MS) for the Characterization of Organic Firearm Discharge Residues William Feeney, BS; Lindsay Cheeseman*; Suzanne Bell, PhD
11:30 a.m.	-	1:00 p.m.	B31	Fabric Phase Sorptive Extraction (FPSE) Media: A Novel Forensic Sample Collection and Storage Device  Abuzar Kabir, PhD*
11:30 a.m.	-	1:00 p.m.	B32	The Identification and Quantification of Sexual Lubricant Degradation Pathways From Exposure to the Vaginal Bacterial Environment Danielle Green, BS*; Candice Bridge, PhD
11:30 a.m.	-	1:00 p.m.	В33	Application of Gas Chromatography-Vacuum Ultraviolet (GC-VUV) Spectroscopy in the Analysis of Synthetic Cathinones  Angelica D. Szewczak, BS*; Cory A. Vaught, BSc; Jonathan P. Smuts, PhD;  Walter F. Rowe, PhD; Ira S. Lurie, PhD



### Thursday — Session I

#### Our Future Reflects Our Past: The Evolution of Criminalistics

Moderator: Patrick Buzzini, PhD Co-Moderator: Rebecca E. Bucht, PhD

Sam Houston State University Chemistry/Forensic Science Bldg

Huntsville, TX

8:30 a.m. - 9:45 a.m. B34 Our Future Reflects Our Past: The Evolution of Criminalistics

Patrick Buzzini, PhD; Rebecca E. Bucht, PhD; Peter R. De Forest, DCrim\*; Douglas M. Lucas, DSc\*; Pierre A. J-L. Margot, PhD\*; Claude Roux, PhD\*;

Helsinki, FINLAND

Sheila Willis, PhD\*

9:45 a.m. - 10:15 a.m. **Discussion** 

10:15 a.m. - 10:30 a.m. **Break** 

#### Firearms and Tool Marks

Moderator: April Wong, MS Co-Moderator: Kevin Lothridge, MSc

Los Angeles County Sheriff's Department NFSTC
Los Angeles, CA Largo, FL

10:30 a.m. - 10:45 a.m. B35 Implementing 3D Virtual Comparison Microscopy Into Forensic Firearm/Tool

Mark Examinations

Erich D. Smith, MS\*; Heather J. Seubert, MS

10:45 a.m. - 11:00 a.m. B36 A Framework for Firearm Tool Mark Population Statistics

Xiaoyu A. Zheng, MS\*; Johannes A. Soons, PhD; Daniel Ott, PhD

11:00 a.m. - 11:15 a.m. B37 Performance Evaluation and Calibration Artifacts for 3D Ballistic Imaging

Michael T. Stocker\*; Johannes A. Soons, PhD; Robert M. Thompson, BS;

Thomas B. Renegar, BS; Xiaoyu A. Zheng, MS

11:15 a.m. - 11:30 a.m. B38 Determining the Angle of Impact From the Analysis of Bullets Following

Perforation of Glass

Roger Jefferys, BS\*; Keith B. Morris, PhD

11:30 a.m. - 11:45 a.m. B39 The Determination of Critical Angle in Automobile Windshield Glass Using

9mm Luger® Ammunition

Peter J. Diaczuk\*; Tara L. Goldfrank, MS



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11:45 a.m.	-	12:00 p.m.	B40	Improved Total Nitrite Visualization (TNV) for Gunshot Distance Determination Jason Berger, MS*; Eliot Springer, MSc; Colin J. Upton, MS
12:00 p.m.	-	1:00 p.m.		Lunch
Poster Ses	ssi	on		
11:30 a.m.	-	1:00 p.m.	B41	Using Clonal Massively Parallel Sequencing (MPS) to Characterize Heteroplasmy in the Mitochondrial DNA (mtDNA) of Human Head Hair, Pubic Hair, and Buccal Samples  Erin A. Laurie, MS*; Janice Lin, BA; George Sensabaugh, DCrim;  Cassandra Calloway, PhD
11:30 a.m.	-	1:00 p.m.	B42	The Forensic Value of Processed Human Hair Extensions Caitlin E. Porterfield, MS*; James P. Creecy, MS
11:30 a.m.	-	1:00 p.m.	B43	A Proteomic Analysis of Human Hair From Various Body Sites Pei Wen Wu, MS; Zachary C. Goecker, BS*; Glendon Parker, PhD; Robert Rice, PhD
11:30 a.m.	-	1:00 p.m.	B44	Validation of a Method to Sequence the Mitochondrial Genome of High-Quality Reference Samples Using the Illumina® MiSeq® FGx Platform Michelle A. Peck, MFS; Kimberly S. Andreaggi, MFS; Jacqueline T. Thomas, MS; Robert S. Oliver, MSc; Suzanne M. Barritt-Ross, MS; Charla Marshall, PhD*
11:30 a.m.	-	1:00 p.m.	B45	Analyzing DNA Mixtures Using Polymerase Chain Reaction/Capillary Electrophoresis (PCR/CE) Compared to Next Generation Sequencing (NGS) Katherine Welch, MSFS*; Justin J. Foster, PhD; Joseph Truppi, BS; Michael A. Donley, MS; Roger Kahn, PhD
11:30 a.m.	-	1:00 p.m.	B46	Comparative Tolerance of Short Tandem Repeat (STR) and Massively Parallel Sequencing (MPS) Chemistries to Inhibited Samples Kyleen Elizabeth Elwick, BA*; Charity M. Beherec, MS; David A. Gangitano, PhD; Sheree R. Hughes-Stamm, PhD
11:30 a.m.	-	1:00 p.m.	B47	Fetal DNA Detection in Pregnancy Serum Using the Ion Personal Genome Machine® (PGM™) System With an Identity Single Nucleotide Polymorphism (SNP) Panel Jihyun Lee; Hee Jin Seo; Moon Young Kim, MD; Chong Jai Kim, MD; Kun Woo Kim, MD; Doyeong Hwang, MD; Soong Deok Lee, PhD*
11:30 a.m.	-	1:00 p.m.	B48	A Preliminary Sensitivity Assessment Comparing Two Next Generation Sequencing (NGS) Laboratory Workflows for Forensic Analysis  Adriana N. Swatzell*; Jocelyn M. Bush, MS; Elizabeth Montano, MS
11:30 a.m.	-	1:00 p.m.	B49	Optimization of a Droplet Digital™ Polymerase Chain Reaction (ddPCR™) Assay for the Quantitative and Qualitative Analysis of Illumina® MiSeq® Massively Parallel Sequencing (MPS) Libraries  Brittania J. Bintz, MSc*

New Orleans
2017

2017				
11:30 a.m.	-	1:00 p.m.	B50	Separating Complex DNA Mixtures Containing Related Individuals Using TrueAllele® Mixture Interpretation Software Olivia D. Goodwin*; Lisa R. Ludvico, PhD; Lyndsie N. Ferrara, MS
11:30 a.m.	-	1:00 p.m.	B51	Microhaplotypes (MHs): A Possible Biogeographic Ancestry Predictor for Forensic DNA Evidence Kelly E. Long, BSc*; Katrina F. Maddela, BS*
11:30 a.m.	-	1:00 p.m.	B52	Rapid DNA Amplification of Forensic Samples Silvia Zoppis, MD*; Manuela Rosini, MSc; Fabio Verginelli, PhD; Carla Vecchiotti; Bruce R. McCord, PhD
11:30 a.m.	-	1:00 p.m.	B53	Using Rapid DNA Analysis to Obtain DNA Profiles From Improvised Explosive Devices (IEDs) Alexis Parr, BS*; Timothy M. Palmbach, MS, JD; Michael S. Adamowicz, PhD
11:30 a.m.	-	1:00 p.m.	B54	The Characterization and Differentiation of 21 Fentanyl Analogues by Gas Chromatography/Mass Spectrometry (GC/MS), Liquid Chromatography/Mass Spectrometry (LC/MS), and Nuclear Magnetic Resonance (NMR) Spectroscopy Tatsuyuki Kanamori*; Yuko Togawa Iwata, PhD; Hiroki Segawa, PhD; Tadashi Yamamuro, PhD; Kenji Kuwayama, PhD; Kenji Tsujikawa, PhD; Hiroyuki Inoue, PhD
11:30 a.m.	-	1:00 p.m.	B55	An Investigation Into the Preservation and Storage Conditions for Extracts of Ignitable Liquid Residues  Clare M. Fried, BS*; Thomas A. Brettell, PhD
11:30 a.m.	-	1:00 p.m.	B56	Optimizing a Sequence of Methods for the Development of Latent Fingerprints on Thermal Paper Reyne Spychalski, BSc*; Kimberly Gerhardt, MS; Dave Castle, BS; Terry Fenger, PhD
11:30 a.m.	-	1:00 p.m.	B57	Shooting Distance Estimation Using Gunshot Residue (GSR) on Mammalian Pelts Cory A. Weiss, BS*; Ralph R. Ristenbatt III, MS; Jason W. Brooks, VMD, PhD
11:30 a.m.	-	1:00 p.m.	B58	The Development of an Infrared Microspectroscopy Method for Microcrystals Michael Cain, Jr.*; Monica Joshi, PhD
11:30 a.m.	-	1:00 p.m.	B59	Ion Trap Mobility Spectrometry Nuisance Alarm Threshold Analysis for Illicit Narcotics Based on Environmental Background and a Receiver Operating Characteristic (ROC) -Curve Approach Thomas P. Forbes, PhD; Marcela Najarro, MFS*
11:30 a.m.	-	1:00 p.m.	B60	Primary Ion Middle Ion Structural Analysis (PIMISA®) -Enabled Direct Analysis in Real-Time (DART®) QDa® Mass Spectrometer (MS): The Latest Development in Forensic Analysis Efficiency Rachel C. Beck, PhD*; Frederick Li, MS; Brian Musselman, PhD



11:30 a.m.	-	1:00 p.m.	B61	Latent Print Development on Duct Tape Using Rhodamine 6G/Tween® 20 Solution on Simulated Evidence Samples Nicole Rapino, BA*; Stephen C. King; Catherine G. Rushton, MSFS; Pamela J. Staton, PhD
11:30 a.m.	-	1:00 p.m.	B62	Do Hygiene Products Cause False Positives in Arson Investigations? Sierra M. Stinson*; Gabriel M. Walkup; Glen P. Jackson, PhD
11:30 a.m.	-	1:00 p.m.	B63	Rapid Analysis of Peptides and Proteins Utilizing Matrix-Assisted Inlet Ionization Mass Spectrometry  Kyle E. Vircks, MS*; Jesse M. Zavala, MS; Yibin Wang, PhD; Robert B. Cody, PhD; Warren C. Samms, PhD; Roger Kahn, PhD
11:30 a.m.	-	1:00 p.m.	B64	The Effect of Environmental Conditions and Substrate Material on the Weathering of Gasoline and Light Petroleum Distillates  Matthew Ciano*; Robert H. Powers, PhD; Erika Chen, MS; Michael Valetutti, MS; Brooke W. Kammrath, PhD
11:30 a.m.	-	1:00 p.m.	B65	WITHDRAWN
11:30 a.m.	-	1:00 p.m.	B66	Thermochemical Characterization of Cannabinoids by Porous Layer Open Tubular-Cryoadsorption (PLOT-Cryo) and Nuclear Magnetic Resonance (NMR) Tara Lovestead, PhD*; Jessica Burger, PhD; Thomas J. Bruno, PhD
11:30 a.m.	-	1:00 p.m.	B67	The Applicability of Vacuum Ultraviolet (VUV) Spectroscopy as a Gas Chromatography (GC) Detection Technique for Synthetic Cannabinoids Cory A. Vaught, BSc*; Angelica D. Szewczak, BS; Walter F. Rowe, PhD; Jonathan P. Smuts, PhD; Ira S. Lurie, PhD
11:30 a.m.	-	1:00 p.m.	B68	Profiling Reaction Intermediates and By-Products in Illicit Synthetic Drug Samples Using Direct Analysis in Real Time (DART®) and an Ion Trap Mass Spectrometer Ashley Windom*; Kenyon M. Evans-Nguyen, PhD
11:30 a.m.	-	1:00 p.m.	B69	A New Method for Non-Contact Recovery of Footwear Mark Impressions Using a 3D Structured Light Scanner Paul Norris*; Tim Thompson, PhD; Mark Butler, PhD
11:30 a.m.	-	1:00 p.m.	B70	Service Implementation for the Identification of Gunshot Residue (GSR) in Rio de Janeiro, Brazil  Denilson Siqueira; Renata C. Silva*
11:30 a.m.	-	1:00 p.m.	B71	Flow Injection Analysis-Triple Quadrupole (FIA-QQQ) Characterization of Organic and Inorganic Constituents of Firearms Discharge Residue (FDR) Using a Single Injection: The Potential for Rapid Screening of FDR William Feeney, BS; Sydney Brooks, BS*; Suzanne Bell, PhD



11:30 a.m.	-	1:00 p.m.	B72	A Single Extraction, Consecutive Detection of Organic and Inorganic Firearms Discharge Residue Using Thermal Desorption Gas Chromatography/Mass Spectrometry (TD-GC/MS) and Inductively Coupled Plasma/Mass Spectrometry (ICP/MS)  Kristin M. Kelly, BSc; Joseph A. Stein*; Suzanne Bell, PhD
11:30 a.m.	-	1:00 p.m.	B73	An Evaluation of the Repeatability, Reproducibility, and Uncertainty of Retention Indices and Electron Impact Spectra of Selected Novel Psychoactive Substances (NPS)  Kristin M. Kelly, BSc*; Jordan Sekinger; Victoria Zeger*; Suzanne Bell, PhD

### Fire Debris and Explosives

Moderator: Katherine D. Hutches, PhD	Co-Moderator: Kenyon M. Evans-Nguyen, PhD
ATF	Tampa, FL
Walnut Creek, CA	

1:00 p.m 1:15 p.m.	B74	Comparing the Response of Portable Hydrocarbon Detectors to Laboratory Analysis of Household Substrates  Jamie M. Baerncopf, MS*; Carl Anuszczyk, MS
1:15 p.m 1:30 p.m.	B75	Identification of Potential Target Compounds in Fire Debris Mary R. Williams, MS*; Anuradha Akmeemana, MS; Michael E. Sigman, PhD
1:30 p.m 1:45 p.m.	B76	Probabilistic Assertions in Fire Debris Analysis Based on Chemical Compound Occurrence Michael E. Sigman, PhD*; Mary R. Williams, MS; Alysaa Allen
1:45 p.m 2:00 p.m.	B77	A Quantitative Approach to Differentiating Mixtures of Gasoline and No. 2 Fuel Oil From No. 2 Fuel Oil Using Gas Chromatography/Mass Spectrometry (GC/MS) Target Compound Analysis Ratios Christopher Guglielmo, MS; Thomas Kubic, JD, PhD; Nicholas D. Petraco, PhD; Philip R. Antoci, MS*
2:00 p.m 2:15 p.m.	B78	Source Inference of Gasoline: The Contributions of Gas Chromatography/Mass Spectrometry (GC/MS) and Gas Chromatography/Isotope Ratio Mass Spectroscopy (GC/IRMS) Analyses  Luc Besson, PhD; Olivier Delémont, PhD*
2:15 p.m 2:30 p.m.	B79	Morphology and Microanalysis of Aluminum (Al) Powders From Amateur Improvised Explosive Device (IED) Methods  JenaMarie Baldaino, MS*; Jack Hietpas, PhD; JoAnn Buscaglia, PhD
2:30 p.m 2:45 p.m.	B80	The Effect of Time on the Quantity of Triacetone Triperoxide (TATP) on Different Surfaces  Mohammad H. Alotaibi, PhD*; Mansour Dahish Ajarim, PhD;  Abdulghani Alshehri, PhD; Ahmed A. Aljanobi, PhD



2:45 p.m. - 3:00 p.m. B81 Characterization of Pre- and Post-Burn Smokeless Powders by Direct Analysis in

Real-Time Time-of-Flight/Mass Spectrometry (DART®-TOF/MS) vs. Gas

Chromatography/Mass Spectrometry (GC/MS)

Emily C. Lennert, BS\*; Candice Bridge, PhD

3:00 p.m. - 3:15 p.m. **Break** 

#### **Drug Chemistry: Part 1**

Moderator: Eileen M. Briley, MS Co-Moderator: Tammi Jacobs Shulman, BS

Virginia Department of Forensic Sciences

Central Lab

Richmond, VA

Westchester County
Forensic Lab
Valhalla, NY

3:15 p.m.	-	3:45 p.m.	B82	Assessing the Quality and Reliability of Drug Identifications Sandra E. Rodriguez-Cruz, PhD*; Ramona S. Montreuil, MS
3:45 p.m	-	4:15 p.m.	B83	2017 Scientific Working Group for the Analysis of Seized Drugs (SWGDRUG) Update — A Discussion on Drug Analysis Techniques and A-B-C Categorization Sandra E. Rodriguez-Cruz, PhD*
4:15 p.m	-	4:30 p.m.	B84	No Lab, No Plea Eliminating a Controlled Substances Backlog $James\ T.\ Miller,\ BS^*$
4:30 p.m		4:45 p.m.	B85	<b>The Implementation of Blind Proficiency Testing in Drug Analysis</b> Paula Evans, BS; Aimee R. Grimaldi, MS*; Callan Hundl, BS; Jackeline Moral, MS; Lori Wilson, BS
4:45 p.m	-	5:00 p.m.	B86	Quantifying Uncertainty in Estimations of the Total Weight of Drugs in Groups of Complex Matrices Using the Welch-Satterthwaite Equation  Ivo Alberink, PhD*; Annette Sprong, BSc; Annabel Bolck, PhD; Peter Vergeer, PhD
5:00 p.m	-	5:15 p.m.	B87	WITHDRAWN
5:15 p.m	-	5:30 p.m.	B88	An Analysis of Illicit Drugs in Wastewater: A Forensic Perspective Frederic Been, PhD; Lisa Benaglia, MSc; Robin Udrisard, MSc; Pierre Esseiva, PhD;

Olivier Delémont, PhD\*



### Thursday — Session II

### **Body Fluid Identification and Non-Human Screening**

Moderator:	Sheree R. Hughes-Stamm Sam Houston State Univer Dept of Forensic Science Huntsville, TX	
8:30 a.m.	- 8:50 a.m. <b>B89</b>	Forensic Body Fluid Identification and Differentiation by Raman Spectroscopy Claire Muro, BS*; Kyle C. Doty, BS; Luciana de Souza Fernandes, BS; Igor K. Lednev, PhD
8:50 a.m.	- 9:05 a.m. <b>B90</b>	Accurately Estimating the Time Since Deposition (TSD) of Bloodstains Aged for More Than Two Years  Kyle C. Doty, BS*; Igor K. Lednev, PhD
9:05 a.m.	- 9:20 a.m. <b>B91</b>	Toward Surface-Enhanced Raman Spectroscopy (SERS) -Active Forensic Evidence Swabs for Human Bodily Fluids  Matt Burleson, BS; Katarina G. Ruehl; Vinay G. Bhardwaj, PhD;  Brittania J. Bintz, MSc; David D. Evanoff, Jr., PhD*
9:20 a.m.	- 9:35 a.m. <b>B92</b>	A New Approach Combining In Silico and High-Resolution Melt (HRM) Analysis to Quickly Identify New Loci for Body Fluid Identification Using DNA Methylation Melt Analysis  Joana Antunes, MS*; Vanessa Aguiar-Pulido, PhD; Kuppareddi Balamurugan, PhD; George T. Duncan, PhD; Giri Narasimhan, PhD; Bruce R. McCord, PhD
9:35 a.m.	- 9:50 a.m. <b>B93</b>	The Development and Validation of a Dual-Genus Quantitative Polymerase Chain Reaction (qPCR) Assay for African and Asian Elephants for Forensic Purposes  Merideth J. Fayman, BS; Caitlin Hoey; Meredith Rohrbaugh, MS;  Jillian C. Fesolovich, MSFS*
9:50 a.m.	- 10:05 a.m. <b>B94</b>	The Individualization of Pubic Hair Bacterial Communities and the Effects of Storage Time and Temperature  Diana W. Williams, MSFS*; Greg Gibson, PhD
10:05 a.m.	- 10:20 a.m. <b>B95</b>	The Development and Validation of a New 13-Loci Short Tandem Repeat (STR) Multiplex for Cannabis sativa Genetic Identification Rachel M. Houston, BS*; Sheree R. Hughes-Stamm, PhD; David A. Gangitano, PhD
10:20 a.m.	- 10:35 a.m. <b>B96</b>	The Development and Testing of a Top-Down Proteomic Method for the Confirmatory Identification of Saliva Kevin M. Legg; Heather E. McKiernan, MSFS; Shanan S. Tobe, PhD; Phillip Danielson, PhD; Brianna L. Robbins, BA*
10:35 a.m.	- 10:45 a.m.	Break

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#### Rapid DNA and More

Moderator: Deedra S. Hughes, MFS Co-Moderator: Tracey Dawson Cruz, PhD

Pearl. MS

Virginia Commonwealth University

Richmond, VA

10:45 a.m. - 11:05 a.m. **B97** A Rotationally Driven Microdevice (RDM) and Its Associated Low Footprint

Instrument With the Potential of Fully Automated Integrated DNA Extraction, Polymerase Chain Reaction (PCR) Amplification, and Separation for Forensic

**DNA Analysis** 

Delphine Le Roux, PhD\*; Daniel A. Nelson, PhD; Brandon L. Thompson, MSc;

Jacquelyn A. DuVall, BSc; An-Chi Tsuei, MS; Christopher Birch, PhD; Jingyi Li, PhD;

Daniel Lee Mills, BS; Brian E. Root, PhD; James P. Landers, PhD

11:05 a.m. - 11:20 a.m. B98 A Novel, Extraction-Polymerase Chain Reaction (PCR) Microdevice on a Rotation-

Driven Platform: Buccal Swab to Short Tandem Repeat (STR) Product in Less

**Than Two Hours** 

Jordan Cox, MS\*; Teresa Sikes DeCarmen, MS; Catherine Cupples Connon, PhD;

Kemper Gibson, BS; Kimberly Jackson; James P. Landers, PhD;

Tracey Dawson Cruz, PhD

11:20 a.m. - 11:35 a.m. B99 Ultrahigh-Speed Polymerase Chain Reaction (PCR): A Method for Obtaining

**Short Tandem Repeat (STR) - Based Genotypes in Eight Minutes or Less** 

Georgiana C. Gibson-Daw, MS\*; Bruce R. McCord, PhD

11:35 a.m. - 11:50 a.m. B100 Rapid DNA Analysis for Disaster Victim Identification

Selden Richard, MD\*; Rosemary S. Turingan, PhD; Eugene Tan, PhD

11:50 a.m. - 12:05 p.m. B101 The Recovery of Mitochondrial and Nuclear Touch DNA From Spent

**Cartridge Casings** 

Emily R. Heinz, BS\*; David R. Foran, PhD

12:05 p.m. - 1:05 p.m. Lunch

#### **Deliberations on Y-STR Interpretation: Present and Future**

Moderator: Kristy Kadash, PhD

Jefferson County Regional Crime Lab

Golden, CO

1:05 p.m. - 3:05 p.m. B102 Deliberations on Y-Chromosomal Short Tandem Repeat (Y-STR) Interpretation:

**Present and Future** 

Michael D. Coble, PhD\*; Kristy Kadash, PhD\*; Tamyra Moretti, PhD\*;

Bruce S. Weir, PhD\*

3:05 p.m. - 3:20 p.m. **Break** 



### **Sexual Assault Processing**

Moderator:		drew J. Schwe rthport, NY	ighardt, l	PhD Co-Moderator: Teresa A. Cheromcha, MFS Colorado Bureau of Investigation Grand Junction, CO
3:20 p.m.	-	3:40 p.m.	B103	Evaluating the Efficiency of the Use of the Qiagen® QIAsymphony® With High-Throughput Y-Screening Utilizing Phosphate-Buffered Saline as an Alternative to Conventional Serology Season E. Seferyn, MSFS*; Terry Fenger, PhD; Jason Chute, MSFS
3:40 p.m.	-	3:55 p.m.	B104	Why Perform Y-Screening? Validation of a Novel Sperm Lysis Protocol to Improve Sexual Assault Triaging Victoria Hsieh; David R. Fisher, MS*; Robin W. Cotton, PhD; Jeffrey A. Hickey, MS; Kirsty Mayall, MS; Orion Scott, PhD; David J. Saul, PhD; Delphine Le Roux, PhD; Jacquelyn A. DuVall, BSc; James P. Landers, PhD
3:55 p.m.	-	4:10 p.m.	B105	Proximity Ligation Real-Time Polymerase Chain Reaction (PLiRT-PCR): A Protein-Based Confirmatory Method for Processing Sexual Assault Kit Samples for Semen and Sperm Cells Sarah Riman, PhD*; Daniele S. Podini, PhD
4:10 p.m.	-	4:25 p.m.	B106	Improving Seminal Fluid Detection Sensitivity in Extended Postcoital Intervals by Triple Quadrupole (QQQ) Mass Spectrometry  Heather E. McKiernan, MSFS*; Catherine O. Brown, MSFS; Cameron Logan; Phillip Danielson, PhD
4:25 p.m.	-	4:40 p.m.	B107	Evaluating the Utility of Highly Sensitive Male Quantitative Polymerase Chain Reaction (qPCR) Targets for Simple, Low-Cost, and Rapid Screening of Sexual Assault Samples  Andrew Loftus, PhD*; Gina Murphy, MS; Jonathan S. Tabak;  Anne H. Montgomery, MS; Sudhir K. Sinha, PhD
4:40 p.m.	-	4:55 p.m.	B108	Microchip-Based Antibody-Mediated Differential Lysis of Sperm Cells Molly E. Woodson, BA*; Kemper Gibson, BS; Jordan Cox, MS; Kimberly Jackson; James P. Landers, PhD; Tracey Dawson Cruz, PhD
4:55 p.m.	-	5:15 p.m.	B109	We Did It! Houston's Sexual Assault Kit Backlog Elimination Story Jessica L. Powers, MA*
5:15 p.m.	-	5:30 p.m.	B110	The Development of a Dissolvable Swab for Increased Biospecimen Recovery Blaine Butler, BS*; Nikolai A. Braun, PhD*; Lauren Costella, MS; Robert I. O'Brien, BS; Christopher Tison, PhD



## Friday — Session I

### **Drug Chemistry: Part 2**

Moderator:		eresa B. Brow. ami, FL	ning, MF	S Co-Moderator: Richard David Karasiewski, JD Arlington, VA
8:30 a.m.	-	8:45 a.m.	B111	A Comparison of Methods of Analysis for the Extraction and Identification of Drugs Using Microfluidic Mass Spectrometry (MS) From Different Substrates Emily Lichtenberger, BS*; Michael Roberts, BS; Nelson R. Vinueza, PhD
8:45 a.m.	-	9:00 a.m.	B112	Ionization Efficiency of Drugs Using Direct Analysis in Real-Time Mass Spectrometry (DART®-MS)  Yuriy Uvaydov, MS*
9:00 a.m.	-	9:15 a.m.	B113	Rapid Screening of Emerging Novel Psychoactive Substances (NPS) Using a Portable, Ambient Sampling Mass Spectrometer (MS) Sabra R. Botch-Jones, MS, MA*; Zachary E. Lawton, BS; Alessandra Bruno, BS; David A. Barajas, BA; Jamie R. Wieland, PhD; Michael C. Gizzi, PhD; Christopher Mulligan
9:15 a.m.	-	9:30 a.m.	B114	Optimal Headspace Extraction for the Detection of Volatile Organic Compounds (VOCs) Released From Synthetic Cathinones Using Solid-Phase Microextraction (SPME) for Field Application  Vanquilla L. Shellman, BS*; Kenneth G. Furton, PhD
9:30 a.m.	-	9:45 a.m.	B115	Improving Qualitative Synthetic Cathinone Identification by Gas Chromatography/ Mass Spectrometry (GC/MS) Using Cold Electron Ionization (Cold-EI) Matthew P. Levitas, BS*; Emily Andrews, MFS; Ira S. Lurie, PhD; Ioan Marginean, PhD
9:45 a.m.	-	10:00 a.m.	B116	Using Coupled Columns With Ultra High-Performance Supercritical Fluid Chromatography (UHPSFC) for the Analysis of Synthetic Cathinones Lauriane Tremeau-Cayel*; Ira S. Lurie, PhD
10:00 a.m.	-	10:15 a.m.	B117	The Stability of Select Synthetic Cathinones in Non-Alcoholic Beverages Stephanie L. Oddi, BSc*; Karen S. Scott, PhD
10:15 a.m.	-	10:30 a.m.	B118	Ultraviolet (UV) Spectra of Synthetic Cathinones: Resurrecting an Old Technique Walter F. Rowe, PhD*; Stephanie R. Carnes, BS; Ioan Marginean, PhD; Ira S. Lurie, PhD
10:30 a.m.	-	10:45 a.m.		Break



Moderator: Tiffany Eckert, MS

### **CRIMINALISTICS**

Co-Moderator: Philip R. Antoci, MS

#### Trace Evidence and Chemical Problems: Part 1

120000	Un C	nited States Ar Triminal Inves rest Park, GA	my tigation L	New York City Police Department  Laboratory Crime Laboratory  Jamaica, NY
10:45 a.m.	-	11:00 a.m.	B119	The Evolution of Forensic Household Dust Analysis Over the Past Century Nicholas Petraco, MS*; Jack Ballantyne, PhD; Erin K. Hanson, PhD; Nicholas D. Petraco, PhD; Mary Eng, BS
11:00 a.m.	-	11:15 a.m.	B120	The Probative Value of Very Small Particles (VSPs) Adhering to Common Items of Physical Evidence David A. Stoney, PhD*; Paul L. Stoney, MBA
11:15 a.m.	-	11:30 a.m.	B121	Using Kernel-Based Methods for Inferring the Source of Very Small Particles (VSPs) From Recovered Forensic Materials Douglas E. Armstrong, MSc*; Cedric Neumann, PhD; Christopher P. Saunders, PhD; Donald T. Gantz, PhD; John J. Miller, PhD; David A. Stoney, PhD
11:30 a.m.	-	11:45 a.m.	B122	Forensic Analysis of Trash Bags: Part I — Microscopical Discrimination of

# Deanna-Kaye D. Daley\*; Morgan M. Clothier, BS; Walter F. Rowe, PhD 11:45 a.m. - 12:00 p.m. B123 Forensic Analysis of Trash Bags: Part II — Fourier Transform Infrared (FTIR)

**Trash Bags** 

Spectroscopy and X-Ray Diffraction (XRD)

Morgan M. Clothier, BS\*; Deanna-Kaye D. Daley; Walter F. Rowe, PhD

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

#### **Poster Session**

11:30 a.m.	-	1:00 p.m.	B124	An Assessment of the F-108 Polymer and Capillary Electrophoresis Single-Strand Conformational Polymorphism (CE-SSCP) to Screen Human DNA Mixtures Deidra Jordan, BS*; DeEtta Mills, PhD
11:30 a.m.	-	1:00 p.m.	B125	An Improved Capillary Electrophoresis (CE) System for Human Identification Andrea Chow, MS; Poncho Meisenheimer, PhD; Ann MacPhetridge, MS; Benjamin Krenke, MS*; Douglas R. Storts, PhD
11:30 a.m.	-	1:00 p.m.	B126	A Comparison of Differex <sup>™</sup> and Organic Differential DNA Extractions for the Acquisition of a Male Profile From Samples That Exhibit Mold Growth Beatriz A. Pujols*; Lyndsie N. Ferrara, MS; Lisa R. Ludvico, PhD



11:30 a.m.	-	1:00 p.m.	B127	Effects of Swab Collection and Storage Methods on DNA and Messenger RNA (mRNA) Profiling of Forensic Stains  Daniela Lacerenza, PhD; Giorgio Caudullo, MA; Samuele Voyron, PhD;  Giancarlo Di Vella, MD, PhD*; Carlo Robino
11:30 a.m.	-	1:00 p.m.	B128	A Method for Optimizing Pressure-Based Extraction and Direct Polymerase Chain Reaction (PCR) of Simulated Sexual Assault Samples Meghan Roig, BS*; Vanessa Martinez, BS; Deepthi V. Nori, PhD; Bruce R. McCord, PhD
11:30 a.m.	-	1:00 p.m.	B129	The Use of Direct Polymerase Chain Reaction (PCR) on Semen and Spermatozoa and the Development of a Differential Isolation Protocol Shanan S. Tobe, PhD*; Yuvaneswari Chandramoulee Swaran, PhD; Lynn Dennany, PhD; Ursula Sibbing, PhD; Kristina Schulze Johann, MSc; Lindsey Welch, PhD; Marielle Vennemann, PhD
11:30 a.m.	-	1:00 p.m.	B130	Botanical DNA Evidence in a Case of Illegal Drug Trafficking: The Use of High-Resolution Melting (HRM) With the Internal Transcribed Spacer (ITS) Approach in the Identification of Psychedelic Fungus (Psilocybe sp.)  Alejandra Figueroa, BSc*; David A. Gangitano, PhD; Jaime H. Solano, PhD; Leonardo I. Anabalon
11:30 a.m.	-	1:00 p.m.	B131	<b>DNA Recovery From Waterlogged Bone: A Test of Three Methods</b> Claire M. Cartozzo, MSFS*; Baneshwar Singh, PhD; Edward Boone, PhD; Tal Simmons, PhD
11:30 a.m.	-	1:00 p.m.	B132	Protein Profiling of Decedent Scalp Hairs to Investigate the Potential Mechanisms for the Formation of Postmortem Root Bands  Joseph Donfack, PhD*; Mehdi Moini, PhD; Traci L. Carlson, MS;  Dawnie W. Steadman, PhD; Lee Meadows Jantz, PhD; Hilda S. Castillo, PhD;  Nicholas R. Vercruysse, BA; Jack Hietpas, PhD; JoAnn Buscaglia, PhD;  Brian Eckenrode, PhD
11:30 a.m.	-	1:00 p.m.	B133	The Effect of Using an Extra Polymerase Chain Reaction (PCR) Cycle With GlobalFiler® When Amplifying Skeletal Samples LeAnn M. Harrel, BS*; Sheree R. Hughes-Stamm, PhD
11:30 a.m.	-	1:00 p.m.	B134	Comparative Analysis of Quantity and Overall Quality of Trace DNA Evidence Collected From Substrates Found at Crime Scenes Chad C. Hogan, BS; Lora Bailey Van Houten, MS; Sulekha Coticone, PhD*
11:30 a.m.	-	1:00 p.m.	B135	An Analysis of the Complex Biological Components of Touch DNA  Jenny Waranauskas, BS; Levi L. Borrego; Ray Wickenheiser, MBA; Ashley Hall, PhD*
11:30 a.m.	-	1:00 p.m.	B136	The Evaluation of a Hand-Held Raman Spectrometer for Field Identification of Controlled Substances  Madison Veronica Roussel, BS*; Marilyn T. Miller, EdD; Rebecca C. Nugent, MS; Adam Becne III, MNS



2017				
11:30 a.m.	-	1:00 p.m.	B137	The Evaluation of Portable Hand-Held Raman Systems for the Presumptive Identification of Narcotics  Cristina S. Spicher, BSc*; Ilene K. Alford, MS; Lauren L. Richards-Waugh, PhD; Dustin Tate Yeatman, MS
11:30 a.m.	-	1:00 p.m.	B138	Seized-Drug Mass Spectral Libraries: Data Quality Control Measures William E. Wallace, PhD*; Weihua Ji; Karen W. Phinney; Stephen Stein
11:30 a.m.	-	1:00 p.m.	B139	Evaluation of a New Technology for the Collection and Analysis of Breath Components for Marijuana Detection Using Capillary Microextraction of Volatiles (CMV)  D'Nisha D. Hamblin, MSFS*; Bruce A. Benner, PhD; William A. MacCrehan, PhD; Jose R. Almirall, PhD
11:30 a.m.	-	1:00 p.m.	B140	High-Throughput Analysis of Controlled Substances: Combining Multiple Injections in a Single Experimental Run (MISER) and Liquid Chromatography/Mass Spectrometry (LC/MS)  Sandra E. Rodriguez-Cruz, PhD; Trevor R. Equitz, MA*
11:30 a.m.	-	1:00 p.m.	B141	Using Solid Phase Extraction (SPE) to Reduce Interference in Gas Chromatography/Mass Spectrometry (GC/MS) Analysis of Fire Debris Samples Julia B. Maier, BSc*; Thomas H. Pritchett, MS
11:30 a.m.	-	1:00 p.m.	B142	Developing Quantitative Measurements and Test Materials for Fingerprint Development Reagents Using Inkjet Printing Edward Sisco, MS*; Marcela Najarro, MFS
11:30 a.m.	-	1:00 p.m.	B143	Investigating the Utility of Automated Flash Chromatography in Forensic Drug Analysis Kimberly Setien, BS*; Kyle E. Vircks, MS; Warren C. Samms, PhD
11:30 a.m.	-	1:00 p.m.	B144	The Use of Near-Infrared Spectroscopy (NIRS) and Chemometrics in Evaluating Growth Periods of Cannabis Seeds Seized and Cultivated in a Greenhouse Bruna Tassi Borille, MS; Taís Regina Fiorentin, BS*; Rafael Scorsatto Ortiz, PhD; Kristiane de Cássia Mariotti, PhD; Marcelo Caetano Alexandre Marcelo, MS; Marco Flores Ferrão, PhD; Renata P. Limberger, PhD
11:30 a.m.	-	1:00 p.m.	B145	Forensic Intelligence in Illicit Markets: The Contribution of Chemical Analysis on Counterfeit Watches Sarah Hochholdinger, MSc; Emmanuelle Erne, MSc; Michel Arnoux, MSc; Quentin Rossy, PhD; Pierre Esseiva, PhD; Olivier Delémont, PhD*
11:30 a.m.	-	1:00 p.m.	B146	An Analysis of Ignitable Liquids Using Portable Ion-Trap Gas Chromatography/Mass Spectrometry (GC/MS) With Solid-Phase Microextraction (SPME) Sampling David A. Matthew, MA; Pauline E. Leary, PhD; John D. De Haan, PhD; Arlene M. McGrath*



11:30 a.m.	-	1:00 p.m.	B147	The Utilization of Controlled Odor Mimic Devices to Improve Law Enforcement Canine Training Alice Breia Boone, BSc*; Alison Simon, BS*; Vanquilla L. Shellman, BS*; Lauryn Degreeff-Silk, PhD; Kimberly Peranich, BS; Howard Holness, MBA; Kenneth G. Furton, PhD
11:30 a.m.	-	1:00 p.m.	B148	An Investigation of Factors Affecting the Formation of 3D Fabric Imprint Patterns in Automotive Finishes Rachel E. Downey*; Zoltan Rado, PhD; Ralph R. Ristenbatt III, MS; Wayne Moorehead, MS; Ted R. Schwartz, MS
11:30 a.m.	-	1:00 p.m.	B149	The Characterization and Rapid Detection of Synthetic Cannabimimetic Materials Using Ion Mobility Spectrometry (IMS) for In-Field Forensic Investigations  Jasmine M. Drake, PhD*; CaSandra Cantue; Dominique Giger; Shastazia S. White, BS;  Jessica L. Gutierrez, MS; Jazmyne McKenzie, MS
11:30 a.m.	-	1:00 p.m.	B150	The Identification of Synthetic Cathinones Commonly Found in Designer Drugs Utilizing Liquid Chromatography/Electron Spray Ionization/Quadrupole Time-of-Flight/Mass Spectrometry (LC/ESI/q-TOF/MS) and Direct Analysis in Real-Time-Mass Spectrometry (DART®-MS) Kiana F. Nurideen, BS*
11:30 a.m.	-	1:00 p.m.	B151	The Development of a Unified Gas Chromatography/Mass Spectrometry/Flame Ionization Detector (GC/MS/FID) Method to Determine Various Classes of Synthetic Drugs Using Retention Indices  Sarah Howshall, BSc*; William Campbell, PhD; Jenifer Smith, PhD;  Frank Dorman, PhD
11:30 a.m.	-	1:00 p.m.	B152	The Analysis of the Fatty Acid Content of Fingerprint Residues Using Gas Chromatography/Mass Spectrometry (GC/MS)  Ashley Cochran, BS*; Glen P. Jackson, PhD
11:30 a.m.	-	1:00 p.m.	B153	An Elemental Characterization of Firearms Discharge Residue Using Complexing Agents and Triple Quadrupole Mass Spectrometry (QQQ MS)  William Feeney, BS*; Sydney Brooks, BS; Brittany Yeager, BS; Suzanne Bell, PhD
11:30 a.m.	-	1:00 p.m.	B154	The Analysis of Gunshot Residue and Plastic Deposits From 3D Printed Polymer Firearms  Carol Crowe, BS*; Alex Rugh, MS*; Lisa Casey Yoshida, BS
11:30 a.m.	-	1:00 p.m.	B155	A Study on the Persistence of Gunshot Primer Residue on Clothing Subjected to Handling Christopher P. Chany, MS*; Thomas R. White, BS; Sandy Parent, BS; Juan A. Rojas, BS; Lyndsi DeLaRosa, MS
11:30 a.m.	-	1:00 p.m.	B156	WITHDRAWN



### Trace Evidence and Chemical Problems: Part 2

Moderator:	De <sub>s</sub> US	nes D. Garcia, fense Forensic ACIL rest Park, GA		Center	Co-Moderator:	Kelly M. Elkins, PhD Towson University Chemistry Department and Forensic Science Program Towson, MD
1:00 p.m.	-	1:15 p.m.	B157		Mechanisms of (PMRB) -Like Fo	
1:15 p.m.	-	1:30 p.m.	B158	<b>Data From Acrylic Fiber</b>	s Without Stand ; Nathan Fuenffir	nger, PhD; John V. Goodpaster, PhD;
1:30 p.m.	-	1:45 p.m.	B159	Photobleaching in Cotton During Examination With Amanda Forster; Sydney 1	th Microspectrop	• • •
1:45 p.m.	-	2:00 p.m.	B160	Probing the Effects of In Julie L. Bitter, PhD*; Amo		y in Forensic Fiber Analysis Iney Brooks, BS
2:00 p.m.	-	2:15 p.m.	B161	WITHDRAWN		
2:15 p.m.	-	2:30 p.m.	B162		the Analysis of D	ay Fluorescence (XRF) and Micro ouct Tapes: Intra-Roll and
2:30 p.m.	-	2:45 p.m.	B163		With Interval E	a Nuclear Magnetic Resonance (NMR) xtended Canonical Variate Elise Champeil, PhD*
2:45 p.m.	-	3:00 p.m.	B164	S	ct Volatile Comp	Chromatography/Mass Spectrometry ounds Remaining From the Storage of t, MS
3:00 p.m.	-	3:15 p.m.		Break		



#### Black Box and White Box Studies and Fingerprints

Moderator: Catherine R. Dunn, BS Co-Moderator: Ruth Waddell Smith, PhD

> WA State Patrol Crime Lab Michigan State University Vancouver, WA

School of Criminal Justice

East Lansing, MI

B165 Black Box and White Box Forensic Examiner Evaluations — Understanding 3:15 p.m. - 3:45 p.m.

the Details

R. Austin Hicklin, MS\*; Bradford Ulery, BA; Maria A. Roberts\*;

JoAnn Buscaglia, PhD\*

3:45 p.m. - 4:15 p.m. **B166** The Implications of Latent Print Quality, Black Box, and White Box Studies

R. Austin Hicklin, MS\*; Bradford Ulery, BA; Maria A. Roberts\*;

JoAnn Buscaglia, PhD\*

4:30 p.m. B167 Toward Reform: Implementing Quantitative Methods Into Practice for Latent 4:15 p.m. -

**Print Examination** 

Henry J. Swofford, MSFS\*; Anthony Koertner; Michael J. Salyards, PhD

4:30 p.m. -4:45 p.m. **B168** A Question of Context Within Fingerprint Examinations: Decision-Making

Processes, Contextual Information, and Examiners' Motivation

Francisco Valente Gonçalves, MSc\*

4:45 p.m. -5:00 p.m. B169 Resolving Latent Conflict: What Happens When Latent Print Examiners Enter

the Cage?

Alicia R. Rairden, MS\*; Brandon L. Garrett, JD; Daniel C. Murrie, PhD;

Sharon Kelley, PhD; Amy Castillo, PhD

5:00 p.m. -5:15 p.m. B170 The Evolution of Latent Print Testimony

Heidi Eldridge, MS\*

#### **Criminalistics Believe It or Not!**

Moderator: Deborah L. Merritt, MS Co-Moderator: Sarah Corrigan Serou, MS

> Tucson Police Department Crime Laboratory Jefferson Parish Sheriff's Office

Tucson, AZ Harvey, LA

Reconstruction of Decompositional Events by the Use of an Arthropod 7:00 p.m. - 7:15 p.m. B171

Community on a Large Number of Partially Burnt Human Mummies in the

Catacombe dei Cappuccini in Palermo, Italy

Mark Benecke, PhD\*

B172 DNA Recovered From a Victim's Pockets Solves a Cold Case: A Case Study 7:15 p.m. - 7:30 p.m.

Laura Stanton\*; Nasir A. Butt, PhD; Curtiss L. Jones, MS



7:30 p.m.	-	7:45 p.m.	B173	The Identification of Silk Forgeries  Mehdi Moini, PhD*; Christopher M. Rollman, MFS
7:45 p.m.	-	8:00 p.m.	B174	Lessons From Inside the Barrel: A Forensic Case Report of a Double Gunshot Suicide  Eva Brencicova, MD*; Julia Brünig; Nicole Schwendener, HF;  Melanie Grabmüller, MSc; Christian Jackowski, MD; Christian Schyma
8:00 p.m.	-	8:15 p.m.	B175	Gunshot Residue (GSR) Identification Errors and Sample Significance Bryan R. Burnett, MS*
8:15 p.m.	-	8:30 p.m.	B176	A Post-Incident Investigation of Ammonia Contamination of Food Products in a Cold Storage Facility Kelly L. Wouters, $PhD^*$
8:30 p.m.	-	8:45 p.m.	B177	The Indirect Detection of Bleach (Sodium Hypochlorite) in Bleach-Tainted Infant Eye Drops  David S. Jackson, BS*; John B. Crowe, BS; Lisa A. Kaine, BS;  Adam C. Lanzarotta, PhD; Heather A. McCauley, BS
8:45 p.m.	-	9:00 p.m.	B178	What Happened to Flight MH17?  Peter D. Zoon, PhD*; Reza R.R. Gerretsen, MD; Mayonne Van Wijk, MSc;  Erwin Vermeij

### Friday — Session II

#### **DNA Testimony Past, Present, and Future**

Moderator: Kristy Kadash, PhD

Jefferson County Regional Crime Lab

Golden, CO

8:30 a.m. - 10:30 a.m. B179 DNA Testimony in the Past, Present, and Future

Kristy Kadash, PhD\*; Christopher J. Plourd, JD\*; Ted R. Hunt, JD\*;

Christine Funk, JD\*; Andrea M. Borchardt, MS\*; Elizabeth A. Hewitt, MFS\*;

Suzanna R. Ryan, MS\*; Robin W. Cotton, PhD\*

10:30 a.m. - 10:45 a.m. **Break** 



#### **Postmortem Data**

Moderator: Cyndi Hall, MS Co-Moderator: Amy S. Lee, MFS

> Idaho State Police Forensic Services San Francisco, CA

Meridian, ID

10:45 a.m. - 11:05 a.m. B180 Ashes to Ashes: An Analysis of Enhanced Methods for Genetic Identification of

**Human Cremated Remains** 

Kelly Grisedale, PhD\*; Maureen Hickman, MS

11:05 a.m. - 11:20 a.m. The Short-Term Effects of Surface and Subsurface Burial on DNA From Human **B181** 

**Skeletal Remains** 

Brianna B. Bermudez, BS\*; David R. Foran, PhD

11:20 a.m. - 11:35 a.m. B182 A Specialized Workflow for Charred and Degraded Human Remains That Leads

to Identifications

James Anstead, PhD\*; Kelsy Lowther, MS; Erica Reynaga, MS;

Brandt G. Cassidy, PhD

11:35 a.m. - 11:50 a.m. B183 DNA-Protein Crosslink Reversal and Mitochondrial DNA Amplification From

Formaldehyde-Treated Unknowns From the Korean War

Charla Marshall, PhD\*; Jennifer L. Higginbotham, MFS; Cassandra R. Taylor, BS; Erin M. Gorden, MFS; Kimberly S. Andreaggi, MFS; Suzanne M. Barritt-Ross, MS;

Timothy P. McMahon, PhD

The Success of DNA Testing of Skeletonized Human Remains and the Comparison 11:50 a.m. - 12:05 p.m. **B184** 

of Organic vs. Inorganic Extraction Protocols

Suni M. Edson, MS\*; Stephanie R. Ah Sam, MS

12:05 p.m. -1:05 p.m. Lunch

#### **Mixtures and Statistics**

Moderator: Sarah J. Seashols Williams, PhD Co-Moderator: Rhonda R. Carter, BS

> Virginia Commonwealth University Illinois State Police

Dept of Forensic Science Springfield, IL

Richmond, VA

1:05 p.m. - 1:25 p.m. B185 A Comparison of the Deconvolution and Likelihood Ratios (LRs) Produced Using a

Continuous Probabilistic Software From Low-Level Samples When Amplifying the

**Entire Extract or Splitting the Extract** Todd W. Bille, MS; Michael D. Coble, PhD\*



1:25 p.m.	-	1:40 p.m.	B186	The Application of Short Tandem Repeat (STR) Sequence Variation for the Selection of Novel STR Markers to Enhance DNA Mixture Deconvolution: What Do We Know and Where Are We Headed?  Nicole M. Novroski, MS*; Jennifer D. Churchill, PhD; Jonathan King, MS; Bruce Budowle, PhD
1:40 p.m.	-	1:55 p.m.	B187	Validation of Probabilistic Genotyping Software for Use in Forensic DNA Casework Hinda Haned, PhD; Peter Gill; Kirk Lohmueller, PhD; Keith Inman, MS; Norah Rudin, PhD*
1:55 p.m.	-	2:10 p.m.	B188	Assigning the Number of Mixture Contributors: A Fool's Errand Charles H. Brenner, PhD*
2:10 p.m.	-	2:25 p.m.	B189	The Use of Microhaplotypes in the Analysis and Deconvolution of Mixed DNA Samples Lindsay D. Bennett*; Kelly E. Long, BSc; Rebecca Walter, BS; Sharon C. Wootton, PhD; Chien-Wei Chang, PhD; Robert Lagace, BS; Kenneth Kidd, PhD; Daniele S. Podini, PhD
2:25 p.m.	-	2:40 p.m.	B190	An Error in the Likelihood Ratio: The False Match Probability (FMP)  Mark W. Perlin, PhD, MD*
2:40 p.m.	-	3:00 p.m.	B191	Out of the "Frye" Pan and Into the Fire: KISS Your Judge and Defend Your Probabilistic Genotyping (PG) Software in Court Melissa Mourges, JD*; Martha Bashford, JD*
3:00 p.m.	-	3:15 p.m.		Break

#### **Next Generation Sequencing Methods and Data**

Moderator: Matthew J. Gamette. MS Co-Moderator: Lisa L. Grossweiler, MS

Idaho State Police Forensic Services Quantico, VA

Meridian, ID

3:15 p.m. - 3:35 p.m. B192 **United States Population Sequence Data for 27 Autosomal Short Tandem** Repeat (STR) Loci, 24 Y-Chromosomal Short Tandem Repeat (Y-STR) Loci, and 7 X-Chromosomal Short Tandem Repeat (X-STR) Loci

Katherine B. Gettings, PhD\*; Kevin Kiesler, MS; Becky Steffen, MS; Lisa Borsuk, MS;

Peter M. Vallone, PhD

3:35 p.m. - 3:50 p.m. B193 An Evaluation of the Discriminatory Power, Ancestry Prediction, and Practical

Considerations of the ForenSeq<sup>™</sup> DNA Signature Prep Kit Against Traditional Short Tandem Repeat-Capillary Electrophoresis (STR-CE) Methods

Rebecca Walter, BS\*; Michelle A. Peck, MFS; Kimberly S. Andreaggi, MFS;

Daniele S. Podini, PhD; Charla Marshall, PhD



3:50 p.m.	-	4:05 p.m.	B194	An Evaluation of the ForenSeq <sup>™</sup> System for Sequence-Based Y-Chromosome and Autosomal Short Tandem Repeat (STR) Typing Rebecca Just, PhD; Lilliana I. Moreno, PhD; Jill Smerick, MS; Jodi A. Irwin, PhD*
4:05 p.m.	-	4:20 p.m.	B195	Forensic Analysis of the Entire Mitochondrial Genome on Ion Torrent™ Massively Parallel Sequencing (MPS) Platforms  Jennifer D. Churchill, PhD*; Jonathan King, MS; Bruce Budowle, PhD
4:20 p.m.	-	4:35 p.m.	B196	An Analysis of Highly Degraded DNA From Bone Samples Using Probe Capture Enrichment of the Entire Mitochondrial Genome and Next Generation Sequencing Cassandra R. Taylor, BS*; Rachel M. Gordon, MS; Sarah Copeland, MS; George Sensabaugh, DCrim; Cassandra Calloway, PhD
4:35 p.m.	-	4:50 p.m.	B197	The Evaluation of a Nanopore Sequencing Platform for Concordance and Reliability in Short Tandem Repeat (STR) Analyses Clare M. Diester, BS*; Tracey Dawson Cruz, PhD; Reema Elshaer, BS; Amelia A. Bussell, MSFS; Bonnie Brown, PhD; Sarah J. Seashols Williams, PhD
4:50 p.m.	-	5:05 p.m.	B198	The Development of a Nuclear Single Nucleotide Polymorphism (SNP) Probe Capture Assay for Massively Parallel Sequencing (MPS) of Degraded and Mixed DNA Samples  Nikhil Bose, BS*; Katie Carlberg, MD; George Sensabaugh, DCrim;  Henry Erlich, PhD; Cassandra Calloway, PhD

### Saturday — Session I

### **Developing Leadership and Management Skills**

Moderator:	Elizabeth Ziolkowski, MS	Co-Moderator:	Agnes D. Winokur, MS
	USPS Forensic Laboratory Services		DEA/Southeast Laboratory
	Dulles, VA		Miami, FL

8:30 a.m.	-	10:00 a.m.	B199	Toward a Vision of a National Forensic Science Academy Specializing in Leadership and Management  Barry A.J. Fisher, MS, MBA*; John Morgan, PhD*; Jody M. Wolf, MS*;
				Martina Bison-Huckaby*
10:00 a.m.	_	10:15 a.m.		Break



#### **Current Affairs**

Moderator:	Steven O'Dell, N Baltimore Police Crime Lab Baltimore, MD		Co-Moderator: Dennis C. Hilliard, MS RI State Crime Laboratory Kingston, RI		
10:15 a.m.	- 10:30 a.m.	Data From the Federal Bureau of Investi Hair Comparison Laboratory Reports an Cary T. Oien, MS; Marc A. LeBeau, PhD*	·		
10:30 a.m.	- 10:45 a.m.	The Organization of Scientific Area Com Highlights Recent Standards and Baselin	,		

10:45 a.m.	_	11:00 a.m.	B202	Demolishing Divides: A Discourse on the Dearth of Discipline Differences
				Between DNA and Dactyloscopy  John M. Butler, PhD*; Heidi Eldridge, MS*

John P. Jones II, MBA\*

11:00 a.m.	-	11:15 a.m.	B203	The National Institute of Standards and Technology (NIST) Trace Evidence Data Workshop: Discussions on a Path Forward for Trace Evidence Analysis
				Shannan Williams, MA*

11:15 a.m.	-	11:30 a.m.	<b>B204</b>	What Can We Learn From the Coverdell Grants? Data Mining the Coverdell
				Grants to Assess Their Impact on the Forensic Community
				Luther S. Schaeffer MSc*

11:30 a.m.	-	11:45 a.m.	B205	Polymer Replication of Cartridge Cases for Proficiency Testing and
				Evidence Transfer
				Thomas B. Renegar, BS*; Xiaoyu A. Zheng, MS; Michael T. Stocker;
				Robert M. Thompson, BS; Theodore V. Vorburger, PhD; Junfeng J. Song, MS;
				Johannes A. Soons, PhD; James H. Yen, PhD

11:45 a.m.	-	12:00 p.m.	<b>B206</b>	We're Not as Good as We Think, But We're Not as Bad as They Say: The Need
				for an Objective Look at the Challenges and Perceived Issues Within
				Forensic Sciences

Vincent J. Desiderio, Jr., MS\*



#### Saturday — Session II

#### **Trace DNA Samples and Improving Yields**

Moderator: Christie W. Smith, MS Co-Moderator: James M. Robertson, PhD

Tennessee Bureau of Investigation

Memphis, TN FBI Laboratory
Quantico, VA

8:30 a.m. - 8:50 a.m. B207 The Importance of a Combined DNA Index System (CODIS) DNA Hit Follow-Up: A Case Review of Secondary DNA Transfer and the Individual Wrongfully

Charged With Murder

Tahnee Nelson Mehmet, MSFS\*

8:50 a.m. - 9:10 a.m. B208 Exploring the Relationship Between Quantitative Polymerase Chain Reaction

(qPCR) and Short Tandem Repeat (STR) Data for Compromised, Low-Template

**CFSRU** 

**DNA Samples** 

Lauren E. Alfonse, MS\*; Amanda D. Garrett, MS; Catherine M. Grgicak, PhD

9:10 a.m. - 9:30 a.m. B209 Touch DNA: "Touch" Time and Resiliency

Francesco Sessa, MS\*; Benedetta Tomaiuolo, BS; Stefania C. Bello, MD;

Irene Riezzo, MD, PhD

9:30 a.m. - 9:45 a.m. B210 Increasing DNA Recovery With Nylon Flock Swabs and One-Step Spin Baskets

Angela Ambers, MA; Rachel E. Wiley, MFS; Nicole M. Novroski, MS;

Bruce Budowle, PhD\*

9:45 a.m. - 10:00 a.m. B211 Alternative Reducing Agents for DNA Extraction

Megan E. Grimes, MFS\*; Mark F. Kavlick, MPhil

10:00 a.m. - 10:15 a.m. **Break** 

#### **Quality and Policy Topics**

Moderator: Uyen N. Henson, MS

Garland, TX

10:15 a.m. - 10:45 a.m. B212 An Analysis of an Internal Validation Dataset for the New Core Short Tandem

Repeat (STR) Loci

Sarah Riman, PhD\*; Erica L. Romsos, MFS; Peter M. Vallone, PhD

10:45 a.m. - 11:00 a.m. B213 A Survey on Serological and DNA Typing Methods in United States

**Forensic Laboratories** 

Jeannie Do, BS\*; Daniele S. Podini, PhD



11:00 a.m. - 11:20 a.m. **B214** The PROVEDIt Initiative: The Development and Release of a Collection of Computational Tools and a Large-Scale Empirical Data Set for Forensic **Research and Validation** Lauren E. Alfonse, MS; Amanda D. Garrett, MS; Harish Swaminathan, PhD; Kelsey C. Peters, BS; Genevieve Wellner, MS; Lauren M. Taranow, BA; Jennifer L. Sheehan, BS; Sarah E. Norsworthy, BA; Desmond S. Lun, PhD; Ken Duffy, PhD; Muriel Medard, ScD; Robin W. Cotton, PhD; Catherine M. Grgicak, PhD\* 11:20 a.m. - 11:40 a.m. **B215** The Development of the National Institute of Standards and Technology (NIST) Standard Reference Material (SRM) 2391d: The Next Iteration of the Polymerase Chain Reaction (PCR) -Based DNA Profiling Standard Becky Steffen, MS\*; Margaret C. Kline, MS; David L. Duewer, PhD;

Michael D. Coble, PhD; Peter M. Vallone, PhD



### Wednesday

#### **Poster Session**

11:30 a.m.	-	1:00 p.m.	C1	The Development and Preliminary Application of the New "ForensicSW" Software for Image Analysis Kim Younsu, PhD*; Jin Young Lee
11:30 a.m.	-	1:00 p.m.	C2	An Analysis of a Photocopier Hard Drive for Forensically Relevant Artifacts Trevor Bobka, BS*; Ian Levstein, MS; Nevin Westurn, BSc; Terry Fenger, PhD

### Thursday

### **Multimedia Forensics 1**

Moderator:	Spencer Ledesma, MS Cypress, TX	Co-Moderator: Alex J. Nelson, PhD Gaithersburg, MD
8:30 a.m.	- 8:55 a.m. <b>C3</b>	A Text-Independent, Automatic Speaker Recognition System Evaluation With Males Speaking Both Arabic and English Safi S. Alamri, MS*
8:55 a.m.	- 9:20 a.m. <b>C4</b>	Closing the Performance Gap in Forensic Speaker Recognition Reva Schwartz, $MA^*$
9:20 a.m.	- 9:45 a.m. <b>C5</b>	"HAND-ling" Daubert: A Photographic Comparison Case Study Christina A. Malone, MFS*; Carl R. Kriigel, MA
9:45 a.m.	- 10:10 a.m. <b>C6</b>	Tool Testing and Comparison: Recovery of Snapchat <sup><math>m</math></sup> Pictures From Mobile Device Unallocated Space Joseph Levi White, $MS^*$
10:10 a.m.	- 10:25 a.m.	Break



#### **Multimedia Forensics 2**

Moderator: Christina A. Malone, MFS Co-Moderator: Gregory S. Wales, MSc

Atlanta, GA U.S. Department of Interior, OIG

Computer Crimes Unit Digital Forensic Lab Lakewood, CO

10:25 a.m. - 10:50 a.m. **C7** Forensic Image and Video Enhancement: Methodology for Improved Efficacy

and Error Mitigation

Spencer Ledesma, MS\*

10:50 a.m. - 11:15 a.m. **C8** Structure and Format Analysis of Lossy Compressed Audio Files

Catalin Grigoras, PhD\*; Jeff M. Smith, MS

11:15 a.m. - 11:40 a.m. **C9 Media Forensics and Microphones** 

Eddy B. Brixen, BA\*

An Analysis of Apple® iOS® Version Effects on Format and Metadata Structure of 11:40 a.m. - 12:05 p.m. C10

> Audio Files Recorded Using the Native "Voice Memos" App Jeff M. Smith, MS\*; Douglas S. Lacey, BS\*; Catalin Grigoras, PhD;

Bruce E. Koenig, MFS

12:05 p.m. - 1:25 p.m. Lunch

#### **Poster Session**

An Analysis of Digital Forensic Units 11:30 a.m. -1:00 p.m. C11

Kaitlyn Gurule, BS\*; Kathryn C. Seigfried-Spellar, PhD\*; Marcus Rogers, PhD

#### **Multimedia Forensics 3**

Co-Moderator: Breck Christopher McDaniel, MS Moderator: Jason Lewis, PhD

University of the Virgin Islands Cellular Evidence Services, LLC

Houston, TX Department of Computer & Computational Sciences

St. Thomas, VI

1:25 p.m. - 1:50 p.m. C12 Image Correction and Enhancement With the Apparatus for Actual Measurement

of Image Degradation Properties in Security Cameras

Kenji Kurosawa\*; Ken'ichi Tsuchiya, PhD; Norimitsu Akiba, PhD; Kenro Kuroki, PhD; Daisuke Imoto, MS; Hidetoshi Kakuda, PhD; Manato Hirabayashi, MS



1:50 p.m	2:15 p.m.	C13	Automatic Removal of Face Features in Video for Purposes of Visual Anonymity Using Statistical Learning and Meaningful Face Color Detection Leonid I. Rudin, PhD*
2:15 p.m	2:40 p.m.	C14	Open Source Automatic Facial Comparison Algorithms' Potential Application in Forensics Angeliki Fydanaki, MFS*; Zeno J. Geradts, PhD*
2:40 p.m	3:05 p.m.	C15	Accurate Video Reconstruction and Metadata Extraction From a Self-Executing Video File  Matthew Case, PhD*
3:05 p.m	3:25 p.m.		Break

### **Digital Forensics 1**

Moderator: Joseph Levi White, MS Co-Moderator: Jonathan Ystad, MPS Brooklyn, NY

U.S. Army Criminal Investigation Laboratory

Digital Evidence-CFI Forest Park, GA

3:25 p.m.	-	3:50 p.m.	C16	<b>Pokémon™ GO® Forensic Artifacts: An Exploratory Study</b> <i>Joseph Levi White, MS*; Carl R. Kriigel, MA*; Julie Robyn Constantine, MS</i>
3:50 p.m.	-	4:15 p.m.	C17	Digital Stratigraphy: Analyzing File Allocation Methods to Uncover Concealment Behavior Eoghan Casey, PhD*
4:15 p.m.	-	4:40 p.m.	C18	Paired Apple® Watch® Forensics Yoshitaka Takase, MS*
4:40 p.m.	-	5:05 p.m.	C19	Experience Validating Disk-Imaging Tools With Computer Forensic Tool Testing (CFTT) Federated Testing  James R. Lyle, PhD*; Barbara Guttman, BA; Benjamin R. Livelsberger, MS



#### **Friday**

#### **Digital Forensics 2**

Moderator: Patrick A. Eller, MS Co-Moderator: J. Roger Schermerhorn, MS

U.S. Army Criminal Investigation Command
Missouri City, TX

Quantico, VA

8:30 a.m. - 8:55 a.m. C20 An Anatomy of a Knockoff

Mark D. Guido, MS\*; Justin Grover, MS\*; Eric Katz, MS; Kyle Anthony, MS

8:55 a.m. - 9:20 a.m. C21 A Forensic Investigation of Drones

Niels ter Bork, BS; Zeno J. Geradts, PhD\*

9:20 a.m. - 9:45 a.m. C22 Joint Task Action Group (JTAG) Phone Forensics

William Charles Easttom II, MBA\*

9:45 a.m. - 10:10 a.m. C23 Joint Task Action Group (JTAG) Data Extraction and Analysis

Jenise Reyes-Rodriguez, BS\*; Richard Ayers, MS

10:10 a.m. - 10:25 a.m. **Break** 

#### **Digital Forensics 3**

Moderator: Irfan Ahmed, PhD Co-Moderator: William E. Folson, MS

University of New Orleans York Digital Forensics Laboratory

New Orleans, LA York, PA

10:25 a.m. - 10:50 a.m. C24 Personality Characteristics of Computer Hackers: A Systematic Review and

Meta-Analysis

Marcus Rogers, PhD\*; Kathryn C. Seigfried-Spellar, PhD\*

10:50 a.m. - 11:15 a.m. C25 Detecting Causality Through Fine-Grain Logging in Digital Investigations

Golden G. Richard III, PhD; Aisha Ali-Gombe, MS\*

11:15 a.m. - 11:40 a.m. C26 Supervisory Control and Data Acquisition (SCADA) Forensics: Network Traffic

Analysis for Extracting a Programmable Logic Controller (PLC) System and

**Programming Logic Files** 

Irfan Ahmed, PhD\*

11:40 a.m. - 12:05 p.m. C27 Assessing the Psychological Well-Being and Coping Mechanisms for Law

**Enforcement Investigators and Digital Forensic Examiners of Child** 

**Pornography Investigations** 

Kathryn C. Seigfried-Spellar, PhD\*

12:05 p.m. - 1:25 p.m. Lunch



#### **Poster Session**

11:30 a.m. - 1:00 p.m. C28 A 3D Study of Facial Mimicry: A New Approach for the Identification of Missing Children
 Niccolò Barla, MD; Serena Maria Curti, MD\*; Guglielmo Ramieri, MD;
 Giancarlo Di Vella, MD, PhD; Laura Verzé, MD
 11:30 a.m. - 1:00 p.m. C29 Behavioral Forensic Analysis, Biometrics, and Social Media — A New Investigative Tool
 Paola Giannetakis, PhD\*; Walter Quattrociocchi, PhD\*; Vinicio Pelino, MS\*;
 Luigi Saravo, PhD\*

#### **Digital Forensics 4**

Moderator:	Pe. Co	hn J. O'Brien, nnsylvania O <u>f</u> mputer Foren rth Huntingdo	fice of Att sics Unit	Co-Moderator: Kathryn C. Seigfried-Spellar, PhD torney General Purdue University Computer and Information Technology West Lafayette, IN
1:25 p.m.	-	1:50 p.m.	C30	Advances in Automated Content Carving Michael Haaf, MS; Eric Shirk, BS; Chris Poldevaart, BS; Eoghan Casey, PhD*; Joseph Lewthwaite, BS
1:50 p.m.	-	2:15 p.m.	C31	Challenges in Determining End-User Actions Based on Cloud Repository Metadata Darcie Lynn Winkler, MSFS*
2:15 p.m.	-	2:40 p.m.	C32	The Acquisition and Analysis of Evidence From Cloud and Internet of Things (IoT) Services  Vassil Roussev, PhD*
2:40 p.m.	-	3:05 p.m.	C33	Representing and Exchanging Cyber-Investigation Information in a Standard Format  Sean Barnum, BS; Eoghan Casey, PhD*; Ryan Griffith, BS; Jonathan Snyder, BS
3:05 p.m.	-	3:30 p.m.	C34	Vehicle Forensics: A Tale of Two Cars

\*Presenting Author 165

Celia Whelan; John E. Sammons, MS\*; Brian K. McManus, BS; Terry Fenger, PhD



### Wednesday

#### **Poster Session**

11:30 a.m.	-	1:00 p.m.	D1	Can Gait Recognition Using Coupled Non-Linear Oscillators Overcome Intra-Individual Variability?  Daisuke Imoto, MS*; Kenji Kurosawa; Ken'ichi Tsuchiya, PhD; Kenro Kuroki, PhD; Norimitsu Akiba, PhD; Hidetoshi Kakuda, PhD; Manato Hirabayashi, MS
11:30 a.m.	-	1:00 p.m.	D2	A Forensic Analysis of Flora Damage Caused by an Environmental Disaster at Mariana, Brazil  Carlos Alberto Trindade*
11:30 a.m.	-	1:00 p.m.	D3	An Environmental Forensic Analysis at the Doce River Estuary: A Tool for Damage Assessment in a Major Tailings Dam Break in Brazil Alexandre Klotz, MD*; Leonardo Resende, BA; Daniel Domingues, MD; Rodrigo Mayrink, MA; Luiza Teixeira, BA

## Thursday

### Low Price or High Performance?

Moderator:	AI $U$	avid Pienkows B Chandler Ho niversity of Ke exington, KY	ospital	Co-Moderator:	Michelle R. Hoffman, MS Forensic Injury Analysis, LLC Tempe, AZ	
8:30 a.m.	-	8:40 a.m.	D4	Low Price or High Performance?  David Pienkowski, PhD*		
8:40 a.m.	-	9:30 a.m.	D5	Vehicle Fuel Systems: Low Performance at a High Cost to Motorists Mark C. Pozzi, MS*; Kenneth J. Saczalski, PhD*		
9:30 a.m.	-	9:45 a.m.	<b>D6</b>	Richard III — Finding a King: High Personal V. Hainsworth, PhD*; Kevin Schurer		
9:45 a.m.	-	10:35 a.m.	D7	A Comparison of Modern Youth Footbal Performance With Measurements Made Fatally Injured High School Player Kenneth J. Saczalski, PhD*; Mark C. Pozz, Joseph L. Burton, MD; Mark N. West, BS	in 1992 for the Helmet Design of a	



10:35 a.m. - 11:05 a.m. **Discussion** 

David Pienkowski, PhD\*; Mark C. Pozzi, MS\*; Kenneth J. Saczalski, PhD\*;

Sarah V. Hainsworth, PhD\*

11:05 a.m. - 11:15 a.m. **Break** 

#### Vision, Visibility, and Human Injury

Moderator:	David Pienkows AB Chandler Ho University of Ke Lexington, KY	spital	Co-Moderator:	Kurt D. Weiss, MS Automotive Safety Research Santa Barbara, CA
11:15 a.m.	- 11:30 a.m.	D8	Visibility and Lighting Aspects of Percei Walkway Surface: A Case Study James B. Hyzer, PhD*	ving a Liquid Slip Hazard on a
11:30 a.m.	- 11:45 a.m.	D9	A Forensic Engineering Review of Vision Adam Aleksander, PhD*	n in Automobile Crashes: Part I
11:45 a.m.	- 12:00 p.m.	D10	A Forensic Engineering Review of Vision Adam Aleksander, PhD*	n in Automobile Crashes: Part II
12:00 p.m.	- 1:00 p.m.		Lunch	

#### **Poster Session**

11:30 a.m.	-	1:00 p.m.	D11	A Computer Simulation for Use in Impact Force Evaluations: Studies on the Correlation Between Impact Force and Finger Bone Fracture  Momoko Watanabe*; Yasumi Ito, PhD; Yoshiyuki Kagiyama, PhD; Tatsuya Fukuoka; Shohei Daimaru; Tetsuya Nemoto, PhD
11:30 a.m.	-	1:00 p.m.	D12	Basic Research on the Development of Crash Dummy Skin for Risk Evaluation of Fracture and Skin Injury
				Yasuhiro Nishio*; Yasumi Ito, PhD; Ryotaro Kishida; Shohei Daimaru; Yoshiyuki Kagiyama, PhD; Tatsuya Fukuoka; Tetsuya Nemoto, PhD
11:30 a.m.	-	1:00 p.m.	D13	Multivariate Analysis Applied to Sawed-Off Shotgun Pellet Dispersion Diva Carcamo, BS; Erica Sepulveda, BS; Cristian F. Lizama, BS*; Alejandra Figueroa, BSc; Ramiro Diaz
11:30 a.m.	-	1:00 p.m.	D14	Wildlife Forensic Examinations in the Largest Dam Collapse in the History of World Mining Rodrigo Mayrink, MA*; Daniel Domingues, MD; Ana Luiza Queiroz, BA; Marcus Vinicius de Oliveira Andrade, MSc; Marcela Nishimoto, BA



#### Data Integrity in Forensic Science and Engineering

Moderator:	David Pienkowski, PhD AB Chandler Hospital University of Kentucky Lexington, KY	Co-Moderator: John Nixon, CEng, MBA ARC Bippus, IN		
1:00 p.m.	- 1:10 p.m. <b>D15</b>	Data Integrity in Forensic Science and Engineering  David Pienkowski, PhD*		
1:10 p.m.	- 1:55 p.m. <b>D16</b>	The Deaths of Children in Moderate-Speed, Rear-End Impacts — Are They Unfortunate Accidents or Manslaughter? Discussions on the Ethical and Moral Obligations of Manufacturers and the Government to the Consumer Mark C. Pozzi, MS*; Kenneth J. Saczalski, PhD*; Todd Saczalski, BSMET		
1:55 p.m.	- 2:10 p.m. <b>D17</b>	Data Integrity in Forensic Engineering — Spoliation and Loss of Evidence Helmut G. Brosz, BASc, PEng*		
2:10 p.m.	- 2:55 p.m. <b>D18</b>	Scientific Data Integrity and Engineering Ethics: Test Manipulation, Data Alteration, Elimination of Safety Regulations, and the Theft of Scientific Records  Mark C. Pozzi, MS*; Kenneth J. Saczalski, PhD*; Todd Saczalski, BSMET		
2:55 p.m.	- 3:05 p.m. <b>D19</b>	Checking Canine and Handler Credentials Entering a Crime Scene and Evidence Contamination  Jen Hickok, BS*		
3:05 p.m.	- 3:35 p.m. <b>D20</b>	May the Best Liar Win! Lies, Fraud, Intimidation, Deception, Bias, Error, and Incompetence at Work Within Our Courts  John Nixon, CEng, MBA*		
3:35 p.m.	- 4:05 p.m.	<b>Discussion</b> David Pienkowski, PhD*; Mark C. Pozzi, MS*; Kenneth J. Saczalski, PhD*; Helmut G. Brosz, BASc, PEng*; Jen Hickok, BS*; John Nixon, CEng, MBA*		

#### **Forensic Linguistics**

4:05 p.m. - 4:15 p.m.

Moderator: David Pienkowski, PhD

AB Chandler Hospital University of Kentucky Lexington, KY

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4:15 p.m. - 4:45 p.m. **D21 Proper (and Improper) Handling of Data and Analysis in Forensic Linguistics** 

Carole È. Chaski, PhD\*

Break

4:45 p.m. - 4:50 p.m. **Break** 



### **Buildings and Forensic Investigations**

Moderator:	David Pienkowski, PhD AB Chandler Hospital University of Kentucky Lexington, KY			Co-Moderator:	Harold Franck, MSEE Advanced Engineering Associates, Inc. Charleston, WV
4:50 p.m.	-	5:00 p.m.	D22	Forensic Microscopy and Reverse Engin Building Product Identification James Millette, PhD*	eering in Asbestos-Containing
5:00 p.m.	-	5:15 p.m.	D23	Why Engineers Are Named in Construct Arise Between the Building Code, Engin Michael D. McDowell, MS*	
5:15 p.m.	-	5:30 p.m.	D24	The Fire Marshal and Forensic Fire Inve S.B. Addison Larson, BA*	estigation

### **Friday**

### **Human Injury Analyses and Case Studies**

Moderator:	Fo	chelle R. Ho <u>f</u> rensic Injury npe, AZ			David Pienkowski, PhD AB Chandler Hospital University of Kentucky Lexington, KY
8:30 a.m.	-	8:45 a.m.	D25	Vaginal and Colorectal Injuries From a F Falling Into the Water at Speed Michelle R. Hoffman, MS*; Carley C. Wara	
8:45 a.m.	-	9:00 a.m.	D26	The Time Needed to Exit a Stationary Ve Highway Speed, for a Passenger to Open Robert L. Anderson, MS*; Robert D. Anders Michael Rosenfield, BS	a Vehicle Door Wide Enough to Exit
9:00 a.m.	-	9:20 a.m.	D27	Engineering Investigations of Quadriples Laura L. Liptai, PhD*; Jamie O. Norman,	-
9:20 a.m.	-	9:30 a.m.	D28	Fatal Launch: Fireworks Fatality and the Recoil Force Kendall V. Crowns, MD*; Bonnie C. Robert Joseph J. Beaman, ScD	



9:30 a.m.	-	9:45 a.m.	D29	Updating the Injury Reconstruction Methodology: An Exemplar Motor Vehicle Crash (MVC) Case Involving Restraint and Intrusion Issues  David J. Porta, PhD*
9:45 a.m.	-	10:00 a.m.	D30	Age Effects on Bending Fracture Patterns in Ovine Femora Patrick E. Vaughan, BS*; Feng Wei, PhD; Roger C. Haut, PhD
10:00 a.m.	-	10:15 a.m.	D31	Electrocution Precipitated by a Flying Duck Helmut G. Brosz, BASc, PEng*
10:15 a.m.	-	10:30 a.m.		Break

### **Technical Methods in Forensic Science and Engineering**

Moderator:	David Pienkowski AB Chandler Hosp University of Kent Lexington, KY	pital	
10:30 a.m.	- 10:45 a.m.	D32	Using Finite Element Modeling to Extend Non-Contact Age Estimation of Blood Stains to Complex Blood Stain Morphologies  Leah Wilk*; Maurice Aalders
10:45 a.m.	- 11:00 a.m.	D33	3D Surface-Scanning Techniques: Current Use, Limitations, and Improvement Propositions Stella Fahrni*; Olivier Delémont, PhD; Lorenzo Campana; Fabrice Dedouit, MD, PhD; Silke Grabherr, PhD
11:00 a.m.	- 11:15 a.m.	D34	The Use of Strava in Bicycle Collision Analysis — A Case Study Kurt D. Weiss, MS*
11:15 a.m.	- 11:30 a.m.	D35	Data Integrity Issues for Micro-Computed X-Ray Tomography (μ-CT) in Forensic Applications Sarah V. Hainsworth, PhD*; Guy N. Rutty, MD
11:30 a.m.	- 11:45 a.m.		Break

#### **Poster Session**

11:30 a.m.	-	1:00 p.m.	D36	A Methodologies Comparison of Crimes Against the Environment in the Brazilian Amazon Harley A. Moraes, MSc*
11:30 a.m.	-	1:00 p.m.	D37	Technical Guiding Elements for Forensic Analysis of Tailings Dam Breaks: A Case Study From the Brazilian Federal Police Leonardo Souza*



### Physical Evidence, Mechanical Design, and Human Injury

Moderator:	David	Pienkow	ski.	PhD

AB Chandler Hospital University of Kentucky

	University of Ke Lexington, KY	entucky			
11:45 a.m.	- 12:00 p.m.	D38	Takata Airbag Inflator Module Failure and Metal Fragment Analysis: Death Number Nine Richard S. Brown, MS*		
12:00 p.m.	- 12:15 p.m.	D39	Vehicle Interior Surface Witness Marks Observed in the Analysis of Traffic Collisions Kurt D. Weiss, MS*; Michelle R. Hoffman, MS*		
12:15 p.m.	- 12:30 p.m.	D40	An Array of ZnO and SnO2 Heterojunction Semiconducting Metal Oxide Gas Sensors Used as a Tool for Explosive Detection  Lauren Horsfall, Mres*; Christopher S. Blackman, PhD; Ivan P. Parkin, PhD		
12:30 p.m.	- 12:45 p.m.	D41	A Discussion of Testing Methods to Understand the Interaction of Power Brake Boost and Power Steering Boost in Ford® Hydro-Boost Systems in Panic Braking Situations Michael Rosenfield, BS*; Mark W. Arndt, BSME		



## Wednesday

### **Poster Session**

11:30 a.m.	-	1:00 p.m.	E1	Bloodstain Pattern Analysis Using 3D Laser Scanning Technology Megan L. Jackson, BS; David J. Millard, MS; Marilyn T. Miller, EdD*
11:30 a.m.	-	1:00 p.m.	E2	A Combined Method of Detection for Organic and Inorganic Gunshot Residue (GSR)  Lauren Gandy*; Molly Terry; Candice Bridge, PhD
11:30 a.m.	-	1:00 p.m.	E3	Automated Fingerprint Identification System (AFIS)-Based Likelihood Ratios for Latent Fingerprint Comparisons Shreya Kamath, BS*; Keith B. Morris, PhD
11:30 a.m.	-	1:00 p.m.	E4	The Use of Near Infrared Spectroscopy (NIRS) to Discriminate Wood Species and Determine Their Origins  Marcelo G. Barros*; Jez W. Braga, PhD
11:30 a.m.	-	1:00 p.m.	E5	Development and Validation of an Analytical Protocol for the Characterization of Lubricant Evidence Mark Maric, PhD*
11:30 a.m.	-	1:00 p.m.	<b>E6</b>	Distinguishing Condom Lubricants From Personal Hygiene Products (PHPs) Using Direct Analysis in Real Time-Time-of-Flight/Mass Spectrometry (DART®-TOF/MS) Yasmine Moustafa, BS*; Candice Bridge, PhD
11:30 a.m.	-	1:00 p.m.	E7	High Resolution Accurate Mass (HRAM) Liquid Chromatography/Mass Spectrometry (LC/MS) Screen for Prostaglandins Found in Consumer Products Bethany Hanson, PhD*; Valerie M. Toomey, BS
11:30 a.m.	-	1:00 p.m.	E8	Bioaffinity-Based Concepts in Forensic Serology Juliana M. Agudelo, BSc*; Erica K. Brunelle, BSc*; Crystal Huynh*; Lenka Halamkova, PhD; Leif McGoldrick, BS*; Jan Halámek, PhD*
11:30 a.m.	-	1:00 p.m.	E9	Single Analyte Bioaffinity-Based Assays for Body Fluid Analysis Leif McGoldrick, BS*; Juliana M. Agudelo, BSc*; Erica K. Brunelle, BSc*; Crystal Huynh*; Lenka Halamkova, PhD; Jan Halámek, PhD*
11:30 a.m.	-	1:00 p.m.	E10	A Comparison of Tenprint Examiner and Latent Print Examiner Minutiae Annotation Beth H. Sanchez, MFS*; Ismail M. Sebetan, MD, PhD*; Paul Stein, PhD*; Kari Coronado, MFS*
11:30 a.m.	-	1:00 p.m.	E11	Analysis Using Applied Biosystems® Quantifiler® Trio With a Y-Screening Technique at the West Virginia State Police Forensic Laboratory Marissa Bussard*; Meredith Chambers, MSFS; Melissa Runyan, MSFS; Season E. Seferyn, MSFS; Pamela J. Staton, PhD



11:30 a.m.	-	1:00 p.m.	E12	Analysis of Blood Spatter Formation on Stain-Resistant Fabrics Lauren Taddeo*; Lyndsie N. Ferrara, MS
11:30 a.m.	-	1:00 p.m.	E13	A Retrospective Analysis of the Prevalence and Characteristics of Child Maltreatment in Southern Italy Debora De Bartolo, MD*; Francesco Ausania, MD; Ester de Luca, MD*; Santo Gratteri, MD; Pietrantonio Ricci
11:30 a.m.	-	1:00 p.m.	E14	Putting a Name to a Face: An Updated Methodology for the Application of Forensic Facial Reconstruction of Unidentified Skeletal Remains Katelyn Norman, BFA*
11:30 a.m.	-	1:00 p.m.	E15	Initial Efforts to Create Local Libraries of Alcoholic Beverages Using Raman and Attenuated Total Reflectance/Mid-Infrared (ATR/Mid-IR) Spectroscopy Hui Tian, BS*; Carlos Peroza, PhD; Haley Gilman
11:30 a.m.	-	1:00 p.m.	E16	New Suggestions and Modifications in the Extraction, Analysis, and Detection of Eight Organic Post-Explosion Traces  Ahmed Mamdouh Bendary, PhD*; Muhamed Ismail, PhD
11:30 a.m.	-	1:00 p.m.	E17	WITHDRAWN
11:30 a.m.	-	1:00 p.m.	E18	Greenhouse Evaluations of Volatile Plant Defense Against an Invasive Agricultural and Environmental Biothreat Agent, <i>Raffaelea Lauricola</i> , and Possible Implications for Canine Detection Alison Simon, BS*; Kenneth G. Furton, PhD

## Thursday

Moderator:	Off	ra Frame-Nev fice of the Chi chmond, VA	,	Co-Moderator: Ivan M. Kaminsky, MS, MEd Chandler Police Department Chandler, AZ	
8:30 a.m.	-	8:45 a.m.	E19	Veterinary Forensics and Large Animal Deaths Cheryl F. Nelson, DVM*	
8:45 a.m.	-	9:00 a.m.	E20	Characterization of Controlled Odor Mimic Permeation Systems (COMPS) Containing Live Training Aids for Utilization by Detection Canines Alison Simon, BS*; Kenneth G. Furton, PhD	
9:00 a.m.	-	9:15 a.m.	E21	<b>Detecting Human Remains in Fatal Fires Using Cadaver Dogs</b> <i>Mary E. Cablk, PhD*</i>	
9:15 a.m.	-	9:30 a.m.	E22	Crime Scene Videography Revisited: Combining Digital Single-Lens Reflex (DSLR) Camera's Videography Capabilities With Photography Kevin J. Parmelee. PhD*	



9:30 a.m.	- 9:45 a.m.	E23	Introducing a Methodology to Process Digital Images for Investigation, Intelligence, and Evaluation Purposes: Combining Forensic and Managerial Perspectives  Simon Baechler, PhD*
9:45 a.m.	- 10:00 a.m.	E24	You Didn't Tell Me That! Thank You for Letting Me Know That! — The Importance of Evidence Recognition and Documentation of the Death Scene Ronald Brunelli*
10:00 a.m.	- 10:15 a.m.	E25	How Thorough Medicolegal Death Scene Investigations and Autopsies Impact Public Health and Safety Margaret Warner, PhD*; Kelly Keyes, BS*; Julie A. Howe, MBA*
10:15 a.m.	- 10:30 a.m.		Break
Moderator:	Katherine M. Br Tarleton State U School of Crimin Justice & Strat Fort Worth, TX	niversity 10logy, Ci	Champaign County Coroner's Office iminal Urbana, IL
10:30 a.m.	- 10:45 a.m.	E26	The Transgender Consideration: The Importance of Reassessing Unidentified Human Skeletal Remains to Provide New Investigative Directions  Lindsey A. Bayer, MS*; Barbara C. Wolf, MD; Michael W. Warren, PhD
10:45 a.m.	- 11:00 a.m.	E27	Medicolegal Death Investigation: Staged Scenes or Setting the Scene — When Appearances Are Deceiving Erin M. Worrell, BSc*; Erica J. Armstrong, MD; Daniel A. Galita, MD; Thomas P. Gilson, MD
11:00 a.m.	- 11:15 a.m.	E28	Identification of Desiccated Remains 64 Years Postmortem Bryan Johnson, MSFS*; Edward Mazuchowski II, MD, PhD; Daniel B. Lien, BS
11:15 a.m.	- 11:30 a.m.	E29	The Missing Foreigner: Remains Found Eight Years Later Submerged in the Trunk of a Vehicle Full of Pluff Mud Kelly Kraus, BS*
11:30 a.m.	- 11:45 a.m.	E30	Unusual Suicide: Staged Homicide in a Carbon Monoxide Setting Brittney W. Martin, BS*
11:45 a.m.	- 12:00 p.m.	E31	Homicide Victims in Freezers — A Report of Two Cases  Joseph A. Prahlow, MD*
12:00 p.m.	- 1:00 p.m.		Lunch



### **Poster Session**

11:30 a.m.	_	1:00 p.m.	E32	Correlation of Bioelectric Impedance Metrics to Accumulated Degree Days
11.30 a.iii.	-	1.00 p.m.	E32	Among Body Segments Using Gel Pad Electrodes  Eriek S. Hansen, PhD*; Sophia I. Reck*; Melissa A. Connor, PhD
11:30 a.m.	-	1:00 p.m.	E33	Patterns of Violent Death in Clark County, Nevada: Homicide and Suicide Patterns During and Post-Recession  Caryn E. Tegtmeyer, MA*; Cheryl Anderson, MA*
11:30 a.m.	-	1:00 p.m.	E34	Gunshot Residue Documentation Using 3D Laser Scanning Methodology Marilyn T. Miller, EdD*; David J. Millard, MS; Megan L. Jackson, BS
11:30 a.m.	-	1:00 p.m.	E35	National Missing and Unidentified Persons System (NamUs) Database Reconciliation: "No Body" Murder Trials and Missing Persons Carraugh R. Nowak, MFS*
11:30 a.m.	-	1:00 p.m.	E36	Crime Scene Investigations in Child Homicides  Anna Jinghede, DDS*; Joakim Sturup, PhD
11:30 a.m.	-	1:00 p.m.	E37	Analysis of Bullet Entry Hole Diameter by Varying Distance, Caliber, and Grain Sara Bahamondes, MFS*; Federico Colores; Benjamin A. Doody; Ismail M. Sebetan, MD, PhD*; Paul Stein, PhD*
11:30 a.m.	-	1:00 p.m.	E38	Lack of Death Scene Investigations: The Potential Misdiagnosis of Sudden Infant Death Sydrome (SIDS) and Accidental Asphyxiation in Stockholm, Sweden  Louise R. Steinhoff, MBBS*; Petra Råsten-Almqvist, PhD; Per Möllborg, PhD
11:30 a.m.	-	1:00 p.m.	E39	Gunshot Residue (GSR) Analysis by Single Particle Inductively Coupled Plasma Mass Spectrometry (spICP/MS) Rodrigo D. Heringer, PhD*; James F. Ranville, PhD
11:30 a.m.	-	1:00 p.m.	E40	"Digital Stringing" — The Practicality and Legitimacy of Determining the Area of Origin (AO) of an Impact Event From 3D Scans Recorded Via Structured Light Scanning  Kent M. Adamson, MSc*; Paul Norris; Tim Thompson, PhD; Meez Islam, PhD
11:30 a.m.	-	1:00 p.m.	E41	Estimation of Time Since Death Using Body Cooling Models of Pigs:  A Pilot Study  Dae-Kyoon Park, MD, PhD*; U-Young Lee, MD, PhD; Duk-Soo Kim, PhD;  Cheolho Hyun; Kyeongyang Sim; Taehwa Song; Na Jin Kim
11:30 a.m.	-	1:00 p.m.	E42	Preservation of Hair Stable Isotope Signatures During Freezing Gwyneth W. Gordon, PhD*; Tiffany B. Saul, MS; Dawnie W. Steadman, PhD; Kelly Knudson, PhD; Daniel J. Wescott, PhD



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11:30 a.m.	-	1:00 p.m.	E43	An Examination of the Effects of Salvia Divinorum Fortification on Stable Isotope Ratios  David A. Barajas, BA*; Todd E. Dawson, PhD; Robert Michener, MS; Sabra R. Botch-Jones, MS, MA
11:30 a.m.	-	1:00 p.m.	E44	A Rare Case of Fatal Anaphylactic Reaction Following the Application of Gadobutrol, a Gadolinium-Based Contrast Agent, for Contrast-Enhanced Magnetic Resonance Imaging (MRI)  Sabine Franckenberg, MD*; Florian Berger, MD; Sarah Schaerli;  Garyfalia Ampanozi, MD; Michael Thali, MD
11:30 a.m.	-	1:00 p.m.	E45	Evaluating Violent Crime Trends of Five Ohio Cities to Enhance Law Enforcement's Understanding of the Communities They Serve Kristen A. James*; Todd D. Werth; Season E. Seferyn, MSFS; Terry Fenger, PhD
11:30 a.m.	-	1:00 p.m.	E46	The Physiologic Effects of a TASER® Conducted Electrical Weapon (CEW) as a Function of Probe Spread  Jeffrey D. Ho, MD; Donald M. Dawes, MD*
11:30 a.m.	-	1:00 p.m.	E47	A Fatal Dive Furio Martino Patete*; Carmela Fiore, MD; Elisabetta Bertol; Sara Vita, MD; Cristoforo Pomara, MD, PhD
11:30 a.m.	-	1:00 p.m.	E48	A Rare Case of a Late and Incidental Finding of Hemimegalencephaly  Anne-Claire Lhoumeau, MD*; Emmanuelle Bonneil, MD; Elodie Saussereau, PharmD;  Bernard Proust, PhD; Annie Laquerrière, PhD; Gilles Tournel, PhD
Moderator:	: Ryan P. Brokaw, MFS United States Army CID Fort Benning, GA		rmy CID	Co-Moderator: Matthew G. Manns, MS United States Army CID Fort Campbell, KY
1:00 p.m.	-	1:15 p.m.	E49	Forensic Archaeology, Ritual Crime, and Ethics: Assisting Law Enforcement While Maintaining Confidentiality as an Anthropologist Sharon K. Moses, PhD*
1:15 p.m.	-	1:30 p.m.	E50	Differential Taphonomic Effects in a Recently Discovered World War II Cemetery Kristen N. Baker, MA*; Hillary R. Parsons, PhD*
1:30 p.m.	-	1:45 p.m.	E51	Successful Planning for a Multidisciplinary Approach to Human Remains Recovery and Analysis in a Cold Case Homicide  Zachary R. Lysek, BA*; Thomas A. Crist, PhD*; Dennis P. Asen, DDS
1:45 p.m.	-	2:00 p.m.	E52	A Death Investigator's Perspective: Lessons Learned in Response to the Crash of Flight 3407  Carraugh R. Nowak, MFS*



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2:00 p.m.	-	2:15 p.m.	E53	Interpersonal Violence (IPV) — The Disaster After the Disaster  David A. Williams, DDS*; Joyce P. Williams, DNP*
2:15 p.m.	-	2:30 p.m.	E54	An Analysis of Forensic Scientists' Job Stress and Satisfaction David R. Foran, PhD*; Kristie Blevins, PhD; Ruth Waddell Smith, PhD
2:30 p.m.	-	2:45 p.m.	E55	Identification of Originator Attributes From Fingerprints Via Chemical Assays  Erica K. Brunelle, BSc*; Crystal Huynh*; Anh M. Le, BSc; Lenka Halamkova, PhD;  Juliana M. Agudelo, BSc*; Leif McGoldrick, BS*; Jan Halámek, PhD*
2:45 p.m.	-	3:00 p.m.		Break
Moderator:	Br	lie L. Valentin igham Young ovo, UT		Co-Moderator: Angel L. Miles, MA United States Army CID Manassas, VA
3:00 p.m.	-	3:15 p.m.	E56	Death Scene Investigation: Limitations and Potentials of a Logical Investigative Process  Luca Massaro, MD*; Patrizia Trapella, JD, MA*; Matteo Borrini, PhD*
3:15 p.m.	-	3:30 p.m.	E57	Morphometrics of the Aging Process of Latent Fingerprints  Josep De Alcaraz-Fossoul, PhD*; Carme Barrot, PhD; Cristina Mestres, BSc;  Antoni Balaciart Muntaner, BSc; Manel Gené, PhD; Clara Carreras Marin, MSc;  Jack Tasker, BSc; Katherine A. Roberts, PhD; Sara C. Zapico, PhD;  Luke McGarr, BSc; Karen Stow, MSc
3:30 p.m.	-	3:45 p.m.	E58	A Follow-Up Study: Recovery of "Touch" DNA From Selected Firearms Using the Single 4N6FLOQSwabs™ Method Maher Noureddine, PhD*; James A. Bailey, PhD
3:45 p.m.	-	4:00 p.m.	E59	Fentanyl Analogue Despropionylfentanyl Deaths Invade Virginia Lara Frame-Newell, MA*; Bridget M. Kinnier, BS; Kathrin Hobron, MS
4:00 p.m.	-	4:15 p.m.	E60	Forensic Investigation in Suspected Cases of Infanticide — Two Case Reports in Portugal  João Manata, MSc*; Susana Pereira Tavares, MA; Jerónimo F. Silva;  Rosa H. Gouveia, PhD; Claudia Marques, MD; Joao E.S. Pinheiro, PhD, MD
4:15 p.m.	-	4:30 p.m.	E61	A Unique Medicolegal Investigation Following a Suicidal Gunshot Wound of the Head Brett E. Harding, MBA*; Barbara C. Wolf, MD; Kyle Shaw, MBBS
4:30 p.m.	-	4:45 p.m.	E62	Those in Their Current Role the Longest Are Less Likely to Report Hindrance in the Use of Joint Investigations Practices: Data From the 2013-2015 CDC/FBI Joint Criminal-Epidemiological Investigations Workshop Course Evaluations Geroncio C. Fajardo, MD*; Stephen Papagiotas, MS; Molly Rickard, MS



4:45 p.m. - 5:00 p.m. **E63** Navigating Toward a Blind Proficiency Testing and Verification Program *Michal L. Pierce, MS\** 

#### Friday — Session I

Moderator: Charlotte A Carter MS

moaerator:	City & County of Dept of the Med Honolulu, HI	of Honolul	
8:30 a.m.	- 8:45 a.m.	E64	Understanding Violence Against Law Enforcement by Youth Street Gangs Cliff Akiyama, MPH, MA*
8:45 a.m.	- 9:00 a.m.	E65	Homicide in a Horse Barn Samuel Prahlow*; Joseph A. Prahlow, MD
9:00 a.m.	- 9:15 a.m.	E66	Markers for Genuine and Fake Suicide Notes Zachary R. Lysek, BA*; Katherine Ramsland, PhD*
9:15 a.m.	- 9:30 a.m.	E67	Investigation of a Mummification-Type Bondage Death Kim Fallon, BS*; Thomas A. Andrew, MD
9:30 a.m.	- 9:45 a.m.	E68	Medicolegal Death Investigations After Disasters: Newly Developed Tools to Improve Data Collection Sarah Davis Redman, PhD*; Catharine Q. Fromknecht, BS; Luciana A. Rocha, BA; Joanne Brady, PhD; Margaret Warner, PhD; Rebecca S. Noe, MPH
9:45 a.m.	- 10:00 a.m.	E69	Investigations of Healthcare Serial Killers (HSKs) and Implications for Health Data Analytics  John M.M. Rumbold, PhD*; Barbara K. Pierscionek, PhD
10:00 a.m.	- 10:15 a.m.	E70	The Forensic Implications of Current Practices in Emergency Services $S.B.$ Addison Larson, $BA*$
10:15 a.m.	- 10:30 a.m.		Break

Moderator: Lurena A. Huffman, BS

Suffolk Police Department

Hampton, VA

Co-Moderator: Matthew C. Wietbrock, BS

Co-Moderator: Crystal L. Wagoner, MFS

Lafayette, IN

10:30 a.m. - 10:45 a.m. E71 The Use of Heterospecific Development Data for Time of Colonization (TOC) Estimation

Michelle R. Sanford, PhD; Adrienne L. Brundage, PhD\*; Lue Cuttiford, MSc



			2017
10:45 a.m	11:00 a.m.	E72	Authentication of Museum-Curated Tsantsas (Shrunken Heads) Utilizing Next Generation Sequencing Technology  Courtney L. Mower, BS*; Anna N. Dhody, MFS; Kimberlee Sue Moran, MSc; Shanan S. Tobe, PhD
11:00 a.m	11:15 a.m.	E73	Rapid Detection of Saliva Presence Using the Phadebas Press Test: A Comparative Study of Three Common Bra Materials and Sealed Envelopes Young Wang*
11:15 a.m	11:30 a.m.	E74	Analysis of Bullet Wipes by Scanning Electron Microscopy/Energy Dispersive X-Ray Spectroscopy (SEM/EDS)  Bryan R. Burnett, MS*
11:30 a.m	11:45 a.m.	E75	A Comparison of Accidental Self-Inflicted Gunshot Wounds Occurring in Rural vs. Urban Settings  Krysten L. Addison, MS*; Taylor R. Vanek*; Kendall V. Crowns, MD;  Adrienne Segovia, MD; Ta'kena Stewart-Muhammad, BA
11:45 a.m	12:00 p.m.	E76	Comprehensive Forensic Analysis of 3D-Printed Firearms Shanley Brezen, BS*; Kiffin A. Champlin, BS; Carol Crowe, BS; April L. Flack, MS; Kailee Henson, MFS; Dale Higashi, BS; Tiffany Rayback, BS; Alex Rugh, MS*; Eric W. Thornton, BA*; Lisa Casey Yoshida, BS
12:00 p.m	1:00 p.m.		Lunch
Poster Sessi	ion		
11:30 a.m	1:00 p.m.	E77	Benefit or Burden?: Forensic Science K-12 Outreach Kelly L. Knight, MS*; Padmanabhan Seshaiyer, PhD
11:30 a.m	1:00 p.m.	E78	The Changing Landscape of Forensic Science Education: How a Historically Black University Is Addressing the Need for Underrepresented Minorities Pamela L. Marshall, PhD*; Paris F. Favorite, BS
11:30 a.m	1:00 p.m.	E79	Visualizations for Introducing Database Concepts in Forensic Science Kimberly S. Kobojek, MS*
11:30 a.m	1:00 p.m.	E80	Fatal Dog Attacks: An Eight-Year Study From 2009 to 2016 in Italy Francesco Sessa, MS*; Luigi Sasso; Mauro A. Ciavarella; Gabriela Perilli, MD
11:30 a.m	1:00 p.m.	E81	The Hand-Drawn Composite — Old School Still Works With New Tech Sandra R. Enslow, BA*
11:30 a.m	1:00 p.m.	E82	Using Drones for 3D On-Site Body Documentation — Experiments Inspired by Real-Life Forensic Cases Petra Urbanová, PhD*; MIkolas Jurda, MSc; Tomáš Vojtíšek, PhD; Jan Krajsa, PhD



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11:30 a.m.	-	1:00 p.m.	E83	Implementing a Drone Program for the Houston Forensic Science Center Crime Scene Unit  Jeff S. Cruser, BA*; Amy Castillo, PhD; Jerry Pena
11:30 a.m.	-	1:00 p.m.	E84	Learning to Spot Aquatic Crimes Against Children (ACAC): An Examination of Situational Context Identifying Six Categories Christina M. Elliott, BA*; Mary E.S. Case, MD; Idaly P. Hidalgo, MD; Andrea Zaferes, BA
11:30 a.m.	-	1:00 p.m.	E85	A Non-Contact Passive Approach for the Effective Collection of Target Cadaveric Volatile Organic Compounds (VOCs) for Canine Training Aid Development Marcello Rendine*; Carmela Fiore, MD; Palmira Fortarezza, MS; Cristoforo Pomara, MD, PhD; Irene Riezzo, MD, PhD
11:30 a.m.	-	1:00 p.m.	E86	Fatal Asphyxia by Bolus in Elders With Mental Illness: The Role of Oral Health and Antimuscarinic Action of Drug Treatment Isabella Aquila, MD*; Ciro Di Nunzio, MFS, PhD*; Emilio Nuzzolese, PhD; Santo Gratteri, MD; Pietrantonio Ricci
11:30 a.m.	-	1:00 p.m.	E87	The Essential Role of Forensic Medicine in the Investigation and Documentation of Torture and Ill Treatment  Duarte Nuno Vieira, MSc, PhD, MD*; Vera Sterzik, MD
11:30 a.m.	-	1:00 p.m.	E88	Explosive Force During a Wheel Blowout Induces Death Benjamin Mokdad*; Sophie Thureau, MD; Anne-Claire Lhoumeau, MD; Isabelle leblanc, MD; Bernard Proust, PhD; Gilles Tournel, PhD
11:30 a.m.	-	1:00 p.m.	E89	Survey on Deaths and Causes of Death in a University Hospital: The Calabrian Experience Debora De Bartolo, MD*; Tatiana Cerra, MD; Francesco Ausania, MD*; Santo Gratteri, MD; Pietrantonio Ricci
11:30 a.m.	-	1:00 p.m.	E90	Killing Methods in Sicilian Mafia Families  Elvira Ventura Spagnolo*; Cristina Mondello; Luigi Cardia; Francesca Giuffrida;  Antonina Argo; Stefania Zerbo, MD; Giulio Cardia
11:30 a.m.	-	1:00 p.m.	E91	A New Type of Theft in the Government's Courier Cargo Truck Service in Brazil Gustavo G. Parma, MD*; Amilton Soares, Jr.
11:30 a.m.	-	1:00 p.m.	E92	Association of Foot With Footwear: A Study of the Characteristic Features of Rubber Slipper Insoles Kewal Krishan, PhD*; Tanuj Kanchan, MD
11:30 a.m.	-	1:00 p.m.	E93	A Case Report of a Migrating Bullet: An Unusual Cause of Postmortem Confusion Robert J. Bready, MS*; Dennis J. Chute, MD; Kia K. Newman, MD
11:30 a.m.	-	1:00 p.m.	E94	Who Do the Voodoo? A Rapid Field Technique to Identify the Provenance of Unknown Human Skeletal Remains in "Ritual" Cases Carole A.L. Davenport, BSc*; Silvia Gonzalez, PhD



Moderator:	IU	na Londino, M PUI dianapolis, IN			Catherine G. Rushton, MSFS Marshall University Forensic Science Program Huntington, WV
1:00 p.m.	-	1:15 p.m.	E95	Novel Bioaffinity-Based Cascades for the From Fingerprints Crystal Huynh*; Erica K. Brunelle, BSc*; Luliana M. Agudelo, BSc*; Leif McGoldrick	Lenka Halamkova, PhD;
1:15 p.m.	-	1:30 p.m.	E96	Preliminary Studies Focusing on How Fo Understand Evidence Interpretation and Michaela F. Regan*; Ruth Morgan, PhD; A	the Importance of Empirical Evidence
1:30 p.m.	-	1:45 p.m.	E97	The Trials and Errors of Transitioning to Crystal L. Wagoner, MFS*; Christina A. Lei	
1:45 p.m.	-	2:00 p.m.	E98	Creating an Ethical Reasoning Curriculu Lyndsie N. Ferrara, MS*; James B. Schreib	•
2:00 p.m.	-	2:15 p.m.	E99	The Arizona Forensic Science Academy: Forensic Science Education to Criminal J Jody M. Wolf, MS*	0
2:15 p.m.	-	2:30 p.m.	E100	Transforming Forensic Science Education Experiential Learning Caitlin E. Porterfield, MS*; Mark R. McCoy	
2:30 p.m.	-	2:45 p.m.	E101	WITHDRAWN	
2:45 p.m.	-	3:00 p.m.		Break	
2:30 p.m.	-	2:45 p.m.		Experiential Learning Caitlin E. Porterfield, MS*; Mark R. McCoy WITHDRAWN	

Moderator: Amanda L. Farrell, PhD Co-Moderator: Jessica Ann Veltri, MS

Marymount University U.S. Army CID

School of Education and Human Services

Joint Base Lewis-McChord, WA

Arlington, VA

3:00 p.m. - 3:15 p.m. E102 Examination of Genetic Drift in Mitochondrial DNA (mtDNA) Heteroplasmy in Hair Samples Using a Massively Parallel Sequencing (MPS) Approach

Jamie Gallimore\*; Jennifer A. McElhoe, DPhil; Mitchell M. Holland, PhD



3:15 p.m.	-	3:30 p.m.	E103	Visualization of Fingerprints on Post-Blast Improvised Explosive Device (IED) Fragments and Debris Alexander Smyth*; Mark Sims, PhD; John Holt; Marwan El Khoury, MSc
3:30 p.m.	-	3:45 p.m.	E104	Preparation of "Gummy" Quality Control (QC) Material and the Analysis of Medible "Gummy" Products
3:45 p.m.	-	4:00 p.m.	E105	Autumn C. Cooper*; Carl E. Wolf II, PhD; Justin L. Poklis, BS; Alphonse Poklis, PhD  A Comparison of Latent Print Proficiency Tests With Latent Prints Obtained in Routine Casework Using Automated and Objective Quality Metrics Henry J. Swofford, MSFS; Anthony Koertner*
4:00 p.m.	-	4:15 p.m.	E106	Analyzing Bare Footprints in Criminal Cases — Interpreting a Large-Scale Footprint Study in India  Kewal Krishan, PhD*; Tanuj Kanchan, MD; John A. DiMaggio, DPM;  Michael S. Nirenberg, DPM
4:15 p.m.	-	4:30 p.m.	E107	A Study of Drug Trafficking on Cryptomarkets: Structure, Organization, and Comparison With the Traditional Market Through a Canadian Perspective Frank Crispino, PhD*; Damien Rhumorbarbe, MSc; Caroline Mireault, MA; Vincent Ouellette, BSc; David Decary-hetu, PhD; Julian Broseus, PhD
4:30 p.m.	-	4:45 p.m.	E108	Maxi Trial "Iscaro-Saburo": The Judicial Birth of the Fifth Italian Mafia Michele Vaira, JD*; Anna Cornacchio*; Palmira Fortarezza, MS*; Giuseppe Bertozzi, MD*; Monica Salerno, MD, PhD*; Cristoforo Pomara, MD, PhD*
4:45 p.m.	-	5:00 p.m.	E109	The Face of the Laboratory: Creating and Implementing a Client Services and Case Management Division Ashley Henry, MA*; Marissa Noel, BS

#### Friday — Session II

Multidisciplinary Session: Anthropology Session II/General Session II/Pathology/Biology Session I — Forensic Taphonomy

Moderator: David O. Carter, PhD Co-Moderator: Eriek S. Hansen, PhD Chaminade University of Honolulu Forensic Sciences Unit Dept Biological Science Honolulu, HI Grand Junction, CO

1:00 p.m. - 1:15 p.m. **A122 Postmortem Interval Estimation Using the Blackened Osteocyte Method**Sarah Long, BS\*; Lynne S. Bell, PhD; Joan A. Bytheway, PhD

1:15 p.m. - 1:30 p.m. **H128** Changes in Bacterial Community Structure and the Estimation of Long-Term Postmortem Interval (PMI)

Michael S. Woolf, MS\*; Vanessa Sufrin, MS; Tal Simmons, PhD; Baneshwar Singh, PhD\*



1:30 p.m.	-	1:45 p.m.	E110	Bioelectrical Impedance Analysis as a Technique for Estimating the Postmortem Interval (PMI) in Human Remains  Eriek S. Hansen, PhD*; Melissa A. Connor, PhD; Christiane Baigent, MSc
1:45 p.m.	-	2:00 p.m.	E111	Measuring Desiccation Using Qualitative Changes Melissa A. Connor, PhD*; Christiane Baigent, MSc; Eriek S. Hansen, PhD
2:00 p.m.	-	2:15 p.m.	A123	A New Approach to Estimating Accumulated Degree Days (ADD): Using Binary Observations From Various Regions of the Body With Random Forest Modeling (RFM) and Geographic Information Systems (GIS)  Michael W. Kenyhercz, PhD*; Dawnie W. Steadman, PhD; Annemarie C. Gundel, BA
2:15 p.m.	-	2:30 p.m.	A124	Validation of the Total Body Score/Accumulated Degree Days (TBS/ADD) Equation at 100, 300, 500, and 1,000 ADD on 30 Human Subjects With a Known Postmortem Interval (PMI) From Three Human Decomposition Facilities Joan A. Bytheway, PhD*; Nichole Miller; Dawnie W. Steadman, PhD; Kelly Sauerwein, MA; Daniel J. Wescott, PhD; Chaunesey Clemmons, BA; Devora S. Gleiber, BA; Chloe P. McDaneld, MA; Lauren A. Meckel, MA
2:30 p.m.	-	2:45 p.m.	H129	Myiasis and Death: Factors and Complications Related to Estimating Time of Colonization After Antemortem Fly Colonization Followed by Death Michelle R. Sanford, PhD*; Darshan R. Phatak, MD; Alex John, MD; Michael R. Condron II, MD
2:45 p.m.	-	3:00 p.m.		Break

Multidisciplinary Session: Anthropology Session II/General Session II/Pathology/Biology Session I — Forensic Taphonomy (continued)

Moderator: Elizabeth A. Miller, PhD Co-Moderator: Audrey L. Meehan, BS

California State University, Los Angeles Ewa Beach, HI

Department of Anthropology

Los Angeles, CA

3:00 p.m. - 3:15 p.m. H130 Coupled Microbiome and Insect Evidence in Death Investigation

M. Eric Benbow, PhD\*; Jennifer L. Pechal, PhD; Heather R. Jordan, PhD;

McKinley Brewer, BS; Carl J. Schmidt, MD

3:15 p.m. - 3:30 p.m. **E112 WITHDRAWN** 

3:30 p.m. - 3:45 p.m. H131 Analyses of Necrobiome Structure and Function for Utility in Forensic Science

Heather R. Jordan, PhD\*; Zachary M. Burcham, BS; Jeffrey L. Bose, PhD; Jennifer L. Pechal, PhD; Jason Rosch, PhD; Carl J. Schmidt, MD; M.

Eric Benbow, PhD



3:45 p.m.	-	4:00 p.m.	E113	What Forensic Archaeology and Forensic Taphonomy Can Offer to Medicolegal Death Investigation Dennis C. Dirkmaat, PhD*; Luis L. Cabo, MS
4:00 p.m.	-	4:15 p.m.	E114	Trauma and/or Taphonomy? Analysis of Peri-Mortem Trauma Observed in a Post-Battle World War II Cemetery and the Complications of Taphonomy in Discerning Trauma  Kristen N. Baker, MA*; Hillary R. Parsons, PhD*
4:15 p.m.	-	4:30 p.m.	A125	Vulture Scavenging of Small-Sized Pig Carcasses in Central Florida: Utilizing Geographic Information Systems (GIS) to Analyze Site Variables Affecting Skeletal Dispersal  John J. Schultz, PhD*; Alexander T. Mitchell
4:30 p.m.	-	4:45 p.m.	A126	Differential Temperatures of the Human Body and Fire Elayne J. Pope, PhD*; Amanda Williams, MA; Alison Galloway, PhD
4:45 p.m.	-	5:00 p.m.	H132	Digging Up the Past — An Atypical Medical Examiner's Case Haley K. Scott, BSc*; Joseph T. Hefner, PhD; Philip R. Croft, MD, JD



### Wednesday

#### **Poster Session**

11:30 a.m.	-	1:00 p.m.	F1	Carotid Sinus Hypersensitivity, Psychogenic and Vasovagal Syncope, and Homicide: The Importance of Negative Results of Biologic Evidence in Court Sara Raponi, JD*; Patrizia Trapella, JD, MA; Luca Massaro, MD; Matteo Borrini, PhD
11:30 a.m.	-	1:00 p.m.	F2	Improving the Results of Forensic Science: Two Successful Solutions Developed in Brazil  Gustavo Costa, MS*

### Thursday

### Identification, Driving Under the Influence (DUI), and Digital

Moderator:	Michele Vaira, JD Foggia, ITALY	
8:30 a.m.	- 8:50 a.m. <b>F3</b>	Assessing the Strength of Fingerprint Conclusions  Michele Triplett, BS*
8:50 a.m.	- 9:10 a.m. <b>F4</b>	Fingerprint Science Joseph B. Kadane, PhD*
9:10 a.m.	- 9:30 a.m. <b>F5</b>	Lay Understanding of "Identification": How Jurors Interpret Forensic Identification Testimony Henry J. Swofford, MSFS*; Jessica Gabel Cino, JD
9:30 a.m.	- 9:45 a.m.	Break
9:45 a.m.	- 10:05 a.m. <b>F6</b>	Roadside Saliva: Are Oral Fluid Collection (OFC) Devices the Proper Tool to Help a Non-Physician Make a Diagnosis at a Roadside Traffic Stop (RTS)? <i>Michael J. Nichols, JD*; Jeremy C. Brehmer, JD*</i>
10:05 a.m.	- 10:25 a.m. <b>F7</b>	Retrograde Extrapolation as a Part of Accident Reconstruction: A Case Study Jeremy C. Brehmer, JD*; Ronald L. Moore, Esq., JD*
10:25 a.m.	- 10:45 a.m. <b>F8</b>	The Use of Standardized Field Sobriety Tests for Drug Impairment: An Evaluation of the Research, Ethical Implications, and Legal Issues Harry L. Miles, JD*; Sabra R. Botch-Jones, MS, MA*
10:45 a.m.	- 11:05 a.m. <b>F9</b>	Social Media and the Justice System  Donald E. Shelton, JD, PhD*



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11:05 a.m.	- 11:25 a.m.	F10	Analyses of Multiple Mobile Devices and Services in Distracted Driving Cases: Data Synchronization and Defeating Unscientific Applications of Those Data Bruce N. Ringstrom, Jr., JD*; John J. Carney, JD*; Joseph M. Parise, JD
11:25 a.m.	- 11:45 a.m.	F11	When DNA Alone Is Not Enough: Exoneration by Computer Interpretation Mark W. Perlin, PhD, MD*; Frances L. Watson, JD*; Greg Hampikian, PhD
11:45 a.m.	- 1:00 p.m.		Lunch
Poster Se	ssion		
11:30 a.m.	- 1:00 p.m.	F12	Utilization of Infrared Photography to Detect and Document Gunshot Powder Residue on Clothing: A Comparative Study Tamara Tracy, MFS*; Ismail M. Sebetan, MD, PhD*; Paul Stein, PhD*; Shelli A. Friesen, MFS
11:30 a.m.	- 1:00 p.m.	F13	Off Label: A Hope or a Liability? An Analysis of Cases in Oncology Maricla Marrone, MD; Francesco Gismondi; Bruno Morgese, MD; Francesca Tarantino, MD; Alessio Ostuni, MD*; Alessandro Dell'Erba, PhD; Antonio Delvino; Patrizia Nardulli
DNA and	Law		
Moderator:	Gail C. Groy, J Rizzo & Dierse Verona, WI		Co-Moderator: Robert M. Sanger, JD Sanger Swysen & Dunkle Santa Barbara, CA
1:00 p.m.	- 1:20 p.m.	F14	Three Coins in a Fountain: How the Florida Arrestee Database Solved a New York John Doe Rape Case 20 Years After the Fact Melissa Mourges, JD*; Martha Bashford, JD*
1:20 p.m.	- 1:40 p.m.	F15	Presenting Probabilistic Genotyping Evidence in Court Robert F. Hedges, JD*
1:40 p.m.	- 2:00 p.m.	F16	Wrongful Convictions and DNA Exonerations: Understanding the Role of Forensic Science as a Contributing Factor Gerald M. LaPorte, MSFS*
2:00 p.m.	- 2:20 p.m.	F17	The Yara Gambirasio Case Michele Vaira, JD*; Luciano Garofano, PhD*
2:20 p.m.	- 2:40 p.m.	F18	Trouble With Y: Tribal Populations Cannot Be Pooled Charles H. Brenner, PhD*; Jami Johnson, LLD*
2:40 p.m.	- 2:50 p.m.		Break



2:50 p.m	3:10 p.m.	F19	Moving Toward New Requirements for the Admissibility of Evidence Barry A.J. Fisher, MS, MBA*
3:10 p.m	3:30 p.m.	F20	Science and Law: Ships Passing in the Night Donald E. Shelton, JD, PhD*
3:30 p.m	3:50 p.m.	F21	Dealing With Len Bias Laws and Burrage v. United States: Best Practices to Avoid Potential Pitfalls for Attorneys and Medical Examiners Stephanie Domitrovich, JD, PhD*; Jeffrey M. Jentzen, MD*
3:50 p.m	4:10 p.m.	F22	"You Have the Right to Remain Silent": Autopsy Reports and a Defendant's Sixth Amendment Confrontation Rights Stephanie Domitrovich, JD, PhD*; Jeffrey M. Jentzen, MD*
4:10 p.m	4:30 p.m.	F23	Lonesome Dove: The Solitary Life of a Forensic Laboratory Legal Advisor Anece Baxter-White, $JD^*$
4:30 p.m	4:50 p.m.	F24	The New Standard: The New York State Experience Post-Sean John Rachel S. Singer, JD*

### Friday — Session I

### Law, Probability, and DNA

Moderator:		nne C. Petty, J hicago, IL	D	Co-Moderator: Sara Raponi, JD Rome, ITALY
8:30 a.m.	-	8:50 a.m.	F25	The Academy Standards Board (ASB) for Firearms and Toolmarks: Legal Issues Robert M. Sanger, $JD^*$
8:50 a.m.	-	9:10 a.m.	F26	Frye, Daubert, or None of the Above: What Rules Govern Admissibility of Scientific Evidence in Court?  Andrea A. Darvas, JD*
9:10 a.m.	-	9:30 a.m.	F27	Lawyer-Scientist: Issues of Competency, Validation, and Ethics Rafael E. Silva, JD; Mary C. McMurray, BS*
9:30 a.m.	-	9:50 a.m.	F28	Constitutional Requirement to Litigate Scientific Evidence Natalie Arvizu, JD*; Gil Sapir, JD*
9:50 a.m.	-	10:10 a.m.	F29	On the Threshold of Injustice: Manipulating DNA Evidence Mark W. Perlin, PhD, MD*; William P. Allan, MS; Clinton Hughes, JD*
10:10 a.m.	-	10:20 a.m.		Break



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10:20 a.m.	-	10:40 a.m.	F30	Cross-Disciplinary Communication: Understanding Commonly Used Terms in Statistics Glinda S. Cooper, PhD*; Sarah Chu, MS; Kareem Belt, MS
10:40 a.m.	-	11:00 a.m.	F31	Logical Reasoning: Old Solutions for Current Issues Simone Gittelson, PhD*
11:00 a.m.	-	11:20 a.m.	F32	Brazilian DNA Database on Trial Meiga A.M. Menezes, MSc; Helio Buchmuller, PhD*; Guilherme Silveira Jacques, MSc
11:20 a.m.	-	11:40 a.m.	F33	Women and Violence: Politics, Science Education, and Judicial Integrity Carl N. Edwards, JD, PhD*; Stephanie Domitrovich, JD, PhD*
11:40 a.m.	-	12:00 p.m.	F34	What's Law Got to Do With It? Forensics in a Pediatric Health Setting: A Case Report Maria Susana Ciruzzi, PhD*
12:00 p.m.	-	1:00 p.m.		Lunch
Poster Se	ssic	on		
11:30 a.m.	-	1:00 p.m.	F35	Reconciling Differences Between Lawyers and Forensic Scientists in a Law School Setting Toward Advancement of the Professions Frances L. Watson, JD*
11:30 a.m.	-	1:00 p.m.	F36	Analysis of Drug Paraphernalia in a Wrongful Death Case Rachel C. Beck, PhD; C. Andrew Robinson, Jr., PhD*; Susan Kloda; Daniel W. Dye, MD; Gary T. Simmons, MD
Metrolog	y, F	Bugs, and G	General	
Moderator:		B. Addison La erman, CT	rson, BA	Co-Moderator: John J. Carney, JD Carney Forensics Scandia, MN
1:00 p.m.	-	1:20 p.m.	F37	The Total Team: The Investigators, Forensic Scientists, and the Attorneys in a Capital Case From Kansas  Neal H. Haskell, PhD*; Leon G. Higley, PhD; Amanda L. Roe, PhD
1:20 p.m.	-	1:40 p.m.	F38	Are All Instruments Always Valid and Reliable in Ascertaining a Crime?  Alessandro M. Ferrero, MSc; Veronica Scotti, LLM*
1:40 p.m.	-	2:00 p.m.	F39	Method Validation and Admissibility of Forensic Alcohol and Drug Tests Donald J. Ramsell, $JD^*$



2:00 p.m.	-	2:20 p.m.	F40	From the CIA to CSI: How the Intelligence Community's Structured Analytical Techniques Can Offset Forensic Bias  Max M. Houck, PhD*
2:20 p.m.	-	2:40 p.m.	F41	Cooperation Between Law Enforcement and Entomologists Leads to Practical Research Questions  Kristi Bugajski, PhD*
2:40 p.m.	-	2:55 p.m.		Break
2:55 p.m.	-	3:15 p.m.	F42	Organization of Scientific Area Committees (OSAC): Developing Forensic Science Standards, Identifying Research Needs, and Informing the Research Community and the National Institute of Justice (NIJ)  Mark D. Stolorow, MS, MBA*; Gerald M. LaPorte, MSFS*
3:15 p.m.	-	3:35 p.m.	F43	Changing Forensic Science Practice to Meet the Demands of Law and Science Neal H. Haskell, PhD; Leon G. Higley, PhD*
3:35 p.m.	-	3:55 p.m.	F44	Look! Up in the Sky! It's a Bird — It's a Plane — It's a Building, Antenna, Span, and Earth (BASE) Jumper?  Kerry J. O'Connell, JD*; Joseph A. Giovannetti, JD*
3:55 p.m.	-	4:15 p.m.	F45	Vitreous Chemical Analysis in Postmortem Cases: Reliability of Reported Methamphetamine Concentrations $Jeremy\ C.\ Brehmer,\ JD^*$

### Friday — Session II

#### **Multidisciplinary Session: Jurisprudence Session II/Questioned Documents**

Moderator:	Fo	nton Mohamn orensic Scienc urlingame, CA	e Consult	Co-Moderator: Christine Haskell, JD ants, Inc Rensselaer, IN
1:00 p.m.	-	2:00 p.m.	J23	A Review of the Almegciga et al. v. Center for Investigative Reporting, Inc. et al. Decision  Jan Seaman Kelly, BA*; Stephanie Domitrovich, JD, PhD*; Linton Mohammed, PhD*
2:00 p.m.	-	2:40 p.m.	J24	The Background, Training, and Experience of Questioned Document Examiners: Present Practice and Future Direction  Mara L. Merlino, PhD*; Tierra M. Freeman, PhD*; La'Quida Smith, MA*;  Ivan Duvall*
2:40 p.m.	-	2:55 p.m.		Break



2:55 p.m.	-	3:35 p.m.	F46	Is Your Handwriting Expert's Testimony Admissible? Navigating Daubert/Kumho Challenges to Enhance the Likelihood That Gatekeepers Will Find Handwriting Comparison Evidence Sufficiently Reliable to Be Admissible Under Federal Rule of Evidence 702 (Fed. Rule 702) Andrew Sulner, MSFS, JD*
3:35 p.m.	-	4:15 p.m.	J25	Minimizing Cognitive Bias in Forensic Document Examination Jane A. Lewis, MFS*
4:15 p.m.	-	4:55 p.m.	J26	Forensic Document Examination in International Humanitarian and Human Rights Cases Tobin A. Tanaka, BS*



### Wednesday

#### **Poster Session**

11:30 a.m.	-	1:00 p.m.	G1	The Third Molar Cut-Off Value in Assessing the Legal Age of 18 in the Saudi Population Sakher J. AlQahtani, PhD*; Alemad Kawthar, BDS; Ayman AlAraik, BDS; Ahmad AlShalan, BDS
11:30 a.m.	-	1:00 p.m.	G2	The Interpretation of Canine Scavenging Lesions on Human Corpses Vadim Mesli, MD*; Erwan Le Garff, MD; Tournel Gilles, MD, PhD; Anne A. Becart, DDS, PhD; Valéry C. Hedouin, MD, PhD

### Thursday

### **Dental Age Estimation 1**

Moderator:	Mark C. Frill, DDS Papillion, NE	
8:30 a.m.	- 8:50 a.m. <b>G3</b>	Dental Age Estimation: Combining Radiographic Information of Two Dental and Four Skeletal Predictors in Children Akiko Kumagai*; Guy Willems, PhD; Ademir Franco, MSc; Steffen Fieuws, PhD; Patrick W. Thevissen, PhD
8:50 a.m.	- 9:10 a.m. <b>G4</b>	The Accuracy of Third Molar Development as an Indicator of Chronological Age in a Texas Asian Population Using Demirjian's Method Diana Blair Dryostep, DDS*; David R. Senn, DDS
9:10 a.m.	- 9:30 a.m. <b>G5</b>	Utilizing Custom Spreadsheets for Age Assessment Cases Derek M. Draft, DDS*
9:30 a.m.	- 9:45 a.m. <b>G6</b>	Forensic Age Estimation (FAE) By Third Molar Mineralization Using Digital Orthopantomography (OPG) Venkatesh Maled, MD*; Asha Sude, BDS
9:45 a.m.	- 10:00 a.m. <b>G7</b>	Third Molar Magnetic Resonance Imaging (MRI) in Forensic Age Estimation: Protocol Development and Considerations for Use  Jannick De Tobel, MD*; Elke Hillewig, MSc; Stephanie Bogaert, MA;  Karel Deblaere, DPhil; Constantinus Politis, PhD; Koenraad L. Verstraete, DPhil;  Patrick W. Thevissen, PhD
10:00 a.m.	- 10:15 a.m.	Break



#### **Dental Age Estimation 2**

Moderator: Leigh-Ann Schuerman, DMD

Cave Creek, AZ

10:15 a.m. - 10:30 a.m. **G8 Root Pulp Visibility (RPV): A Reliable Mandibular Maturity Marker (MMM) to Determine a Subject's Status at the 18-Year Threshold** 

Victoria S. Lucas, PhD\*; Fraser McDonald, PhD; Graham J. Roberts, MDS

10:30 a.m. - 10:45 a.m. G9 The Integration of Vertebrae and Teeth Analysis for Age Estimation in a Population

of Libyan Children

Ashref Dardouri, MSc; Roberto Cameriere; Stefano De Luca, PhD; Stefano Vanin, PhD\*

10:45 a.m. - 11:05 a.m. G10 A Novel, Semi-Universal X-Ray Sensor Holder

David R. Senn, DDS; Brent D. Martin, DMD\*

11:05 a.m. - 11:30 a.m. G11 The Accuracy of the London Atlas of Human Tooth Development and Eruption in

Dental Age Estimations of Saudi, Spanish, and Italian Children

Sakher J. AlQahtani, BDS, PhD\*; Joe Adserias, DDS, PhD\*; Emilio Nuzzolese, PhD\*;

Giancarlo Di Vella, MD, PhD

11:30 a.m. - 1:00 p.m. Lunch

#### **Poster Session**

11:30 a.m. - 1:00 p.m. G12 Evaluating a Bitemark in Light of the Scientific Research Regarding Skin Distortion

Richard Boguslaw, DMD\*

11:30 a.m. - 1:00 p.m. G13 The Use of Age Estimation Analysis for the Identification of Four Male Siblings in a

House Fire in Kane, Manitoba, Canada

Trenna M. Reeve, DMD\*; Carla R. Penner, DDS\*; Noriko B. Boorberg, DMD\*

#### **Thomas Krauss Memorial Bitemark Session**

Moderator: Melinda Hacker, DDS

Carrizozo, NM

1:00 p.m. - 1:15 p.m. G14 The Kwok Bitemark Case Revisited

Duane E. Spencer, DDS\*

1:15 p.m. - 1:30 p.m. G15 Domestic Violence and the Death of a Child

Barry E. Lipton, DDS\*



1:30 p.m	2:00 p.m.	G16	Analysis, Comparison, and Misinterpretation: Do You Really Want to Ban All Bitemark Evidence?  Richard R. Souviron, DDS*; Leslie A. Haller, DMD
2:00 p.m	2:15 p.m.	G17	Human Bites: A Diagnosis Richard H. Fixott, DDS*
2:15 p.m	2:30 p.m.	G18	How the Lack of Human Dentition Uniqueness in Orthodontically Treated Patients and Twins Affects Bitemark Investigations Patrick W. Thevissen, PhD*; Ademir Franco, MSc; Guy Willems, PhD
2:30 p.m	3:00 p.m.	G19	The Torgersen Tooth Mark Case From Norway — An Enigma Tore T. Solheim*
3:00 p.m	3:15 p.m.	G20	Hazards With Bitemark Identifications Cheri Lewis, DDS*; Leonor A. Marroquin, MS
3:15 p.m	3:30 p.m.		Break

### **General Odontology**

Moderator:		ent D. Martin, n Antonio, TX		
3:30 p.m.	-	3:45 p.m.	G21	The Greening of Cremation: The Elimination of Cremercury Winnie Furnari, $MS^*$
3:45 p.m.	-	4:00 p.m.	G22	Looking Into the Past: Challenges With Dental Identifications of Historically Unidentified Individuals  Taylor L. Gardner, BFSc*; Kathy L. Gruspier, JD, PhD*; Yolanda Nerkowski, BA*; Robert E. Wood, DDS, PhD*
4:00 p.m.	-	4:15 p.m.	G23	Third Molar Maturity Index (I3M) for Assessing the Age of Majority: The Experience in Several Different Countries Roberto Cameriere*
4:15 p.m.	-	4:30 p.m.	G24	<b>Are Texas Dentists Prepared to Recognize and Report Elderly Abuse?</b> <i>John E. Pitts, DDS*</i>



### Friday

#### **Dental Identification 1**

Moderator:		erek M. Draft, I randville, MI	DDS	
8:30 a.m.	-	8:45 a.m.	G25	The Lake Ontario Floater: Identifying "John Doe" Randolph L. Mitchell, DMD*
8:45 a.m.	-	9:00 a.m.	G26	"Three Dog Night" or Death by Dog William E. Silver, DDS*; Leslie A. Haller, DMD; Richard R. Souviron, DDS
9:00 a.m.	-	9:15 a.m.	G27	Marking Dental Prostheses Charles E. Georget, PhD*; Aime Conigliaro, MSc; Gwenola Drogou, DDS
9:15 a.m.	-	9:30 a.m.	G28	The Yarnell 19: The Deadliest Wildfire in Arizona History and the Successful Implementation of Rapid Identification of the Granite Mountain Hotshots Firemen Christen C. Eggers, MS*; John A. Piakis, DDS; Melanie Rouse, MS
9:30 a.m.	-	9:45 a.m.	G29	"Oscar" the 1985 Unidentified Person (UP): Forensic Evolution — Odontology to Phenotyping Patrick A. Murray, DDS*; Warren D. Tewes, DDS
9:45 a.m.	-	10:00 a.m.	G30	"Oscar" the 1985 Unidentified Person: A Career Development Adventure Warren D. Tewes, DDS*; Patrick A. Murray, DDS
10:00 a.m.	-	10:15 a.m.		Break

#### **Dental Identification 2**

Moderator:	Robin A. Schepe Gulfport, MS	r, DDS	
10:15 a.m.	- 10:30 a.m.	G31	Fractalyse Software — The Analysis of the Trabecular Bone in Identification Sylvain Desranleau, DMD*; Robert B.J. Dorion, DDS
10:30 a.m.	- 10:45 a.m.	G32	Using More Than Radiographs in Identification: A Crown, a Scanner, and a Denture  Danny J. Pogoda, DDS*
10:45 a.m.	- 11:00 a.m.	G33	The Princes in the Tower: Dental Age Estimation of the Archived Records of the Extant Remains of Edward V and Richard, Duke of York Graham J. Roberts, MDS*; Fraser McDonald, PhD; Victoria S. Lucas, PhD



- 11:15	5 a.m. <b>G34</b>	Dental Identification of World War II Remains: The Battle of Saipan — June 1944 Roy H. Sonkin, DDS*; Howard S. Glazer, DDS
		noy 11. sommi, DDs , 110 ward 5. Gid2ci, DDs
- 12:00	p.m. <b>G35</b>	The Analyses of Dental Remains From 1607 Jamestown, Virginia, Using Micro-Computed Tomography (micro-CT) Imaging, Scanning Electron Microscopy With Energy-Dispersive X-Ray Spectroscopy (SEM-EDX)/Raman Spectroscopy (RS), and Paleobotany  Barry Pass, PhD*; Martin D. Levin, DDS*; David J. Cohen, MD;  Zvi Schwartz, PhD; Barbara D. Boyan, PhD; Dimitry Pestov, PhD;  David Givens, MSc; Michael Lavin, BSc; Linda Scott-Cummings, PhD;  Douglas W. Owsley, PhD
- 1:30	) p.m.	Lunch
ssion		
- 1:00	p.m. <b>G36</b>	When the Hammer Falls: Patterned Injury Comparison in a Blunt
		Force Homicide Laura C. Fulginiti, PhD*; John A. Piakis, DDS; Katelyn L. Bolhofner, MA
- 1:00	p.m. <b>G37</b>	Testing a Novel 3D Printed Radiographic Imaging Device for Use in Forensic Odontology  Tara L. Newcomb, MS*; Ann M. Bruhn, MS*
	- 12:00 - 1:30 <b>ssion</b> - 1:00	- 12:00 p.m. G35  - 1:30 p.m.  ssion  - 1:00 p.m. G36

#### **Dental Identification 3**

Moderator:		mes P. Fanche artindale, TX	er, DDS, I	PhD Co-Moderator: Peter J. Marsh, DDS Manvel, TX
1:30 p.m.	-	2:00 p.m.	G38	A Distributed System for Human Identification  John Melville, MD*; Michael Morrow
2:00 p.m.	-	2:15 p.m.	G39	<b>Dental Identifications Without the Use of Dental Antemortem Radiographs</b> <i>Amber D. Riley, MS*; Anthony R. Cardoza, DDS*</i>
2:15 p.m.	-	2:30 p.m.	G40	Tarawa Revisited: A Summary of Results Corinne D'Anjou, DMD*; James F. Goodrich, BDS*; David R. Senn, DDS*
2:30 p.m.	-	2:45 p.m.	G41	Identification Challenges With Fragmented, Disassociated, and Commingled Remains Corinne D'Anjou, DMD*; James F. Goodrich, BDS*; David R. Senn, DDS*



2:45 p.m.	-	3:00 p.m.	G42	The Strengths and Weaknesses of Missing Persons Apps for Smartphones: A Forensic Expert's Perspective Emilio Nuzzolese, PhD*; Sakher J. AlQahtani, PhD*; Joe Adserias, DDS, PhD*; Giancarlo Di Vella, MD, PhD
3:00 p.m.	-	3:15 p.m.	G43	Case Study: Identifying Balloon Fatalities in Central Texas  James P. Fancher, DDS, PhD*
3:15 p.m.	-	3:30 p.m.		Break

#### **Dental Identification 4**

Moderator:	Peter J. Marsh, DDS	
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moderator.		anvel, TX	525	
3:30 p.m.	-	3:45 p.m.	G44	The Ability to Discern Dental Restorative Materials on Radiographs for Dental Identifications  Veronique F. Delattre, DDS*; Georgina V. Medina, BS
3:45 p.m.	-	4:00 p.m.	G45	The Germanwings Air Crash in the French Alps (2015): Victim Identification Gwenola Drogou, DDS*; Charles E. Georget, PhD; Aime Conigliaro, MSc
4:00 p.m.	-	4:15 p.m.	G46	$\label{lem:continuous} \textbf{Identification of Sex Using Melanoderm Lip Prints: A Clinical Study in Senegal} \ \textit{Khalifa Dieng, DDS*}$
4:15 p.m.	-	4:30 p.m.	G47	Identification of Charred Victims  Aime Conigliaro, MSc*; Charles E. Georget, PhD
4:30 p.m.	-	4:45 p.m.	G48	The Development of an Ultraviolet Photography Protocol for Composite Restorations Jennifer J. Jerome, DDS*; Paula C. Brumit, DDS; James P. Fancher, DDS, PhD; Roger D. Metcalf, DDS, JD; David R. Senn, DDS



### Wednesday

#### **Poster Session**

11.20	111	
11:30 a.m 1:00 p	o.m. <b>H1</b>	A Postmortem Microbiological Evaluation: Notable Infectious Diseases in Forensic Autopsies
		Fatih Gonen*; Safa Celik; Gulhan Yagmur; Muhammet Demir; Ziyaettin Erdem; Gulnaz T. Javan, PhD
11:30 a.m 1:00 p	o.m. <b>H2</b>	I Like Your Shoes: The Utility of Barnacles (Crustacea: Cirripedia) in Forensic Investigations in a Marine Environment
		Danea Pirtle, BA*; Paola A. Magni, PhD; Ian Dadour, PhD
11:30 a.m 1:00 p	o.m. H3	Ketamine and Blowflies: An Entomotoxicology Study Paola A. Magni, PhD*; Marco Pazzi, PhD; Jessica Droghi; Valentina Santoro, MSc; Marco Vincenti, MS; Ian Dadour, PhD
11:30 a.m 1:00 p	o.m. <b>H4</b>	The Things You Find When Fishing: The Forensic Investigation of a Human Skull
		From the Sea Paola A. Magni, PhD*; Luca Massaro, MD; Matteo Borrini, PhD; Brian Morton, PhD; Jennifer Chaplin, PhD; Ian Dadour, PhD
11:30 a.m 1:00 p	o.m. H5	An Analysis of Skin Potential Hydrogen (pH) and Oxidation Reduction Potential (Eh) on Decomposing Swine Carcasses Chelsie K.R. Mangca Valdez, BS*; Hannah Dibner, BA; David O. Carter, PhD
11.20	Ш	
11:30 a.m 1:00 p	o.m. <b>H6</b>	Small Asian Mongoose Scavenging Behavior on Oahu Hannah Dibner, BA*; Chelsie K.R. Mangca Valdez, BS; David O. Carter, PhD
11:30 a.m 1:00 p	o.m. <b>H7</b>	A Case of Fatal Sepsis by <i>Clostridium perfringens</i> After a Hepatic Liver Biopsy of a Rare Neuroendocrine Tumor
		Gianluca Landi*; Giacomo Gualtieri; Irini A. Scordi-Bello, MD, PhD*; Daniel Aaron Kirsch, BS*
11:30 a.m 1:00 p	o.m. <b>H8</b>	The Role of P2Y2 Receptors in the Pathogenesis of Hantavirus
		Cardiopulmonary Syndrome (HCPS) Casey P. Bitting, DO*; Virginie Bondu; Valerie Poland, BA; Sarah Lathrop, DVM, PhD; Daniel Lawrence, PhD; Tione Buranda, PhD
11:30 a.m 1:00 p	o.m. <b>H9</b>	Teaching Morphological Species Identification to Forensic Science Students:
		Advantages, Problems, and Results Gregory Nigoghosian, BSc*; Lauren Weidner, PhD; Trevor I. Stamper, PhD
11:30 a.m 1:00 g	o.m. <b>H10</b>	Predicting the Postmortem Submersion Interval (PMSI) Using the Microbiome of Waterlogged Bone
		Claire M. Cartozzo, MSFS*; Tal Simmons, PhD; Edward Boone, PhD; Baneshwar Singh, PhD



2017				
11:30 a.m.	-	1:00 p.m.	H11	A Fatal Alligator Attack in South Carolina: A Case Report and Review of the Literature  Joni B. Skipper, MD*; Lee M. Tormos, MD; S. Erin Presnell, MD
11:30 a.m.	-	1:00 p.m.	H12	Pneumococcal Meningitis Associated With Phlegmonous Gastritis and HIV/AIDS Benjamin Mathis, MD*; Kenneth D. Hutchins, MD
11:30 a.m.	-	1:00 p.m.	Н13	The Application of Morphometrics to a Candidate Gene Approach for Identifying the Genetic Basis of Facial Morphology Bailey Harrington, MSc*; Ross Williams, PhD
11:30 a.m.	-	1:00 p.m.	H14	Alternative Food Sources for Entomological Evidence: A Practical Tool for Crime Laboratories  Lauren Weidner, PhD*; Gregory Nigoghosian, BSc; Caroline Garvin Hanau
11:30 a.m.	-	1:00 p.m.	H15	Insects of Forensic Importance: Seasonality and Georeferencing in the Mexican Territory Carolina Núñez-Vázquez, PhD*; Lorena Valencia Caballero, PhD; Eduardo Vazquez-Santacruz; Daniela Alejandra Troncoso Rodríguez, BS; Isabel Salazar García, BS; Diego Pineda Martinez
11:30 a.m.	-	1:00 p.m.	Н16	A Deadly Blade of Grass: A Case Report of a Penetrating Head Injury and Its Sequelae  Lauren Havrilla, DO*; Kimberly E. Janssen
11:30 a.m.	-	1:00 p.m.	H17	A Postmortem Diagnosed Case of Malaria in a Non-Endemic Country Joana Rita Coelho Batista Silva, MD*; José M. Fernandes, MD; Virgínia Lopes, PhD; Susana Gimaraes; Sofia L. Frazão, MD
11:30 a.m.	-	1:00 p.m.	H18	Forensic Sciences' Contribution to a Murder Case With an Incineration Attempt Joana Rita Coelho Batista Silva, MD*; Susana Raquel Félix Guimarães Ferreira, MA; Antía Simón, MA; Gonçalo Carnim; Sofia L. Frazão, MD
11:30 a.m.	-	1:00 p.m.	H19	WITHDRAWN
11:30 a.m.	-	1:00 p.m.	H20	Methods for Improvement of Allele Recovery With the GlobalFiler $^{TM}$ Assay Sheri J. Olson, MS; Allison Holt, PhD*
11:30 a.m.	-	1:00 p.m.	H21	A Brain Teaser: Two Atypical Meningoencephalitis Cases in Human Immunodeficiency Virus (HIV) Patients Brooke Blake, MD*; Judith Aronson, MD; Gregory Berry, PhD; Gerald Campbell, PhD; Benjamin Gelman, PhD; Yiqin Zou, MBBS
11:30 a.m.	-	1:00 p.m.	H22	It Came Back to Bite Him: A Case of Snakebite in Combination With Multiple Toxicities Christine Yoo, MD*; Julia Shields, MD; William C. Rodriguez III, PhD; David R. Fowler, MD
11:30 a.m.	-	1:00 p.m.	H23	A Rare Snake Bite-Related Fatality: A Case Report Angelina I. Phillips, MD*; Tyrish Y. Page, MA; Ellen C. Riemer, MD, JD



11:30 a.m.	-	1:00 p.m.	H24	WITHDRAWN
11:30 a.m.	-	1:00 p.m.	H25	A Correlative Forensic Approach to the Dynamics of Decomposition in a Tropical Environment Jariangely Rivera*
11:30 a.m.	-	1:00 p.m.	H26	An Autopsy Fingerprint Technique Using Fingerprint Powder Lee Morgan*; Marty Johnson, PhD; Jered B. Cornelison, PhD; Carolyn V. Isaac, PhD; Joyce L. deJong, DO; Joseph A. Prahlow, MD
11:30 a.m.	-	1:00 p.m.	H27	The Collaboration of Forensic Sciences in a Particular Case of Murder Simone Onti, MD*; Sara Benedetti, MD; Silvia Boni, MD; Raffaella Inglese, MD; Paolo Frisoni, MD; Sara Chierici*; Francesco Maria Avato, MD; Rosa Maria Gaudio, MD
11:30 a.m.	-	1:00 p.m.	H28	The Implementation of a Quality Improvement (QI) Program for Death Scene Photography in a Medical Examiner Office Kevin Jenkins, MD*; Paul V. Benson, MD
11:30 a.m.	-	1:00 p.m.	H29	Facial Dissection: Two Case Reports Showing the Need for This Special Autopsy Technique Bruno M. Santos, MSc*; Luísa Eiras, MD; Maria C. Mendonça, PhD
11:30 a.m.	-	1:00 p.m.	H30	The Postmortem Diagnosis of Pulmonary Thromboembolism in Decomposed Corpses: Limitations and Errors of the Autoptic Techniques  Isabella Aquila, MD*; Ciro Di Nunzio, MFS, PhD*; Pietrantonio Ricci;  Paola Frati, PhD; Vittorio Fineschi, MD, PhD
11:30 a.m.	-	1:00 p.m.	Н31	A Cold Case in Fatal Precipitation: Suicide or Murder? The Role of Virtopsy in Forensic Cases of Exhumation  Isabella Aquila, MD*; Carmela Falcone, MD; Oscar Tamburrini, PhD;  Pietrantonio Ricci

### Thursday — Session I

#### **Pediatrics**

Moderator: Michele T. Stauffenberg, MD Co-Moderator: Karl Williams, MD

Fulton County Medical Examiner's Office Pittsburgh, PA

Atlanta, GA

8:30 a.m. - 8:45 a.m. H32 Sudden Infant Death Syndrome (SIDS) and Tongue-Ties: Is There a
Connection? Upper-Lip Frenum as a Predictive Marker for Unexpected and

Unexplained Asphyxia in Infants
Leslie A. Haller, DMD\*; Theodore T. Brown, MD



8:45 a.m.	-	9:00 a.m.	Н33	Too Much, Too Little, Too Late: Postmortem Discovery of a Postpartum Endocrinomaly  Erica J. Armstrong, MD*
9:00 a.m.	-	9:15 a.m.	Н34	Two Instances of Sudden and Unexpected Infant Death (SUID) in Siblings With a Shared Mutation in Plakophilin 2 (PKP2)  Ashwyn Rajagopalan, MD*; Kris Cunningham, MD; Michael S. Pollanen, MD
9:15 a.m.	-	9:30 a.m.	Н35	Ectopic Pregnancy-Related Deaths at Autopsy in North Carolina: A 25-Year Retrospective Review  Julie A. Hull, MD*; Deborah Radisch, MD; Michelle B. Aurelius, MD
9:30 a.m.	-	9:45 a.m.	Н36	Congenital Heart Defects (CHD) in Children: A Retrospective Review of Autopsies From the Cook County Medical Examiner's Office Serenella Serinelli, MD*; Steven M. White, MD, PhD; Lorenzo Gitto, MD
9:45 a.m.	-	10:00 a.m.	Н37	A Sudden Unexpected Infant Death (SUID) Associated With Coronary Arterial Fibromuscular Dysplasia  Hannah Elysse Bielamowicz, MD*; Patrick E. Lantz, MD
10:00 a.m.	-	10:30 a.m.		Break

#### Trauma

Moderator: Kathryn C. Pinneri, MD

Montgomery County Forensic Services Department

Conroe, TX

10:30 a.m 10:45 a.m.	Н38	The Effect of History and Context on Consensus in Diagnosis of Patterned Injuries of the Skin William R. Oliver, MD*
10:45 a.m 11:00 a.m.	Н39	A Gunshot Wound Trajectory Analysis Using Forensic Animation to Establish the Relative Positions of the Shooter and Victim Aisling Galligan, MSc*; Craig T. Fries, BA; Jerry Wachtel, MBA; Judy Melinek, MD
11:00 a.m 11:15 a.m.	H40	Postmortem Imaging of Coronary Arteries for Natural and Violent Deaths Katarzyna Michaud, MD*; Silke Grabherr, PhD; Fabrice Dedouit, MD, PhD
11:15 a.m 11:30 a.m.	H41	Burns, a Home Fire, Strangulation, Intoxication, a Knife, and Three Cadavers: A Criminal Novel  Jorge Costa Rosmaninho, MD; José Vieira de Sousa, MD; Antonio Padilha;  João Manata, MSc; Joao E.S. Pinheiro, PhD, MD*
11:30 a.m 11:45 a.m.	H42	Synchrotron Studies of Spectrometric and Chemical Changes in Aging Bruises Stewart Walker, PhD*; Neil E. Langlois, MD; Josie P. Nunn, BSc



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11:45 a.m.	-	12:00 p.m.	H43	A Fatal Accidental Gunshot Wound During a Pursuit by Law Enforcement Tiffany O'Neill, DO*; Patrick E. Lantz, MD
12:00 p.m.	-	12:15 p.m.		Discussion
12:15 p.m.	-	1:30 p.m.		Lunch
Poster Se	ssic	on		
11:30 a.m.	-	1:00 p.m.	Н44	The Diagnostic Accuracy of the Triad in Shaken Baby Syndrome: A Systematic Literature Review  Anders Eriksson, MD, PhD*; Irene Edebert, PhD; Göran Elinder, PhD;  Boubou Hallberg, PhD; Niels Lynoe, PhD; Frida Mowafi, PhD; Måns Rosen, PhD;  Pia Sundgren, PhD
11:30 a.m.	-	1:00 p.m.	H45	Child Abuse and Head Trauma: A Retrospective Analysis for Diagnosis Monica D'Amato, MD*; Francesco Lupariello, MD*; Serena Maria Curti, MD; Lucia Tattoli, PhD; Davide Santovito, MD; Giancarlo Di Vella, MD, PhD
11:30 a.m.	-	1:00 p.m.	H46	Butyrylfentanyl and Acetylfentanyl Levels in Driving Under the Influence and Overdose Cases Katherine F. Maloney, MD*; Nicole A. Yarid, MD; Christine Giffin, MS; Colleen Corcoran, BS; Janinne Blank; Tara J. Mahar, MD
11:30 a.m.	-	1:00 p.m.	H47	A Comparison of Postmortem Serum and Vitreous Cortisol Levels Lauren E. Dvorscak, MD*; Hannah A. Kastenbaum, MD
11:30 a.m.	-	1:00 p.m.	H48	Trends in Opiate Deaths — Summit County, Ohio: January 2009-December 2015 Kristy Waite, DO*; Amy Deeken, MD; Lisa J. Kohler, MD
11:30 a.m.	-	1:00 p.m.	H49	<b>Periosteal Tracheal Granuloma: A Fatal Complication of Tracheostomy in Infants</b> <i>Julia Lemarchand, MD*; Pauline Saint-Martin, MD, PhD; Thierry Lefrancq, MD; Camille Rerolle, MD</i>
11:30 a.m.	-	1:00 p.m.	H50	Sharp Force Homicides — Men Versus Women Julia Aliazzi*; Joseph A. Felo, DO
11:30 a.m.	-	1:00 p.m.	H51	U-47700: A Synthetic Opioid of Unknown Significance Katherine F. Maloney, MD; Nicole A. Yarid, MD; Christine Giffin, MS; Colleen Corcoran, BS; Janinne Blank; Tara J. Mahar, MD*
11:30 a.m.	-	1:00 p.m.	H52	Cardiopulmonary Resuscitation (CPR) -Related Fractures and Their Differences From Fractures Due to Blunt Force Trauma Lindsey Anne Grisham, BS*; Marco Ross, MD
11:30 a.m.	-	1:00 p.m.	Н53	An Unusual Mechanism of Fatal Pediatric Abusive Head Trauma (AHT): A Case Report Yanel M. De los Santos, BS*; Charles P. Kokes, MD



11:30 a.m.	-	1:00 p.m.	H54	Postmortem Micro-Computed Tomography (micro-CT) Scanning of a Fetal Heart: A New Protocol for Determining Cause and Manner of Fetal Death Lucia Tattoli, PhD; Giovanni Botta, MD; Claudio M. Lombardi, MD; Vanessa Zambelli, PhD; Giancarlo Di Vella, MD, PhD*
11:30 a.m.	-	1:00 p.m.	Н55	A Case of Sudden Death in Twin Infants Given Melatonin Supplementation: A Challenging Interpretation of Postmortem Toxicology Alice Briones, DO*
11:30 a.m.	-	1:00 p.m.	H56	It's Still the Wild West: A Case Report and Review of Arrow-Related Deaths in Oklahoma  Kyla M. Jorgenson, MS; Cheryl Niblo, DO; Joshua Lanter, MD;  Ross James Miller, MD*
11:30 a.m.	=	1:00 p.m.	Н57	The Long and Short of It: A Skeletal Trauma Analysis of a Gunshot Wound Suicide From a .22 Caliber Long Rifle Round Shot Through a Handgun Suzanne R. Utley, MD*; Austin L. Polonitza, BS*; Heather A. Walsh-Haney, PhD
11:30 a.m.	-	1:00 p.m.	H58	Fatal Tree Surgeries Kathryn M. Strong, BA*; Wendy M. Gunther, MD
11:30 a.m.	-	1:00 p.m.	Н59	Suicides Using Atypical Methodologies: A Case Series Carmen Coles, MD*; Julia Shields, MD; Patricia Aronica, MD; Carol Allan, MD; Melissa A. Brassell, MD; Mary G. Ripple, MD; David R. Fowler, MD
11:30 a.m.	-	1:00 p.m.	H60	Fatal Propeller Injuries in a Non-Marine Context: A Work-Related Accident by a Concrete Mixer  Eloisa Maselli, MD*; Alessandro Dell'Erba, PhD; Francesca Donno, MD;  Roberto Vaglio
11:30 a.m.	-	1:00 p.m.	Н61	Severe Anogenital Injuries in Prepubescent Girls: Accidental Trauma Versus Sexual Abuse Monica D'Amato, MD; Caterina Petetta, MD*; Luca Gastaldo, MD; Francesco Lupariello, MD; Serena Maria Curti, MD; Giancarlo Di Vella, MD, PhD
11:30 a.m.	-	1:00 p.m.	Н62	Victim Characteristics and Injury Patterns Associated With Intimate Partner Sharp Force Homicides  Elizabeth A. Douglas, MD*
11:30 a.m.	-	1:00 p.m.	Н63	An Unexpected Toxicological Finding in an Infant: A Case of Chronic Intrauterine Fluoxetine Exposure Abigail J. Grande, MPH*; Joseph A. Prahlow, MD
11:30 a.m.	-	1:00 p.m.	Н64	Bolt Gun Deaths — The Prevalence and Etiology in a Northern European Setting Torfinn Gustafsson, BM*; Anders Eriksson, MD, PhD
11:30 a.m.	-	1:00 p.m.	H65	Children's Hangings: A Case of an Accidental Event Diana Maltez Alves, MA*; Luis Vaz Cardoso; Maria Carneiro de Sousa, PhD



				2017
11:30 a.m.	-	1:00 p.m.	Н66	Quantifying Physiologic Macrophages and Hemosiderin in the Dura Mater of Infants  Alison Krywanczyk, MD*; Elizabeth A. Bundock, MD, PhD
11:30 a.m.	-	1:00 p.m.	Н67	Emerging Trends: Deaths Associated With the Novel Synthetic Opioid U-47700 at the Tarrant County Medical Examiner's Office in Fort Worth, Texas Tasha Zemrus Greenberg, MD; Barrie Miller, MD*; Richard C. Fries, DO; Chris Heartsill, BS; Robert D. Johnson, PhD
11:30 a.m.	-	1:00 p.m.	H68	The Dark Side of Sudden Infant Death Syndrome (SIDS): When Isovaleric Acidemia Leads to Unexpected Death Silvia Boca*; Santo Gratteri, MD; Maria Manno, MD; Pietrantonio Ricci; Isabella Aquila, MD*
11:30 a.m.	-	1:00 p.m.	Н69	The Dark Side of Mothering: A Case of Infanticide Isabella Aquila, MD*; Rita Mocciaro, MD, PhD; Vittorio Fineschi, MD, PhD; Paola Frati, PhD; Pietrantonio Ricci
11:30 a.m.	-	1:00 p.m.	H70	Pedestrian Road Trauma: The Role of the Judicial Inspection Isabella Aquila, MD*; Ciro Di Nunzio, MFS, PhD*; Maria Chiarelli, MD; Matteo Antonio Sacco, MD*; Pietrantonio Ricci
11:30 a.m.	-	1:00 p.m.	H71	Suicide or Suspension of a Corpse? The Correlation Between a Hanging Mark and the Suspension Tool Used Isabella Aquila, MD*; Silvia Boca; Francesca Pepe, MD; Ciro Di Nunzio, MFS, PhD*; Matteo Antonio Sacco, MD; Pietrantonio Ricci
11:30 a.m.	-	1:00 p.m.	Н72	Histopathology of Drug Abuse: A Retrospective Study of 312 Cases Silvia D. Visonà, MD*; Matteo Moretti, MD; Andrea Calbi, MD; Giorgio Ardissino, MD; Tecla Maggi, BS; Luisa Andrello, MD; Antonio M.M. Osculati, MD
11:30 a.m.	-	1:00 p.m.	Н73	A Singular Case of Suicide Committed With a Homemade Firearm Francesca Maglietta, MD*; Furio Martino Patete; Margherita Neri, MD, PhD
11:30 a.m.	-	1:00 p.m.	Н74	Peculiar Suicidal Behavior: A Case of Multiple Fatal, Sharp, and Penetrating Wounds in the Neck  Alessandro Di Luca, MD*; Gerardo Di Masi, MD; Vincenzo L. Pascali, MD, PhD;  Antonio Oliva, MD, PhD
Pathology	y			Interno Gura, III.), I III.

Moderator: Jeffery K. Tomberlin, PhD

Texas A&M University
Department of Entomology
College Station, TX

1:30 p.m. - 1:45 p.m. **H75** Correcting the Count: Improving Vital Statistics Data Regarding Deaths Related to Obesity

Brandi C. McCleskey, MD\*; Gregory G. Davis, MD; Daniel W. Dye, MD



1:45 p.m.	-	2:00 p.m.	Н76	An Unusual Sudden Death Due to an Invasive Hydatidiform Mole Responsible for a Uterine Rupture and a Massive Hemoperitoneum  Marie Barbesier, MD*; Anne-Sophie Advenier, MD; François Golfier, MD;  Laurent Fanton, MD
2:00 p.m.	-	2:15 p.m.	H77	Is Fluid in the Sphenoid Sinus a Valid Indicator of Drowning?  Sherry Jilinski, MD*; David R. Fowler, MD
2:15 p.m.	-	2:30 p.m.	H78	Staining in Firearm Barrels: A Fundamental Study Christian Schyma*; Kristina Bauer, MD; Julia Brünig; Nicole Schwendener, HF; Rolf Müller; Burkhard Madea; Christian Jackowski, MD
2:30 p.m.	-	2:45 p.m.	Н79	Identification of Bodies Via Unique Serial Numbers on Implanted Medical Devices  Melissa M. Blessing, DO*; Peter T. Lin, MD
2:45 p.m.	-	3:00 p.m.	H80	Ischemic Heart Disease (IHD) as a Prime Cause of Sudden Cardiac Death (SCD) in Egypt Nora Fawzy Fnon, MSc*; Hanan H. Hassan, MD
3:00 p.m.	-	3:30 p.m.		Break

#### **Postmortem Interval**

Moderator:	Mi	nnifer L. Pech chigan State U st Lansing, M	Iniversity	Co-Moderator: M. Eric Benbow, PhD Depts of Entomology & Osteopathic Medical Specialties East Lansing, MI	
3:30 p.m.	-	3:45 p.m.	H81	From Oxidative Stress to Proteins: Postmortem Interval Estimation Based on Biochemical Parameters  Sara C. Zapico, PhD*; Paula Núñez, PhD; M. Ángeles Villaronga, PhD;  Sofia T. Menéndez, PhD; Douglas H. Ubelaker, PhD;  Juana M. García-Pedrero, PhD	
3:45 p.m.	-	4:00 p.m.	H82	Development of a Statistical Model to Determine the Postmortem Interval (PMI) Using the Human Skin Necro-Microbiome Nathan H. Lents, PhD*; Hunter R. Johnson, PhD; Donovan Trinidad, BS; Zenab Khan, BS; Jennifer M. DeBruyn, PhD	
4:00 p.m.	-	4:15 p.m.	Н83	Interpretation of Postmortem Vitreous Concentrations of Sodium and Chloride Henrik Druid, MD, PhD; Sören B. Berg; Kanar Alkass, BS; Brita Zilg, PhD*	
4:15 p.m.	-	4:30 p.m.	Н84	Bacteria as a Postmortem Interval (PMI) Clock? Successive Bacterial Colonization of Pork and Its Implications for Forensic Investigations  Jessica Handke, MSc; Dieudonné J. van der Meer, MSc; Graham A. Williams, PhD;  Martin Carr, PhD; Noemi Procopio, MSc; Michael Buckley, PhD; Anna Williams, PhD*	



4:30 p.m. - 4:45 p.m. **H85** Using Increased Lead Impedance Information Obtained During Interrogation of Cardiac Devices in Decomposed Bodies to Narrow Time of Death Ellen Moffatt, MD\*; Robert Hayward, MD; Rana Khan, BS; Anne Bedigian, BS;

Ellen Moffatt, MD<sup>\*</sup>; Robert Hayward, MD; Rana Khan, BS; Anne Bedigian, BS; Benjamin Colburn, MS; Nina Clark, BS; Philip Ursell, MD; Jeffrey Olgin, MD; Amy P. Hart, MD; Michael Hunter, MD; Harminder S. Narula, MD; Jennifer Park, DO;

Zian Tseng, MD

4:45 p.m. - 5:00 p.m. **H86** The Design and Validation of a Finite-Element Body Cooling Model for Calculating

Jay Dix Memorial Bonus Day Introduction

the Postmortem Interval

Maurice Aalders\*; Harry N. Van Venrooij, MD; Richelle J.M. Hoveling, MSc

#### Thursday — Session II

#### Jay Dix Memorial Bonus Day

Moderator: Michael A. Graham, MD

Saint Louis University School of Medicine

H87

Division of Forensic Pathology

St. Louis, MO

9:10 a.m.

3:00 p.m.

3:50 p.m.

9:00 a.m.

2:50 p.m. -

3:00 p.m. -

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9:10 a.m.	-	10:00 a.m.	Н87	Electrocution Randy L. Hanzlick, MD*
10:00 a.m.	-	10:10 a.m.		Break
10:10 a.m.	-	11:00 a.m.	Н87	Firearm Injuries  Joseph A. Prahlow, MD*
11:00 a.m.	-	11:50 a.m.	Н87	Stimulants: Coke to Khat, Speed to Spice Jonathan Hayes, MD*
11:50 a.m.	-	2:00 p.m.		Lunch
2:00 p.m.	-	2:50 p.m.	Н87	<b>Investigation of Deaths Due to Sedative Agents</b> <i>Tracey S. Corey, MD*</i>

Stephen J. Cina, MD\*

**Break** 

H87

Michael A. Graham, MD\*

\*Presenting Author 205

Investigation of Deaths Due to Asphyxia, Sexual Crimes, and Autoeroticism



#### Friday — Session I

#### Pathology/Biology

Moderator: Jane W. Turner, PhD, MD Co-Moderator: Priya Banerjee, MD

St. Louis City Medical Examiner's Office Providence, RI

St. Louis, MO

		,		
8:30 a.m.	-	8:45 a.m.	H88	Congenital Transmesenteric Herniation: A Case Report Illustrating a Rare Form of Internal Herniation Resulting in Small Bowel Strangulation Michèle Bentz*; Adam Berkowicz, PhD
8:45 a.m.	-	9:00 a.m.	Н89	The Epidemiology of Suicides in Allegheny County, Pennsylvania: A 10-Year Retrospective Review (2000-2009) and Comparison to a Previous Review (1990-1999)  Tanner Bartholow, MD*; Nader Shakir, BSc; Patricia Rekiel, BS; Todd M. Luckasevic, DO; Karl E. Williams, MD
9:00 a.m.	-	9:15 a.m.	Н90	Diurnal Oviposition Timing of Blow Flies and DNA Identification of Early Arrivers  Kristi Bugajski, PhD*; Beth Scaglione Sewell, PhD
9:15 a.m.	-	9:30 a.m.	Н91	Validation of Punitive Markers of Age in Immature Lucilia sericata (Meigen) (Diptera: Calliphoridae) Ashleigh M. Faris, MA*; Jonathan Parrott, PhD; Aaron M. Tarone, PhD
9:30 a.m.	-	9:45 a.m.	Н92	Morphological Comparison of Insect Artifacts From Six Species of Necrophagous Flies  Andrew McGregor, MS; David B. Rivers, PhD*
9:45 a.m.	-	10:00 a.m.	Н93	Forensic Implications of Multi-Species Blow Fly Larval Masses and Their Associated Microbiomes  Courtney Weatherbee, BS*; Jennifer L. Pechal, PhD; McKinley Brewer, BS; Trevor I. Stamper, PhD; M. Eric Benbow, PhD
10:00 a.m.	-	10:30 a.m.		Break



#### **Biology**

Moderator:	Heather R. Jorda Mississippi State Mississippi State	Universi	Co-Moderator: Melissa M. Blessing, DO Mayo Clinic Rochester, MN
10:30 a.m.	- 10:45 a.m.	Н94	<b>Determination of Cause of Death in Criminal Cases Using Thanatomicrobiome</b> Gulnaz T. Javan, PhD*; Frances Amber Hall, BA; Sheree J. Finley, MS; Jeremy E. Wilkinson, MS
10:45 a.m.	- 11:00 a.m.	Н95	Embalmed Human Cadavers Are Not Sterile: The Impact of Two Embalming Methods on the Microbiome of Human Cadavers  Amelia A. Bussell, MSFS*; Cynthia Cornelissen, PhD; Richard Sikon, MS;  Baneshwar Singh, PhD*
11:00 a.m.	- 11:15 a.m.	Н96	Internal Microbial Community Translocation Throughout Decomposition in a Controlled Vertebrate Model  Zachary M. Burcham, BS*; Jennifer L. Pechal, PhD; Jason Rosch, PhD;  Jeffrey L. Bose, PhD; Carl J. Schmidt, MD; M. Eric Benbow, PhD;  Heather R. Jordan, PhD
11:15 a.m.	- 11:30 a.m.	Н97	Postmortem Microbiome Changes During Thaw for Autopsy: Two Pediatric Case Studies  Jennifer L. Pechal, PhD*; Carl J. Schmidt, MD; Heather R. Jordan, PhD;  McKinley Brewer, BS; M. Eric Benbow, PhD
11:30 a.m.	- 11:45 a.m.	Н98	Trace Evidence in Microbial Forensic Study Through Cluster Analysis Lingling An, PhD*; Kyle Carter, MS
11:45 a.m.	- 12:00 p.m.	Н99	Storage Conditions and Time Alter the Association of Known and Questioned Soil Evidence Derived Via Next Generation Bacterial DNA Profiles  Alyssa J. Badgley, MS*; David R. Foran, PhD
12:00 p.m.	- 1:00 p.m.		Lunch
Poster Ses	ssion		

#### **Poster Session**

11:30 a.m.	-	1:00 p.m.	H100	Conduction Disruption: A Rare Case of Sudden Death as the Initial Presentation of Metastatic Renal Cell Carcinoma Stacey L. Reed, DO*; Candice Brem, MD; Farshaad Bilimoria, MD; Pradeep Sethi, MD; Todd Luckasevic, DO
11:30 a.m.	-	1:00 p.m.	H101	Fatal Complications of Aesthetic Techniques: Gluteal Liposculture  Kenneth D. Hutchins, MD; Fintan Garavan, PhD, MD; Katherine L. Kenerson, MD;  E. O. Lew, MD; Amy V. Rapkiewicz, MD*



11:30 a.m.	-	1:00 p.m.	H102	Systemic Air Embolism Associated With Upper Gastrointestinal Endoscopy in a Patient With Whipple Procedure: An Unexpected Finding Diagnosed on a Postmortem Computed Tomography (CT) Scan Zabiullah Ali, MD*; Jack M. Titus, MD; David R. Fowler, MD
11:30 a.m.	-	1:00 p.m.	H103	Subtle Microscopically Abnormal Cardiomyopathies (SMAC): An Analysis of Ten Cases Kona Williams, MD*; Kris Cunningham, MD
11:30 a.m.	-	1:00 p.m.	H104	<b>Two Fatal Cases of Posterior Reversible Encephalopathy Syndrome (PRES)</b> Shannon Crook, MD*; Meredith H. Frame, MD; M. Gregory Balko, MD; Gregory J. Davis, MD
11:30 a.m.	-	1:00 p.m.	H105	Multiple Symmetric Lipomatosis Patrick M. Kosciuk, MD; Samuel Prahlow*; Joseph A. Prahlow, MD
11:30 a.m.	-	1:00 p.m.	H106	Death Due to a Rare Complication of Colonoscopy and the Potential Medicolegal Implications Katie Thompson, MD*; Michael Stier, MD
11:30 a.m.	-	1:00 p.m.	H107	<b>Death Due to Bowel Obstruction Secondary to Raw Poppy Seed Ingestion</b> <i>Leah M. Schuppener, DO*; Robert F. Corliss, MD</i>
11:30 a.m.	-	1:00 p.m.	H108	<b>Dead in a Hot Bathtub: A Singular Case of Heat-Related Death</b> <i>Mauro A. Ciavarella*; Monica Salerno, MD, PhD*; Palmira Fortarezza, MS; Cristoforo Pomara, MD, PhD</i>
11:30 a.m.	-	1:00 p.m.	H109	Pressure Ulcer-Related Osteomyelitis in a Fatally Neglected Adult Ashwyn Rajagopalan, MD*; Michael S. Pollanen, MD
11:30 a.m.	-	1:00 p.m.	H110	Bifid Cardiac Apex and Sudden Death: An Unusual Case and Review of the Literature  Ester de Luca, MD*; Debora De Bartolo, MD*; Vincenzo Arena, MD; Francesco Ausania, MD; Santo Gratteri, MD; Pietrantonio Ricci
11:30 a.m.	-	1:00 p.m.	H111	Identity Crisis: The Case of a Wormian Bone Interpreted as a Traumatic Skull Fracture Shelley Choudhury, BS*; Karen E. Chancellor, MD
11:30 a.m.	-	1:00 p.m.	H112	Deaths Due to Post-Intubation Tracheal Stenosis: A Clinical History and Autopsy Findings in Three Cases Heather I. Chen, BA*; Brandy Shattuck, MD; Joyce L. deJong, DO
11:30 a.m.	-	1:00 p.m.	H113	Sudden and Unexpected Death During Sexual Activity Due to a Glial Cyst of the Pineal Gland Rosario Barranco*; Sara Lo Pinto, MD*; Maria Cuccì, MD*; Fiorella Caputo, MD*; Francesca Fossati, MD*; Giulio Fraternali Orcioni, MD*; Francesco Ventura, MD*



				2017
11:30 a.m.	-	1:00 p.m.	H114	Sudden Death Secondary to an Undiagnosed B-Cell Lymphoma of the Hypopharynx and Infiltration of the Inferior Constrictor Muscle Sara Lo Pinto, MD*; Rosario Barranco*; Maria Cuccì, MD*; Fiorella Caputo, MD*; Francesca Fossati, MD*; Giulio Fraternali Orcioni, MD*; Francesco Ventura, MD*
11:30 a.m.	-	1:00 p.m.	H115	Burn Injury: A Case Report and an Experimental Approach Ankin Güvencel, MD*; Anders Eriksson, MD, PhD
11:30 a.m.	-	1:00 p.m.	H116	Optic Nerve Sheath Hemorrhages Associated With Non-Traumatic Subdural and Subarachnoid Hemorrhage: A Case of Undiagnosed Congenital Hydrocephalus Mark J. Shuman, MD; Kristen Thomas, MD*
11:30 a.m.	-	1:00 p.m.	H117	Hemothorax and Hemopericardium in a Cooked State Due to Burns Secondary to Traumatic Chest Injuries: A Case Report Nilesh K. Tumram, MD*; Vipul Namdeorao Ambade, MD; Pradeep G. Dixit, MD
11:30 a.m.	-	1:00 p.m.	H118	Unusual Changes of the Lungs After Inhalation and Chemical Burning With Bleach Baiyang $Xu, MD^*$
11:30 a.m.	-	1:00 p.m.	H119	<b>Delayed Post-Hypoxic Leukoencephalopathy (DPHL)</b> <i>Kenneth D. Hutchins, MD*; Mark J. Shuman, MD</i>
11:30 a.m.	-	1:00 p.m.	H120	Dying to Be Beautiful: Fatal Fat Emboli After Liposuction and Brazilian Butt Lift Procedure Farshaad Bilimoria, MD*; Stacey L. Reed, DO; Todd M. Luckasevic, DO; Karl E. Williams, MD
11:30 a.m.	-	1:00 p.m.	H121	The Cane Sword: A Case Study Timothy Wysozan, BS*; Joseph A. Prahlow, MD
11:30 a.m.	-	1:00 p.m.	H122	Suicide by Trash Compactor Carolyn A. Kappen, MD*; Hannah C. Jarvis, MRCS*; Gianluca Landi
11:30 a.m.	-	1:00 p.m.	H123	Spontaneous Coronary Artery Dissection as Cause of Death in the Postpartum Period: A Case Report Sara L.M. Vilão, MD*; Débora Lourenço, MD; Patricia Jardim; Maria Cristina Ribeiro, MD
11:30 a.m.	-	1:00 p.m.	H124	A Selfie Stick Shotgun Suicide Brandee L. Winkler, BS*; Wendy M. Gunther, MD
11:30 a.m.	-	1:00 p.m.	H125	Acute Exacerbation of Asymptomatic Idiopathic Pulmonary Fibrosis After Radical Resection of Rectal Carcinoma: A Case Report Hongmei Dong*; Ji Zhang, PhD; Wei Lin, BS; Mingjie Qiu, BS
11:30 a.m.	-	1:00 p.m.	H126	Sexual Assaults in Geneva, Switzerland (2006-2012): Forensic Doctor Usefulness Romano La Harpe, MD*; Sandra E. Burkhardt, MD



11:30 a.m. - 1:00 p.m. **H127** The Loss of Dystrophin: An Immunohistochemical Study for Postmortem Diagnosis of Early Myocardial Ischemia

Cristina Mondello\*; Giovanni Bartoloni, MD; Luigi Cardia; Francesca Giuffrida; Giulio Cardia; Elvira Ventura Spagnolo

# Multidisciplinary Session: Anthropology Session II/General Session II/Pathology/Biology Session I — Forensic Taphonomy

Moderator: David O. Carter, PhD Co-Moderator: Eriek S. Hansen, PhD Chaminade University of Honolulu Colorado Mesa University Forensic Sciences Unit Dept Biological Science Honolulu, HI Grand Junction, CO Postmortem Interval Estimation Using the Blackened Osteocyte Method 1:00 p.m. 1:15 p.m. A122 Sarah Long, BS\*; Lynne S. Bell, PhD; Joan A. Bytheway, PhD 1:15 p.m. 1:30 p.m. H128 Changes in Bacterial Community Structure and the Estimation of Long-Term

Postmortem Interval (PMI)

Michael S. Woolf, MS\*; Vanessa Sufrin, MS; Tal Simmons, PhD;

Baneshwar Singh, PhD\*

1:30 p.m. - 1:45 p.m. E110 Bioelectrical Impedance Analysis as a Technique for Estimating the Postmortem Interval (PMI) in Human Remains

Eriek S. Hansen, PhD\*; Melissa A. Connor, PhD; Christiane Baigent, MSc

1:45 p.m. - 2:00 p.m. E111 Measuring Desiccation Using Qualitative Changes

Melissa A. Connor, PhD\*; Christiane Baigent, MSc; Eriek S. Hansen, PhD

2:00 p.m. - 2:15 p.m. A123 A New Approach to Estimating Accumulated Degree Days (ADD): Using Binary Observations From Various Regions of the Body With Random Forest Modeling (RFM) and Geographic Information Systems (GIS)

Michael W. Kenyhercz, PhD\*; Dawnie W. Steadman, PhD; Annemarie C. Gundel, BA

2:15 p.m. - 2:30 p.m. A124 Validation of the Total Body Score/Accumulated Degree Days (TBS/ADD)

Equation at 100, 300, 500, and 1,000 ADD on 30 Human Subjects With a Known
Postmortem Interval (PMI) From Three Human Decomposition Facilities

Joan A. Bytheway, PhD\*; Nichole Miller; Dawnie W. Steadman, PhD; Kelly Sauerwein, MA; Daniel J. Wescott, PhD; Chaunesey Clemmons, BA; Devora S. Gleiber, BA; Chloe P. McDaneld, MA; Lauren A. Meckel, MA

2:30 p.m. - 2:45 p.m. H129 Myiasis and Death: Factors and Complications Related to Estimating Time of

Colonization After Antemortem Fly Colonization Followed by Death Michelle R. Sanford, PhD\*; Darshan R. Phatak, MD; Alex John, MD;

Michael R. Condron II, MD

2:45 p.m. - 3:00 p.m. **Break** 

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# $\label{lem:multidisciplinary Session II/General Session II/Pathology/Biology Session I — Forensic Taphonomy$

Moderator:	Ca De	izabeth A. Mill difornia State opt of Anthropo s Angeles, CA	Universit	Co-Moderator: Audrey L. Meehan, BS Ewa Beach, HI
3:00 p.m.	-	3:15 p.m.	H130	Coupled Microbiome and Insect Evidence in Death Investigations M. Eric Benbow, PhD*; Jennifer L. Pechal, PhD; Heather R. Jordan, PhD; McKinley Brewer, BS; Carl J. Schmidt, MD
3:15 p.m.	-	3:30 p.m.	E112	WITHDRAWN
3:30 p.m.	-	3:45 p.m.	H131	Analyses of Necrobiome Structure and Function for Utility in Forensic Science Heather R. Jordan, PhD*; Zachary M. Burcham, BS; Jeffrey L. Bose, PhD; Jennifer L. Pechal, PhD; Jason Rosch, PhD; Carl J. Schmidt, MD; M. Eric Benbow, PhD
3:45 p.m.	-	4:00 p.m.	E113	What Forensic Archaeology and Forensic Taphonomy Can Offer to Medicolegal Death Investigation Dennis C. Dirkmaat, PhD*; Luis L. Cabo, MS
4:00 p.m.	-	4:15 p.m.	E114	Trauma and/or Taphonomy? Analysis of Peri-Mortem Trauma Observed in a Post-Battle World War II Cemetery and the Complications of Taphonomy in Discerning Trauma  Kristen N. Baker, MA*; Hillary R. Parsons, PhD*
4:15 p.m.	-	4:30 p.m.	A125	Vulture Scavenging of Small-Sized Pig Carcasses in Central Florida: Utilizing Geographic Information Systems (GIS) to Analyze Site Variables Affecting Skeletal Dispersal  John J. Schultz, PhD*; Alexander T. Mitchell
4:30 p.m.	-	4:45 p.m.	A126	Differential Temperatures of the Human Body and Fire Elayne J. Pope, PhD*; Amanda Williams, MA; Alison Galloway, PhD
4:45 p.m.	-	5:00 p.m.	H132	Digging Up the Past — An Atypical Medical Examiner's Case Haley K. Scott, BSc*; Joseph T. Hefner, PhD; Philip R. Croft, MD, JD



#### Friday — Session II

Multidisciplinary Session: Pathology/Biology Session II/Toxicology — Postmortem Forensic Toxicology

Moderator: Timothy P. Rohrig, PhD Co-Moderator: Giancarlo Di Vella, MD, PhD

Regional Forensic Science Ctr University of Torino

Wichita, KS Department Public Health Sciences

Torino, ITALY

				Torino, ITALY
8:30 a.m.	-	8:45 a.m.	Н133	Evaluation of Acute Alcohol Intoxication as the Primary Cause of Death: A Diagnostic Challenge for Forensic Pathologists  Rong Li, MD; Feng Chen, MD*; Jianwen Wang, MD; Xiang Zhang, MD*;  Rebecca Jufer Phipps, PhD; Eleanor Thomas; David R. Fowler, MD; Ling Li, MD*
8:45 a.m.	-	9:00 a.m.	K54	False Positive Enzymatic Alcohol Results: Two Cases From 2014 Sandra C. Bishop-Freeman, PhD*; Robert H. Powers, PhD; Lisa Mayhew, BS; Ruth E. Winecker, PhD
9:00 a.m.	-	9:15 a.m.	Н134	Deaths From Combined Methamphetamine and Heroin Use in Denver: 2005-2016  Andrew Hanosh, MD*; Meredith A. Frank, MD; Krista L. Timm, MD; James Louis Caruso, MD
9:15 a.m.	-	9:30 a.m.	K55	The Increased Prevalence of Illicit Synthetic Opioids in Postmortem Casework at the New York City Office of Chief Medical Examiner (NYC OCME) From January to June, 2016  Gail Audrey Ann Cooper, PhD*
9:30 a.m.	-	9:45 a.m.	K56	The Use of Liquid Chromatography/Time-Of-Flight (LC/TOF) Data-Mining Techniques to Evaluate Evidence of Use of Dipyrone and Levamisole in Conjunction With Fentanyl and Other Illicit Recreational Drugs Brian Holsey, BS*; Sherri L. Kacinko, PhD; Barry K. Logan, PhD
9:45 a.m.	-	10:00 a.m.	Н135	Forensic Applications of Postmortem Pharmacogenomics  Jeffrey M. Jentzen, MD*
10:00 a.m.	-	10:15 a.m.		Break

## PATHOLOGY/BIOLOGY



## Multidisciplinary Session: Pathology/Biology Session II/Toxicology — Postmortem Forensic Toxicology (continued)

Moderator:	Giancarlo Di Ve University of Tor Department of P Torino, ITALY	ino		rator:	William R. Johnson, BA Wisconsin State Lab of Hygiene Toxicology Section Madison, WI
10:15 a.m.	- 10:30 a.m.	K57	The Use of a Forensic Case Manage Science and Research Dimitri Gerostamoulos*; Jennifer L.		
10:30 a.m.	- 10:45 a.m.	K58	Fluoxetine Toxicity — Pharmacoge Converge to Create the Perfect Stor Thomas C. Kupiec, PhD*; Min Wei, I	rm: A	
10:45 a.m.	- 11:00 a.m.	H136	-	rmine line Di	
11:00 a.m.	- 11:15 a.m.	Н137	Postmortem Detection of Despropio Peter Mazari, MD*; Rebecca Jufer P David R. Fowler, MD		entanyl (DPF) in Drug-Related Deaths PhD; Mary G. Ripple, MD;
11:15 a.m.	- 11:30 a.m.	H138	Drop Dead Again: Surge of Deaths Cook County, Illinois Kimberly M. Golden, MD*; Peter J. I Adrienne Segovia, MD		, u
11:30 a.m.	- 11:45 a.m.	K59	The First Case of Loperamide Toxic Daniel Atherton*; Daniel W. Dye, MI		Jefferson County, Alabama andi C. McCleskey, MD; Rachel C. Beck, PhD
11:45 a.m.	- 12:00 p.m.	K60	Novel Scheduling in the State of Oh Eric S. Lavins, BS*; Cassandra L. Cl	nio lyde, M i, MS; ell, BS o, DO;	Ian T. Brooker, BS; Erin C. Reed, JD; c; Leslie E. Lemmerbrock, BS; Andrea McCollum, MD;



## PATHOLOGY/BIOLOGY

## Saturday

#### Natural and More...

Moderator: David O. Carter, PhD

Chaminade University of Honolulu

Forensic Sciences Unit

Honolulu, HI

8:30 a.m.	-	8:45 a.m.	H139	Acute Pulmonary Emphysema (APE) in an Incomplete Hanging Claudia Castiglioni*; Fiorella Lanzillotta, MD; Tony Fracasso, MD, PhD
8:45 a.m.	-	9:00 a.m.	H140	Lethal Masturbation of a Teenager Suffering From a Long QT (LQTS) Syndrome Type 8 With a Newly Discovered CACNA1C Gene Mutation Philippe Cathala, MD*; Pascal Amedro, MD; Veronique Fressart, MD; Olivier Mathieu, PhD; Pierre-Antoine Peyron, MD; Eric Baccino, MD
9:00 a.m.	-	9:15 a.m.	H141	A Rare Case of Fatal Retropharyngeal Hemorrhage in a Patient With Neurofibromatosis Type 1 (NF1)  Pierre-Antoine Peyron, MD*; Michael S. Pollanen, MD
9:15 a.m.	-	9:30 a.m.	H142	Agenesis of the Thyroid Cartilage Superior Cornua: Implications for Autopsy Sharon M. Derrick, PhD*; Kathryn C. Pinneri, MD; Deborrah C. Pinto, PhD
9:30 a.m.	-	9:45 a.m.	H143	Pericardial Rupture After Mechanical Resuscitation With the Lund University Cardiopulmonary Assist System, 2 <sup>nd</sup> Generation (LUCAS <sup>TM</sup> 2)  Christelle Lardi, MD*; Tony Fracasso, MD, PhD
9:45 a.m.	-	10:00 a.m.	H144	A Staged Hanging: Postmortem Suspension of a Homicide Victim Lauren N. Huddle, MD*; Michael Hays, MD; Tracy Shipe, DO; William T. Gormley, MD, PhD
10:00 a.m.	-	10:15 a.m.		Break

#### Natural and More... (continued)

Moderator: David O. Carter, PhD

Chaminade University of Honolulu

Forensic Sciences Unit

Honolulu, HI

10:15 a.m. - 10:30 a.m. H145 An Autopsy Study of Suicidal Deaths — Trends in South India

Prashantha Bhagavath, MD\*; Vikram Palimar, MD; Haneil Dsouza, MD

## PATHOLOGY/BIOLOGY



10:30 a.m.	- 10:45 a.m.	H146	Talin as a Potential Protein Biomarker in Forensic Investigations Sait Özsoy, MD; Gulnaz T. Javan, PhD; Zahra Campbell; Sheree J. Finley, MS*
10:45 a.m.	- 11:00 a.m.	H147	A Staged Crime Scene Determination: Correlation of Forensic Evidence Francesco Lupariello, MD*; Lucia Tattoli, PhD; Sara Iacopini, MD*; Ignazio Grattagliano, PsyD; Giovanni Abbattista, PhD; Giancarlo Di Vella, MD, PhD
11:00 a.m.	- 11:15 a.m.	H148	Mimic of Pediatric Head Trauma: Bipartite Parietal Bone in Pediatric Cases Richard C. Fries, DO*; Dana Austin, PhD; Marc A. Krouse, MD; Tasha Zemrus Greenberg, MD; Susan J. Roe, MD; Nizam Peerwani, MD
11:15 a.m.	- 11:30 a.m.	H149	Two Cases of Fatal Pulmonary Tumor Thrombotic Microangiopathy Danielle Armstrong, DO*; Joseph M. Guileyardo, MD
11:30 a.m.	- 11:45 a.m.	H150	Sudden Death Related to Aortic Pathology — A Comprehensive Diagnostic Approach Katarzyna Michaud, MD*; Hans H. de Boer, MD, PhD; Fabrice Dedouit, MD, PhD; Allard van der Wal, MD, PhD
11:45 a.m.	- 12:00 p.m.		Discussion



#### Wednesday

#### **Poster Session**

11:30 a.m.	-	1:00 p.m.	I1	Child Abuse and Neglect Associated With Parental Paranoid Psychotic Disorder Serena Maria Curti, MD*; Monica D'Amato, MD; Francesco Lupariello, MD; Sara S. Racalbuto, PsyD; Ignazio Grattagliano, PsyD; Giancarlo Di Vella, MD, PhD
11:30 a.m.	-	1:00 p.m.	I2	Juvenile Perpetrators of Sexual Violence Against Other Minors: In Italy Many Probably Do Not Even Know It Is a Crime Ignazio Grattagliano, PsyD; Paola Lecce, PhD; Francesco Craig, PhD; Elena Lafortezza, PhD; Andrea Lisi, PsyD; Floriana Pinto, PhD; Valentina Stallone, PhD; Grazia Pierri, PsyD; Giuseppina Zagaria, PhD; Lucia Margari, MD; Giancarlo Di Vella, MD, PhD; Anna Cassano, PsyD*; Alessio Ostuni, MD; Maricla Marrone, MD; Francesco Margari, MD
11:30 a.m.	-	1:00 p.m.	I3	The Implementation of a New Method to Care for Mentally III, Incarcerated Clients Who Are Not Competent to Stand Trial  Mariah Smith, MD*; Roshanak Ramezani, MD; Ronnie Swift, MD

#### **Thursday**

#### **Abuse and Crimes Toward Children**

Moderator: R. Gregg Dwyer, MD, EdD Co-Moderator: Karen B. Rosenbaum, MD

Medical University of South Carolina New York, NY

Community & Public Safety Psychiatry Division

Charleston, SC

8:30 a.m. - 10:30 a.m. I4 Internet Crimes Against Children: A Forensic Analysis

Karen B. Rosenbaum, MD\*; R. Gregg Dwyer, MD, EdD\*; J. Paul Fedoroff, MD\*;

D.J. Barton, MCJ\*

10:30 a.m. - 10:45 a.m. **Break** 

10:45 a.m. - 11:05 a.m. I5 Real Child Voices: The Impact of Age and Gender Congruent Voices on

Sexual Arousal to Child Sexual Scenarios

Rebekah Ranger, BA\*; Lisa Murphy, MCA; J. Paul Fedoroff, MD;

William H. Burke, PhD; R. Gregg Dwyer, MD, EdD

11:05 a.m. - 11:20 a.m. I6 A Psychological Formulation Model for the Multi-Agency Intervention:

**Investigation and Management of Child Sexual Exploitation** 

Lynsey F. Gozna, PhD\*



11:20 a.m.	- 12:00 p.m.	17	Why Do Mothers Abuse and Neglect Their Children?: An Update on 100 New Jersey Cases Vivian Shnaidman, MD*
12:00 p.m.	- 1:00 p.m.		Lunch
Poster Se	ssion		
11:30 a.m.	- 1:00 p.m.	18	Re-Socialization of the Prisoner Between Psychological Support and Work: The Italian Experience Michele Vaira, JD*; Laura Muscatello, MD*; Tania Rizzo, BS*
11:30 a.m.	- 1:00 p.m.	19	Forensic Psychiatric Assessment of Detainees in the United States Immigration System Ziyad Nuwayhid, MD*; Gregory B. Leong, MD; Ngoc-Tram T. Vo, DO
11:30 a.m.	- 1:00 p.m.	I10	The Complicated Relationship Between Fire Setters and Mental Illness Sigella Vargas, MD*; Amina Ali*; Monika Gashi, MD*; Katya Frischer, MD*
11:30 a.m.	- 1:00 p.m.	I11	Toxicological Findings in Choking of Adult Psychiatric Patients  Jelena Vucinic, MD*; Nemanja Radojevic, MSc; Dragana Cukic, PhD
Violence a	and Psychopa	athy	
Moderator:	Laura Volpini, Rome, ITALY	PhD	Co-Moderator: Samuel J. Leistedt, MD, PhD Baudour, BELGIUM
1:00 p.m.	- 1:45 p.m.	I12	Copycat Violence in Psychiatric Patients Houssam Raai*; Katya Frischer, MD; Amina Ali*; Loveleen Kaur Khehra, BSc
1:45 p.m.	- 2:00 p.m.	I13	WITHDRAWN
2:00 p.m.	- 2:30 p.m.	I14	Violence Factors and Characteristics of Police Ambush Killers  Amina Ali*; Panagiota Korenis-Rios, MD*; Wen Gu, PhD*; Ali Khadivi, PhD*

\*Presenting Author 217

The Experience of Revenge: The Patterns, Meanings, and Mindsets of Mentally

Lynsey F. Gozna, PhD\*; Cris Glazebrook, PhD; David Daley, PhD

2:30 p.m. - 2:55 p.m.

2:55 p.m. - 3:25 p.m.

3:25 p.m. - 3:40 p.m.

**I15** 

**I16** 

**Disordered Offenders** 

Break

On the Radicalization Process Samuel J. Leistedt, MD, PhD\*



3:40 p.m	4:10 p.m.	I17	The Female Psychopath: A Study of a Sample of National Italian Women Offenders Felice F. Carabellese, MD*; Alan R. Felthous, MD; Donatella La Tegola, PhD; Adriana Zito, MD; Ilaria Rossetto, MD; Filippo Franconi, MD; Roberto Catanesi, MD
4:10 p.m	4:25 p.m.	I18	Relationship of Oxytocin (OXT) and the Serotonin Transporter (5-HTT) Single Nucleotide Polymorphisms and Antisocial Behavior Elizabeth Chesna, BS*; Charity M. Beherec, MS; Gabriella Cansino-Jones, MS; Peyton Gandy, MSFS; Jessica Wells, MS; Danielle Boisvert, PhD; Todd Armstrong, PhD; Sheree R. Hughes-Stamm, PhD; David A. Gangitano, PhD
4:25 p.m	4:45 p.m.	I19	Youth Satanism and Forensic Investigation: The Case of the "Beasts of Satan" in Italy Laura Volpini, PhD*; Gaia Cipollaro; Luciano Garofano, PhD*; Matteo Borrini, PhD*
4:45 p.m	5:00 p.m.	120	Fantasy-Reality Confusion: Normal Development or Mental Illness? The Case of the "Slender Man Stabbing"  Patrick G. Wiita, MD*

## Friday

## **Legal Considerations**

Moderator:	Marc A. Cohen, MD Beverly Hills, CA	Co-Moderator: Park E. Dietz, MD, PhD Newport Beach, CA
8:30 a.m.	- 9:30 a.m. <b>I21</b>	Resiliency and Trauma: An Interdisciplinary Team Approach to the Evaluation of Individuals in Mass Tort Cases  Marc A. Cohen, MD*; Park E. Dietz, MD, PhD*; Daniel A. Martell, PhD*
9:30 a.m.	- 9:50 a.m. <b>I22</b>	Medication Madness: Medication As the Basis for the Involuntary Intoxication Defense  Jennifer Piel, MD*
9:50 a.m.	- 10:10 a.m. <b>I23</b>	Vexatious Litigation: Medicolegal Aspect of a Pathological Concept and Its Implication in Canada Sebastien S. Prat, MD*; Joseph Ferencz, MD, PhD
10:10 a.m.	- 10:30 a.m. <b>I24</b>	Controversies in the Assessment of Forensic Parasomnia Episodes John M.M. Rumbold, $PhD^*$
10:30 a.m.	- 10:45 a.m.	Break



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10:45 a.m.	-	11:05 a.m.	125	Incompetently Incompetent: The Use of Forged Forensic Evaluations to Avoid Conviction and Sentencing Kelly L. Coffman, MD*; Glenn J. Egan, PhD; Peter Ash, MD
11:05 a.m.	-	11:30 a.m.	126	Psychological Assessment in Forensic Context: Detection Deception Within a Mixed Perspective Francisco Valente Gonçalves, MSc*
11:30 a.m.	-	11:45 a.m.	127	Dress to Impress: A Comprehensive Examination of How Physical and Behavioral Characteristics of Expert Witnesses Can Influence the Trier-of-Fact Talene Keshishian, MD*
11:45 a.m.	-	1:00 p.m.		Lunch
Poster Se	essi	on		
11:30 a.m.	-	1:00 p.m.	128	Killed to Be Saved A Rare Case of Salvific Matricide From Demoniac Possession Ignazio Grattagliano, PsyD; Alessio Ostuni, MD*; Maricla Marrone, MD; Anna Cassano, PsyD; Roberto Catanesi, MD
11:30 a.m.	-	1:00 p.m.	129	Family Secrets: When the Horror in the House Has No Obvious Cause and the Need for Unveiling Ignazio Grattagliano, PsyD; Alessio Ostuni, MD*; Maricla Marrone, MD; Anna Cassano, PsyD; Roberto Catanesi, MD
11:30 a.m.	-	1:00 p.m.	130	The Phenomenon of Suicide by Hanging in Ferrara (1996-2016) Simone Onti, MD*; Letizia Alfieri, MD; Erica Bacchio, MD; Cesare Bertocco; Enrica Calabrese, MD; Sara Chierici*; Paolo Frisoni, MD; Raffaella Inglese, MD; Chiara Marini, MD; Raffaella Marino, MD; Chara Palazzo, MD; Rosa Maria Gaudio, MD
11:30 a.m.	-	1:00 p.m.	I31	Epidemiological Study on Suicide Victims in Southern Italy and the Role of Psychoactive Substances Debora De Bartolo, MD*; Emanuela Vitale; Ester de Luca, MD*; Francesco Ausania, MD; Sara Strangis, MD; Pietrantonio Ricci

#### Sexual Offenders: Ethics of Communication and Consent

Moderator: Janet M. Schwartz, PhD Co-Moderator: Debra M. Osterman, MD

Forensic Fraud Research, Inc MHMRA Forensic ACT Team

Canton, OH Houston, TX

1:00 p.m. - 2:30 p.m. I32 Guidelines for the Evaluation of Sex Offenders and People With Problematic Sexual Interests

Lisa Murphy, MCA\*; R. Gregg Dwyer, MD, EdD\*; J. Paul Fedoroff, MD\*; Stephen J. Ferrazzano II, JD\*



2:30 p.m	2:50 p.m.	I33	Motivations to Offend: Hands-On vs. Hands-Off Sex Offenders Natasha M. Knack, BA*; Dave Holmes, PhD; Melissa Trunzo; J. Paul Fedoroff, MD
2:50 p.m	3:05 p.m.	I34	False Accusation of Sexual Abuse Case Study — Psychology of the Lie William Cardasis, MD*; Brian C. Zubel, JD
3:05 p.m	3:20 p.m.	135	The Psychology of Drug-Facilitated Sexual Assault: A Case Series From Victoria, Australia  Laura J. Anderson, MA*; Asher Flynn, PhD; Sanjeev Gaya, DMJ;  Jennifer L. Pilgrim
3:20 p.m	3:35 p.m.		Break
3:35 p.m	3:50 p.m.	136	Enhancing Communication Bolsters Quality and Ethics John L. Young, MD*
3:50 p.m	4:30 p.m.	137	The Dangerous Patient: Is It Ever Ethical Not to Give Informed Consent? William C. Darby, MD*; Robert Weinstock, MD*
4:30 p.m	4:45 p.m.	138	The Capacity to Consent to Treatment in Patients With Alzheimer's Disease Felice F. Carabellese, MD*; Donatella La Tegola, PhD; Alessandro Dell'Erba, PhD; Antonio Leo, MD; Simona Arcuti; Giancarlo Logroscino, MD, PhD; Carlo Sabbà, MD; Roberto Catanesi, MD
4:45 p.m	5:00 p.m.	139	Consent for the Mental Health Treatment of Minors: Who Holds This Decision-Making Authority?  Lorraine E. Cuadra, PhD*

#### Saturday

#### **Criminal Insanity and Treatment**

Moderator: Sébastien Prat, MD Co-Moderator: William C. Darby, MD

Service de Médecine Légale UCLA

Hôpital Trousseau Los Angeles, CA

Tours, FRANCE

8:30 a.m. - 10:25 a.m. I40 Glad Tidings About Not Guilty by Reason of Insanity (NGRI): The Benefits of

**Conditional Release** 

Alan R. Felthous, MD\*; Michael J. Vitacco, PhD\*; W. Neil Gowensmith, PhD\*;

David Novosad, MD\*

10:25 a.m. - 10:40 a.m. **Break** 



10:40 a.m.	-	10:55 a.m.	I41	Legal Substance to Become Psychotic?  Sebastien S. Prat, MD*; Gary Andrew Chaimowitz, MD
10:55 a.m.	-	11:25 a.m.	I42	Using Research Methods and Theory to Solve Crime: A Case Study Ronald R. Thrasher, $PhD^*$
11:25 a.m.	-	11:40 a.m.	143	Measuring Treatment Progress and Outcomes in Forensic Mental Health Zachary Moran, PhD*; Lesley Baird, PsyD; Amy C. Gurka, PhD; David Marx, PsyD; David Lee, PhD



#### Wednesday

#### **Poster Session**

11:30 a.m. - 1:00 p.m. J1 Questioned Document Examiner Training: Foundational Readings and Resources

La'Quida Smith, MA\*; Mara L. Merlino, PhD

#### **Thursday**

#### **Questioned Documents 1**

Moderator:	Samiah Ibrahim, BSc Ottawa, CANADA	
9:00 a.m.	- 9:15 a.m.	Introduction Samiah Ibrahim, BSc; Linton Mohammed, PhD; Jan Seaman Kelly, BA
9:15 a.m.	- 9:45 a.m. <b>J2</b>	The History and Future of Forensic Document Standards Ted M. Burkes, BS*; Rigo Vargas, BA*
9:45 a.m.	- 10:00 a.m.	<b>Discussion</b> Ted M. Burkes, BS; Rigo Vargas, BA; Samiah Ibrahim, BSc
10:00 a.m.	- 10:15 a.m. <b>J3</b>	Contemporaneous Standards in Forensic Document Examination (FDE) — When Is "Close" Close Enough?  Carl R. McClary, BA*
10:15 a.m.	- 10:30 a.m. <b>J4</b>	Forensic Document Examiner Testimony of Inconclusive Examination Results Jan Seaman Kelly, $BA^*$
10:30 a.m.	- 11:00 a.m.	Break
11:00 a.m.	- 11:20 a.m. <b>J5</b>	Counterfeit Detection E-Learning: Deployment Progress and Content Updates Joel A. Zlotnick, MSFS*; Tyra S. McConnell, MSFS; Tyra Lundy, MS
11:20 a.m.	- 11:40 a.m. <b>J6</b>	International Cooperation and the International Criminal Police Organization (INTERPOL) E-Learning Program on the Detection of Fraudulent Documents Daniela Djidrovska*
11:40 a.m.	- 1:00 p.m.	Lunch



#### **Poster Session**

11:30 a.m. - 1:00 p.m. J7 The Discrimination of Less Frequently Encountered Colored Pen Inks Based on Their Optical Properties

Lauren M. Perry, BS\*; Patrick Buzzini, PhD

#### **Questioned Documents 2**

Moderator: Ronald N. Morris,	BS
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moderator.		dford, VA	з, Бу	
1:00 p.m.	-	1:10 p.m.		Introduction Ronald N. Morris, BS
1:10 p.m.	-	1:35 p.m.	Ј8	Revealing Hidden Information From the Reverse Side of a Questioned Document Nadeem-Ul-Hassan Khan, MPhil*; Khurram W. Mahmood, MPhil*; Muhammad Irfan Ashiq, PhD*; Mohammad A. Tahir, PhD*
1:35 p.m.	-	1:55 p.m.	Ј9	The Evaluation of Instrument Sensitivity and Stability for the Magnetic Flux Measurement Relative to Toner Area as a Screening Tool for Casework Application Carrie Polston*; Williams Mazzella, PhD; Martin Furbach, MS; Patrick Buzzini, PhD
1:55 p.m.	-	2:10 p.m.	J10	The Determination of Heterogeneous and Homogeneous Line Intersections: Infrared (IR) Versus Polarized Luminescent Techniques John Z. Wang, $PhD^*$
2:10 p.m.	-	2:25 p.m.	J11	Direct Sample Analysis/Mass Spectrometry (DSA/MS) vs. Separation MS Techniques for the Analysis of Writing Inks Mehdi Moini, PhD*; Lucy Nguyen, MS
2:25 p.m.	-	2:55 p.m.		Break
2:55 p.m.	-	3:20 p.m.	J12	From False Identity and Travel Documents to Forensic Intelligence: Profiling Methods to Support the Detection and Investigation of Organized Crime Groups Simon Baechler, $PhD^*$
3:20 p.m.	-	3:40 p.m.	J13	An Analysis of Polymers in False Identity Documents: A New Contribution to Forensic Intelligence Caroline Mireault, MA*; Simon Baechler, PhD; Frank Crispino, PhD
3:40 p.m.	-	4:10 p.m.	J14	Imitation Typewriter Digital Fonts — A Project to Establish a Reference Collection Michelle Novotny, BS; Claire Graydon, BS; Peter V. Tytell, BA*
4:10 p.m.	-	4:25 p.m.		Questions & Answers



#### **Friday**

#### **Questioned Documents 3**

Moderator: Jeanne M. Dietrich, BS

IRS National Forensic Lab

Chicago, IL

8:45 a.m.	-	9:00 a.m.		Introduction  Jeanne M. Dietrich, BS
9:00 a.m.	-	9:20 a.m.	J15	Quantifying Handwriting Variation  Marc Gaudreau, BSc*; Samiah Ibrahim, BSc
9:20 a.m.	-	9:35 a.m.	J16	A Forensic Examination of Simulations of Illegible Signatures Komal Saini, PhD; Shabnam Preet Kaur, MSc*
9:35 a.m.	-	9:55 a.m.	J17	The Dynamics of Guided-Hand Signatures Samiah Ibrahim, BSc*
9:55 a.m.	-	10:10 a.m.		Break
10:10 a.m.	-	10:30 a.m.	J18	The Development of the Copybook System in the West Bank/Palestine Nazih M.A. Jaradat, BSc*; Donya Ataynah, BSc*; Samiah Ibrahim, BSc
10:30 a.m.	-	10:50 a.m.	J19	Features of Elderly Writing in Arabic Bayan Ramadan, BSc*; Ayman Ghazawi, BA*; Samiah Ibrahim, BSc
10:50 a.m.	-	11:10 a.m.	J20	Mixed-Script Signatures: A Modern Paradigm for an Age-Old Identifier Hussam Jalamneh, BA*; Mahmoud M. Abu Khairan, BS*; Samiah Ibrahim, BSc
11:10 a.m.	-	11:30 a.m.	J21	Analysis and Recognition of Urdu Handwriting  Zumrad U. Bhutta, MS*; Syed Kaleem Imam, PhD*
11:30 a.m.	-	1:00 p.m.		Lunch

#### **Poster Session**

11:30 a.m. -1:00 p.m. **J22** The Admissibility of Forensic Expert Testimony: 25 Years of Milestones

and Impacts

La'Quida Smith, MA\*; Mara L. Merlino, PhD



#### Multidisciplinary Session: Jurisprudence Session II/Questioned Documents

Moderator:	Fo	nton Mohamme rensic Science rlingame, CA	-	Co-Moderator: Christine Haskell, JD nnts, Inc Rensselaer, IN
1:00 p.m.	-	2:00 p.m.	J23	A Review of the Almegciga et al. v. Center for Investigative Reporting, Inc. et al. Decision  Jan Seaman Kelly, BA*; Stephanie Domitrovich, JD, PhD*; Linton Mohammed, PhD*
2:00 p.m.	-	2:40 p.m.	J24	The Background, Training, and Experience of Questioned Document Examiners: Present Practice and Future Directions Mara L. Merlino, PhD*; Tierra M. Freeman, PhD*; La'Quida Smith, MA*; Ivan Duvall*
2:40 p.m.	-	2:55 p.m.		Break
2:55 p.m.	-	3:35 p.m.	F46	Is Your Handwriting Expert's Testimony Admissible? Navigating <i>Daubert / Kumho</i> Challenges to Enhance the Likelihood That Gatekeepers Will Find Handwriting Comparison Evidence Sufficiently Reliable to Be Admissible Under Federal Rule of Evidence 702 (Fed. Rule 702)  Andrew Sulner, MSFS, JD*
3:35 p.m.	-	4:15 p.m.	J25	Minimizing Cognitive Bias in Forensic Document Examination  Jane A. Lewis, MFS*
4:15 p.m.	-	4:55 p.m.	J26	Forensic Document Examination in International Humanitarian and Human Rights Cases  Tobin A. Tanaka, BS*



#### Wednesday

#### Toxicology Section Awardees Recognition (by invitation only)

6:30 p.m. - 7:30 p.m. Supported by: *Aegis Sciences Corporation Agilent Technologies, Inc.* 

#### **Poster Session**

Moderator: Michael Wagner, MS, PA Co-Moderator: Madeleine J. Swortwood, PhD

Broward County Medical Examiner's Office Sam Houston State University

Fort Lauderdale, FL Huntsville, TX

7:30 p.m	9:00 p.m.	K1	Alcohol and Psychotropic Drugs in Traffic Accident Fatalities in Calabria, Italy, From 2006 to 2015  Debora De Bartolo, MD*; Emanuela VItale; Francesco Ausania, MD; Claudio Chirico, MD; Santo Gratteri, MD; Pietrantonio Ricci
7:30 p.m	9:00 p.m.	K2	An Analysis of Cannabinoids in Whole Blood Adrian M. Taylor, PhD*
7:30 p.m	9:00 p.m.	К3	The Distribution of 11-Nor-9-Carboxy-Tetrahydrocannabinol (THC-COOH) in Korean Drug Abusers' Hair Eunmi Kim, PhD*; Juhyun Sim, PhD; Meejung Park; Sangwhan In, PhD
7:30 p.m	9:00 p.m.	K4	A Study of an Active-State CB1 Receptor Model and Synthetic Cannabinoid Interactions Caroline Spencer, BS*; Kelsey L. Pettus, BSc; Pankaj Pandey, PhD; Robert J. Doerksen, PhD; Murrell Godfrey, PhD
7:30 p.m	9:00 p.m.	K5	An Evaluation of Cannabinoid 2 Receptor and Endogenous Cannabinoid 2-Arachidonylglycerol in the Central Nervous System  Dakota Jackson, PhD*; Shere Paris, PhD; Dong Liang, PhD; Wael Fathy, PhD;  Ashraf Mozayani, PharmD, PhD
7:30 p.m	9:00 p.m.	K6	The Results of Analysis of 6-Monoacetyl Morphine (6-MAM) in Operating Under the Influence (OUI) Drug and Driving Cases and Drug-Facilitated Crimes (DFC) in the Commonwealth of Massachusetts During a Five-Year Period Jeffery Hackett, PhD*; Albert A. Elian, MS*
7:30 p.m	9:00 p.m.	К7	The Identification of the Pyrolytic Products of Two Drugs of Abuse: Heroin and Fentanyl Stephen A. Raso, MS; Derik McCarthy*; Suzanne Bell, PhD



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7:30 p.m.	-	9:00 p.m.	K8	Occupational Lethal Asphyxiation by Toxic Gas in Unconfined Spaces: Hydrogen Sulphide (H2S) Poisoning Roberto Gagliano Candela, PhD*; Fabrizia Favalli; Lucia Aventaggiato; Anna Pia Colucci, PhD; Giuseppe Strisciullo, BES
7:30 p.m.	-	9:00 p.m.	К9	Arsenic-Fed Piglets: Assessing Heavy Metal Levels in Decomposing Pig Tissues and Soil Samples Robert R. Paine, PhD; David Klein, PhD; Courtney L. Brown*
7:30 p.m.	-	9:00 p.m.	K10	<b>Postmortem Identification and Quantitation of Loperamide in the Human Brain</b> Sandra C. Bishop-Freeman, PhD; Erin Hensel, MSFS*; Robert Hargrove, BS; Susan E. Venuti, MD; Ruth E. Winecker, PhD
7:30 p.m.	-	9:00 p.m.	K11	Suicide After 25C-N-Methoxybenzyl (25C-NBOMe) and 25H-N-Methoxybenzyl (25H-NBOMe) Consumption Luca Morini; Marzia Bernini; Sara Vezzoli; Mario Restori; Francesco Randazzo; Massimiliano Salvatore Scida, MD; Alessandro De Gaetano, MD; Matteo Moretti, MD; Stefano Crenna, MD*; Pietro Papa; Antonio M.M. Osculati, MD; Claudia Vignali; Angelo Groppi
7:30 p.m.	-	9:00 p.m.	K12	An Analysis of Illicit Substances From Postmortem Samples Using Biocompatible Solid-Phase Microextraction (BioSPME)  Chandler M. Grant, BS*; Thomas A. Brettell, PhD
7:30 p.m.	-	9:00 p.m.	K13	The Detection and Quantitation 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
7:30 p.m.	-	9:00 p.m.	K14	An Analysis of Stimulants and Metabolites From Dried Blood Spots (DBS) Using Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) Emily A. Williamson, BS*; Thomas A. Brettell, PhD
7:30 p.m.	-	9:00 p.m.	K15	Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) -Based Analysis of <i>In Vitro</i> Covalent Modifications of Glutathione (GSH) and Peptide Thiols by Drugs of Abuse Richard A. Gilliland, BA*; Carolina Moller, PhD; Anthony P. DeCaprio, PhD
7:30 p.m.	-	9:00 p.m.	K16	The Development and Validation of a Method for Cocaine/Crack Cocaine Biomarkers in Human Oral Fluid, Urine, and Plasma by Liquid Chromatography/Mass Spectrometry (LC/MS) and Its Application in Drug Users Taís Regina Fiorentin, BS*; Felipe Bianchini D'Avila, PhD; Eloisa Comiran, PhD; Amanda Zamboni; Renata P. Limberger, PhD
7:30 p.m.	-	9:00 p.m.	K17	The Separation of Chemically Similar and Isobaric Novel Psychoactive Substances (NPS) Using 2D-Liquid Chromatography (2D-LC) Melanie Eckberg, BS*; Luis E. Arroyo, PhD; Dwight R. Stoll, PhD; Anthony P. DeCaprio, PhD



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7:30 p.m.	-	9:00 p.m.	K18	The Evaluation of Mono-, Di-, and Trivalent Cations for the Optimized Surface- Enhanced Raman Spectroscopy (SERS) Enhancement to Detect Synthetic Cannabinoids in Biological Samples Thaddeus Mostowtt, MFS*; Chiara Deriu, MS; Jonathan Munoz; Bruce R. McCord, PhD
7:30 p.m.	-	9:00 p.m.	K19	A Comparison of Two High-Resolution Mass Spectrometry Data Acquisition Methods for the Screening, Quantitation, and Confirmation of Compounds in Postmortem Blood  Kristine Van Natta*; Marta Kozak, MS
7:30 p.m.	-	9:00 p.m.	K20	Screening, Confirmation, and Quantitation of Synthetic Cathinones and Cannabinoids in Urine by High-Resolution Accurate-Mass Mass Spectrometry Marta Kozak, MS; Kristine Van Natta*
7:30 p.m.	-	9:00 p.m.	K21	A Biochip Array Screening of Blood and Urine Samples for the Recommended Drugs Associated With Driving Under the Influence of Drugs (DUID)  Lindsay McCrudden; Pankaj Sinha*; Joanne Darragh, PhD; R. Ivan McConnell, BSc; S. Peter Fitzgerald, PhD
7:30 p.m.	-	9:00 p.m.	K22	An Assessment of the Stability and Degradation of Mephedrone in Solvents and Biological Matrices  Heather Ciallella, BS*; Lorna A. Nisbet, PhD; Simeon O. Kotchoni, PhD;  Alex J. Krotulski, MS; Karen S. Scott, PhD
7:30 p.m.	-	9:00 p.m.	K23	SWATH <sup>™</sup> Acquisition vs. Information-Dependent Data Acquisition (IDA) With Application to Broad-Based Drug Screening Alex J. Krotulski, MS*; Amanda L.A. Mohr, MSFS; Melissa Friscia, MSFS; Barry K. Logan, PhD
7:30 p.m.	-	9:00 p.m.	K24	A Rapid Quantitative Analysis of Stimulants by Ultra High-Pressure Liquid Chromatography/Mass Spectrometry (UHPLC/MS)  Kathleen Toomey, BS*; Christopher Marcum, PhD; Stephen Davis, PhD;  Megan S. Carrison, MS; Christina Rainey, PhD
7:30 p.m.	-	9:00 p.m.	K25	WITHDRAWN
7:30 p.m.	-	9:00 p.m.	K26	Screening for Fentanyl and Its Analogues in Postmortem Specimens Using the OraSure Fentanyl Enzyme-Linked Immuno-Sorbent Assay (ELISA) Direct Kit Assay  Evelyn Reyes, BS*; YuYuan Ye, BS; Imran E. Khan, BS; Reinaldo Fonseca, BS; Gail Audrey Ann Cooper, PhD
7:30 p.m.	-	9:00 p.m.	K27	A Rapid Analysis of Pharmaceuticals in Human Tissues by 2D-Liquid Chromatography/Tandem Mass Spectrometry (2D-LC/MS/MS) Technology Malorie Mella, BA; Claude Mallet, PhD*; Sabra R. Botch-Jones, MS, MA; Brendan N. Schweitzer, BS; Dennis V. Canfield, PhD; Philip M. Kemp, PhD; Kacey Cliburn, MS



7:30 p.m.	-	9:00 p.m.	K28	Techniques for Screening and Confirmation of U-47700 and Flubromazepam in Two Non-Fatal Cases  Jeffrey D. Chmiel, MS*; Erin L. Karschner, PhD; John J. Kristofic, BS;  Jessica L. Knittel, BS; George F. Jackson, PhD; Sarah A. Shoemaker, MS;  Eric T. Shimomura, PhD; Jeff Walterscheid, PhD
7:30 p.m.	-	9:00 p.m.	K29	A Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) Quantitative Analysis of Cocaine and Its Metabolites in Urine, Oral Fluids, and Blood for Forensic Toxicology Rory M. Doyle, PhD*
7:30 p.m.	-	9:00 p.m.	K30	A Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) Quantitative Analysis of Hallucinogenic Drugs in Urine, Oral Fluids, and Blood for Forensic Toxicology Rory M. Doyle, PhD*  Supported by: Immunalysis Corporation

#### **Thursday**

#### **Annual Lectureship in Toxicology**

Moderator: Dan T. Anderson, MS Co-Moderator: Marilyn A. Huestis, PhD

Colorado Bureau of Investigation Huestis & Smith Toxicology, LLC

Arvada, CO Severna Park, MD

8:30 a.m. - 9:30 a.m. The Healing Properties of Navajo Ceremonies

Lori Arviso Alvord, MD

9:30 a.m. - 9:45 a.m. **Break** 

#### **Novel Psychoactive Substances**

Moderator: Marc A. LeBeau, PhD Co-Moderator: Amanda L.A. Mohr, MSFS

FBI Laboratory

Quantico, VA

Center for Forensic Science

Research & Education

Willow Grove, PA

9:45 a.m. - 10:00 a.m. K31 The Chinese Influence on the Novel Psychoactive Substances (NPS) Movement

in the United States

Donna M. Papsun, MS\*; Sherri L. Kacinko, PhD; Amanda L.A. Mohr, MSFS;

Barry K. Logan, PhD



10:00 a.m.	-	10:15 a.m.	K32	The Prevalence of New Psychoactive Substances (NPS) in Northeast Asia From 2007 to 2015  Hee-Sun Chung, PhD*; Junhui Lee, BA; Yujin Kang, BA; Songhee Yang, BA; Jih-heng Li; Ling-yi Feng, MA
10:15 a.m.	-	10:30 a.m.	K33	The Evaluation of Temporal Changes of Novel Psychoactive Substances (NPS) Use Within an Electronic Dance Music (EDM) Population Over a Three-Year Period Melissa Friscia, MSFS*; Amanda L.A. Mohr, MSFS; Jillian K. Yeakel, MS; Alex J. Krotulski, MS; Barry K. Logan, PhD
10:30 a.m.	-	10:45 a.m.	K34	A Death Due to the Use of the Novel Psychoactive Substances (NPS) (2-Aminopropryl) Benzofuran (APB) and N-Methyl Derivative (MAPB) Alan P. Martinez*; Diane C. Peterson, MD; Uttam Garg, PhD; C. Clinton Frazee III, MBA; Aida Richardson, MD
10:45 a.m.	-	11:00 a.m.		Break Supported by: Aegis Sciences Corporation

### **Novel Psychoactive Substances (continued)**

Moderator:	Ashraf Mozayani, Texas Southern U Houston, TX		
11:00 a.m.	- 11:15 a.m.	K35	Demonstrating the Need for Complete Testing Methods When Screening for Novel Psychoactive Substances (NPS)  Jeffrey D. Chmiel, MS; John J. Kristofic, BS*; Joseph W. Addison, MS;  Jeff Walterscheid, PhD
11:15 a.m.	- 11:30 a.m.	K36	Clinical Manifestations of U-47700 and Flubromazepam Intoxication Erin L. Karschner, PhD*; Jeffrey D. Chmiel, MS; John J. Kristofic, BS; George F. Jackson, PhD; Jessica L. Knittel, BS; Sarah A. Shoemaker, MS; Eric T. Shimomura, PhD; Jeff Walterscheid, PhD
11:30 a.m.	- 11:45 a.m.	K37	Synthetic Cathinone Stability in Blood Using Liquid Chromatography/Quadrupole Time-Of-Flight/Mass Spectrometry (LC/qTOF/MS)  Lindsay Glicksberg, BS*; Sarah Kerrigan, PhD
11:45 a.m.	- 12:00 p.m.	K38	Method Validation Using Multiple Compound Mixtures for Screening/Confirmation of 800+ Novel Psychoactive Substances (NPS) by Liquid Chromatography/Triple Quadrupole/Mass Spectrometry (LC/QqQ/MS)  Ashley N. Kimble, BS*; Luis E. Arroyo, PhD; Anthony P. DeCaprio, PhD
12:00 p.m.	- 1:00 p.m.		Lunch



#### **Drugs and Driving**

Moderator:	Michael L. Smit Huestis & Smitt Severna Park, M	h Toxicolo	Co-Moderator: Denice M. Teem, BS NMS Labs Willow Grove, PA
1:00 p.m.	- 1:15 p.m.	K39	Characteristics of Drug Use Among Drivers in Houston, Texas Andrew S. Greenwood, BS*; Dayong Lee, PhD
1:15 p.m.	- 1:30 p.m.	K40	Driving Under the Influence (DUI) of Methamphetamine/Amphetamine (mAMP/AMP) and Cannabinoids in the City and County of San Francisco Eric A. Ingle, BA*; Mariya Mayevskaya, BA; Nikolas P. Lemos, PhD
1:30 p.m.	- 1:45 p.m.	K41	Driving Under the Influence of Drugs (DUID) "Per Se" Laws: Practical Application and the Inclusion of Inactive Metabolites  Michael P. Stypa, MS*; Jennifer O. Rattanaprasit, MS; Nicole L. Van Aken, BS; Stacy A. Wilkinson; Theresa A. Suffecool, BS; Brian S. Rutledge, JD; Bruce W. Nelson, JD
1:45 p.m.	- 2:00 p.m.	K42	The Incidence of Drugs and Alcohol in More Than 18,000 Drivers Using the Recommendations of a 2013 Consensus Study  Daniel S. Isenschmid, PhD*; Barry K. Logan, PhD
2:00 p.m.	- 2:15 p.m.	K43	The Results of the National Safety Council's Alcohol, Drugs and Impairment Division (NSC ADID) Survey of Drug Testing in Driving Under the Influence of Drugs (DUID) and Traffic Fatality Investigations  Amanda D'Orazio*; Amanda L.A. Mohr, MSFS; Karen S. Scott, PhD;  Jennifer F. Limoges, MS; Amy Miles, BS; Marilyn A. Huestis, PhD;  Laura J. Liddicoat, BS; Sarah Kerrigan, PhD; Barry K. Logan, PhD
2:15 p.m.	- 2:30 p.m.	K44	Alere™ DDS®2 Mobile Test System Screening for Delta-9-Tetrahydrocannabinol (THC) With Oral Fluid Confirmation by Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)  Alex J. Krotulski, MS*; Amanda L.A. Mohr, MSFS; Melissa Friscia, MSFS; Barry K. Logan, PhD
2:30 p.m.	- 2:45 p.m.	K45	Detecting Drugged Driving in Wisconsin: A Comparison of Whole Blood and Roadside Oral Fluid Specimens  Lorrine D. Edwards, MS*
2:45 p.m.	- 3:00 p.m.	K46	Blood and Oral Fluid Cannabinoids' Pharmacokinetics and the Evaluation of Two On-Site Oral Fluid (OF) Screening Devices for the Prediction of Δ9-Tetrahydrocannabinol (THC) in Oral Fluid and Blood Following Edible Cannabis Administration  Matthew N. Newmeyer, BS; Madeleine J. Swortwood, PhD;  Osama A. Abulseoud, MD; Karl B. Scheidweiler, PhD; Marilyn A. Huestis, PhD*



3:00 p.m. - 3:15 p.m.

Break

Supported by: UTAK Laboratories Waters Corporation

#### **Analytical Methods in Toxicology**

Moderator:	Fiona J. Couper, PhD Washington State Patrol Seattle, WA	Co-Moderator: Eric A. Ingle, BA Pleasant Hill, CA
3:15 p.m.	- 3:30 p.m. <b>K47</b>	Direct Tissue Sampling of Diazepam and Amitriptyline Using Mixed-Mode Solid-Phase Microextraction (SPME) Fibers: A Feasibility Study  Hester Peltenburg, PhD; Martien Graumans, BSc; Steven Droge, PhD;  Joop Hermens, PhD; Ingrid Bosman, PhD*
3:30 p.m.	- 3:45 p.m. <b>K48</b>	The Quantification of Loperamide by Gas Chromatography/Mass Spectrometry (GC/MS) Rachel C. Beck, PhD*; C. Andrew Robinson, Jr., PhD; Susan Kloda; Daniel W. Dye, MD
3:45 p.m.	- 4:00 p.m. <b>K49</b>	The Quantitation of Mitragynine in Human Whole Blood by Ultra Performance Liquid Chromatography-Tandem Mass Spectrometry (UPLC-MS/MS) and Its Application to the Analysis of Toxicological Samples  Kris Graf, BS*; Donna M. Papsun, MS; Joseph Homan, MS; Heather E. McKiernan, MSFS; Barry K. Logan, PhD
4:00 p.m.	- 4:15 p.m. <b>K50</b>	The Detection of Cocaine and Its Major Metabolites in Rodent Bone Following Outdoor Decomposition After Chronic Cocaine Administration Using 2D-Liquid Chromatography/Tandem Mass Spectrometry (2D-LC/MS/MS)  Malorie Mella, BA*; Claude Mallet, PhD; Sabra R. Botch-Jones, MS, MA; Tara L. Moore, PhD
4:15 p.m.	- 4:30 p.m. <b>K51</b>	Capsule Phase Microextraction (CPME): A Powerful New Arsenal in Analytical and Forensic Sample Preparation  Abuzar Kabir, PhD*
4:30 p.m.	- 4:45 p.m. <b>K52</b>	The Screening of Biofluids for the Detection of Traditional Illicit Drugs, New Psychoactive Substances (NPS), and Pharmaceuticals by Automated Online Extraction Using Turbulent Flow Chromatography and High Resolution Accurate Mass-Hybrid Quadrupole-Orbitrap-Mass Spectrometry (HRAM/Q-OT/MS) Flavio Zancanaro, PhD; Gianpaola Tedeschi, PhD; Samuela Frasson; Luca Zamengo, PhD; Giampietro Frison*
4:45 p.m.	- 5:00 p.m. <b>K53</b>	The Direct Detection and Ultrafast Quantification of Drugs of Abuse in Serum by Probe Electrospray Ionization/Tandem Mass Spectrometry (PESI/MS/MS)  Maiko Kusano, PhD*; Kei Zaitsu, PhD; Yumi Hayashi, PhD; Tasuku Murata, MS;  Hiroki Nakajima, PhD; Saki Noda, BS; Hitoshi Tsuchihashi, PhD; Akira Ishii, MD



#### **Toxicology Open Forum**

Moderator: H. Chip Walls, BS

Forensic, Analytical & Clinical

Toxicology Lab Miami, FL Co-Moderator: Nikolas P. Lemos, PhD

University of California, San Francisco

Department of Lab Medicine

San Francisco, CA

7:00 p.m. - 9:00 p.m. **Toxicology Open Forum** 

Supported by: Aegis Sciences Corporation

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#### **Friday**

Multidisciplinary Session: Pathology/Biology Session II/Toxicology — Postmortem Forensic Toxicology

Moderator: Timothy P. Rohrig, PhD Co-Moderator: Giancarlo Di Vella, MD, PhD

Regional Forensic Science Center University of Torino

Wichita, KS Dept of Public Health Sciences

Torino, ITALY

8:30 a.m.	-	8:45 a.m.	Н133	Evaluation of Acute Alcohol Intoxication as the Primary Cause of Death:  A Diagnostic Challenge for Forensic Pathologists  Rong Li, MD; Feng Chen, MD*; Jianwen Wang, MD; Xiang Zhang, MD*;  Rebecca Jufer Phipps, PhD; Eleanor Thomas; David R. Fowler, MD; Ling Li, MD*
8:45 a.m.	-	9:00 a.m.	K54	False Positive Enzymatic Alcohol Results: Two Cases From 2014 Sandra C. Bishop-Freeman, PhD*; Robert H. Powers, PhD; Lisa Mayhew, BS; Ruth E. Winecker, PhD
9:00 a.m.	-	9:15 a.m.	H134	Deaths From Combined Methamphetamine and Heroin Use in Denver: 2005-2016  Andrew Hanosh, MD*; Meredith A. Frank, MD; Krista L. Timm, MD; James Louis Caruso, MD
9:15 a.m.	-	9:30 a.m.	K55	The Increased Prevalence of Illicit Synthetic Opioids in Postmortem Casework at the New York City Office of Chief Medical Examiner (NYC OCME) From January to June, 2016  Gail Audrey Ann Cooper, PhD*
9:30 a.m.	-	9:45 a.m.	K56	The Use of Liquid Chromatography/Time-Of-Flight (LC/TOF) Data-Mining Techniques to Evaluate Evidence of Use of Dipyrone and Levamisole in Conjunction With Fentanyl and Other Illicit Recreational Drugs

\*Presenting Author 233

Brian Holsey, BS\*; Sherri L. Kacinko, PhD; Barry K. Logan, PhD



9:45 a.m. - 10:00 a.m. H135 Forensic Applications of Postmortem Pharmacogenomics

Jeffrey M. Jentzen, MD\*

10:00 a.m. - 10:15 a.m. **Break** 

Supported by: Lipomed, Inc.

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Multidisciplinary Session: Pathology/Biology Session II/Toxicology — Postmortem Forensic Toxicology (continued)

Moderator: Giancarlo Di Vella, MD, PhD Co-Moderator: William R. Johnson, BA

University of Torino Wisconsin State Lab of Hygiene

Department of Public Health Sciences Toxicology Section
Torino, ITALY Madison, WI

10:15 a.m. - 10:30 a.m. K57 The Use of a Forensic Case Management System to Deliver Evidence-Based Science

and Research

Dimitri Gerostamoulos\*; Jennifer L. Pilgrim

10:30 a.m. - 10:45 a.m. K58 Fluoxetine Toxicity — Pharmacogenomics, Drug Interactions, and Dosage

Converge to Create the Perfect Storm: A Case Report

Thomas C. Kupiec, PhD\*; Min Wei, PhD; Zeil Rosenberg, MD; Debra L. Lyon, JD

10:45 a.m. - 11:00 a.m. H136 Multi-Site Aspects of Postmortem Redistribution (PMR) and Their Combination

With Pathological Findings to Determine Cause of Death (COD) in Suspected

Diazepam, Methadone, and Morphine Drug-Related Cases

Eric Lemaire, MD, PhD\*; Carl J. Schmidt, MD

11:00 a.m. - 11:15 a.m. H137 Postmortem Detection of Despropionyl Fentanyl (DPF) in Drug-Related Deaths

Peter Mazari, MD\*; Rebecca Jufer Phipps, PhD; Mary G. Ripple, MD;

David R. Fowler, MD

11:15 a.m. - 11:30 a.m. H138 Drop Dead Again: Surge of Deaths Attributed to Fentanyl Analogues in

**Cook County, Illinois** 

Kimberly M. Golden, MD\*; Peter J. Koin, PhD; Ponni Arunkumar, MD;

Adrienne Segovia, MD

11:30 a.m. - 11:45 a.m. K59 The First Case of Loperamide Toxicity in Jefferson County, Alabama

Daniel Atherton\*; Daniel W. Dye, MD; Brandi C. McCleskey, MD; Rachel C. Beck, PhD

11:45 a.m. - 12:00 p.m. K60 Postmortem Tissue Distribution of U-47700 Following Lethal Intoxication and Novel

Scheduling in the State of Ohio

Eric S. Lavins, BS\*; Cassandra L. Clyde, MFS; Douglas E. Rohde, MS;

Kevin G. Shanks, MS; Chetan H. Soni, MS; Ian T. Brooker, BS; Erin C. Reed, JD;

John J. Kucmanic, BS; Erin M. Worrell, BSc; Leslie E. Lemmerbrock, BS;

Megan E. Fowler, BS; Joseph A. Felo, DO; Andrea McCollum, MD;

David A. Engelhart, PhD; Harold E. Schueler, PhD; Thomas P. Gilson, MD

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



#### **General Forensic Toxicology**

Moderator: Robert Kronstrand, PhD Co-Moderator: Chinyere M. Williams, MS

National Board of Forensic Medicine Berkeley, CA

Department of Forensic Toxicology

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1:00 p.m.	-	1:15 p.m.	K61	On the Statistical Distribution of $V_{max}$ for Ethanol Pharmacokinetics Robert J. Belloto, Jr., PhD*; Alfred E. Staubus, PharmD, PhD
1:15 p.m.	-	1:30 p.m.	K62	The Benefits and Challenges of Implementing Blind Proficiency Testing in Blood Alcohol Analysis  Paula Evans, BS; Aimee R. Grimaldi, MS*; Callan Hundl, BS; Jackeline Moral, MS; Lori Wilson, BS
1:30 p.m.	-	1:45 p.m.	K63	The Simultaneous Determination of Gamma-Hydroxybutyric Acid (GHB) and GHB-Glucuronide (GHB-Gluc) in Urine Using Hydrophilic Interaction Liquid Chromatography-Tandem Mass Spectrometry (HILIC-MS/MS)  Jozlyn C. Gibbs, BS*; Marianne E. Staretz, PhD; Thomas A. Brettell, PhD
1:45 p.m.	-	2:00 p.m.	K64	Forensic Toxicology Findings in 101 Cases of Drug-Facilitated Sexual Assault (DFSA) in the United States  Taís R. Fiorentin, BS*; Barry K. Logan, PhD
2:00 p.m.	-	2:15 p.m.	K65	Buprenorphine and Metabolites in Paired Breast Milk and Maternal and Infant Plasma Specimens  Madeleine J. Swortwood, PhD*; Allan J. Barnes, BS; Karl B. Scheidweiler, PhD;  Lauren M. Jansson, MD; Marilyn A. Huestis, PhD

#### **Pediatric Postmortem Toxicology**

2:15 p.m. - 2:30 p.m.

Moderator: Robert A. Middleberg, PhD Co-Moderator: Nikolas P. Lemos, PhD

NMS Labs University of California, San Francisco

Willow Grove, PA Department of Lab Medicine

Supported by: Aegis Sciences Corporation

San Francisco, CA

 $2:30\ p.m. \quad \text{-}\quad 5:00\ p.m. \qquad \textbf{K66} \qquad \textbf{Postmortem Pediatric Toxicology}$ 

**Break** 

Robert A. Middleberg, PhD; Nikolas P. Lemos, PhD; Karen F. Ross, MD\*; Erik D. Christensen, MD\*; Gregory A. Schmunk, MD\*; Laura M. Labay, PhD\*



## LAST WORD SOCIETY

## Thursday

Moderator	Kenneth E. GWU Law Montclair,		Co-Moderator: James E. Starrs, LLM Springfield, VA
8:00 p.m.	- 8:15 p	.m. LW1	Were Moses and Aaron the First Bioterrorists?  John David Bullock, MD, MPH, MSc*
8:15 p.m.	- 8:30 p	.m. <b>LW2</b>	Joyeux Anniversaire, Commissaire! An (Im)Possible Interview With Jules Maigret — The "Mender of Destinies" Annarita Franza, PhD*; Vincenzo Lusa, JD*
8:30 p.m.	- 8:45 p	.m. LW3	O.J.: If the Case Were Tried Today, What the Science Would Say $Adam\ Itzkowitz,\ JD*$
8:45 p.m.	- 9:00 p	.m. LW4	Investigating Death or Raising the Dead? The Saga of William Wynn Westcott: A 19th-Century London Coroner Alexander Robert Forrest, LLM*
9:00 p.m.	- 9:15 p	.m. LW5	<b>Double-Induced Suicide of a Father and Adult Daughter: A Case Report</b> Nemanja Radojevic, MSc*; Jelena Vucinic, MD; Dragana Cukic, PhD
9:15 p.m.	- 9:30 p	.m. <b>LW6</b>	The Mysterious Case of Lori Ruff — Solved! Colleen M. Fitzpatrick, PhD*; Reg Brown, BS
9:30 p.m.	- 9:45 p	.m. <b>LW7</b>	<b>Do You Do Voodoo? Zombies, Ritual Crime, and Forensic Investigations</b> <i>Matteo Borrini, PhD*</i>
9:45 p.m.	- 10:00 p	.m. <b>LW8</b>	The Tamam Shud Mystery — Old Case, Modern Forensics Colleen M. Fitzpatrick, PhD*; Reg Brown, BS; Derek Abbott, PhD





### **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 2017 AAFS Annual Meeting in New Orleans, LA.

- To present at BYOS.ppt presentations must be in PowerPoint format. 35mm slides are not accepted.
- Proposals must be submitted on this form and 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 no more than ten minutes in which to present their material. Presentation time (duration) is determined on case-by-case basis.
- 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 15, 2017. 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. A BYOS.ppt Program Form also will be placed in each registrant's meeting packet.

#### **BYOS PROGRAM FORM**

Name and Degree(s):
Job Title:
Place of Employment:
AAFS Section Affiliation (if none, write "none"):
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?:
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:
U.S. Cell Phone: Email you can access while at the meeting:
The BYOS agenda and scheduled presentation times will be posted near the BYOS meeting room. If you have any questions, contact Sonya Bynoe at (719) 636-1100, or at the on-site AAFS Staff Office.
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Products or Services). - W2

Discloses no financial relationships with commercial entities. - A4 A5

National Institute of Justice Grant (Grant Support). - A46 France Casting, NextEngine, Inc, (Discussion of Commercial

National Institute of Justice, Slice and Algee-Hewitt (Grant Support). - W2

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National Institute of Justice (Grant Support).

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- E86, H30, H68, H69, H70, H71

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#### B

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National Institute of Justice (Grant Support).

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Nikon, Inc (Discussion of Unlabeled/Investigational Use of Product/Device).

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Thermo Fisher Scientific Inc (Discussion of Commercial Products or Services).

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- A13, A50, E56, I19, LW7

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- B202

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National Institute of Justice (Grant Support). - A124

Discloses no financial relationships with commercial entities. - S2

#### $\mathbf{C}$

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Discloses no financial relationships with commercial entities.



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FSF Lucas Grant, VCU Quest (Grant Support).

Stefano Crenna, MD - K11

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Maria Cuccì, MD - H113, H114

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Discloses no financial relationships with commercial entities. Eugenia Cunha, PhD - A104, S2

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#### D

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Discloses no financial relationships with commercial entities. Dennis C. Dirkmaat, PhD - E113

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Discloses no financial relationships with commercial entities. Ivan Duvall - J24

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Discloses no financial relationships with commercial entities.

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F

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Discloses no financial relationships with commercial entities. J. Paul Fedoroff, MD - I4, I32

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Discloses no financial relationships with commercial entities. Todd W. Fenton, PhD - A69

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Discloses no financial relationships with commercial entities. Stephen J. Ferrazzano II, JD - 132

Discloses no financial relationships with commercial entities. Jillian C. Fesolovich, MSFS - B93

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#### G

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Figure 1, Instagram, Twitter, Inc (Discussion of

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Bluestar Forensics, Sirchie (Discussion of Commercial

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Discloses no financial relationships with commercial entities.

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University of Houston-Clear Lake (Grant Support).

Kelly Kraus, BS - E29

Discloses no financial relationships with commercial entities.

Benjamin Krenke, MS - B125

Promega Corporation (Discussion of Commercial Products or Services and Employee).

Carl R. Kriigel, MA - C16

Cellebrite Company, Niantic, Inc (Discussion of Commercial Products or Services).

Kewal Krishan, PhD - E92, E106

University Grants Commission, New Delhi Vide (Other Financial/Material Support).

John J. Kristofic, BS - K35

Discloses no financial relationships with commercial entities. Robert Kronstrand, PhD - W8

Discloses no financial relationships with commercial entities.

Alex J. Krotulski, MS
Alere, Inc, Immunalysis Corporation (Discussion of

Commercial Products or Services). - K44

National Institute of Justice (Grant Support). - K44

SCIEX (Discussion of Commercial Products or Services). - K23

CFSRE (Employee). - K23

Ivana Kruzic, PhD - A51

Discloses no financial relationships with commercial entities. Alison Krywanczyk, MD - H66

Discloses no financial relationships with commercial entities. Akiko Kumagai - G3

Discloses no financial relationships with commercial entities. Thomas C. Kupiec, PhD - K58

Discloses no financial relationships with commercial entities. Kenji Kurosawa - C12

Discloses no financial relationships with commercial entities. Maiko Kusano, PhD - K53

Japan Society for the Promotion of Science - KAKENHI (Grant Support).

#### $\mathbf{L}$

Ericka N. L'Abbe, PhD - A40

Discloses no financial relationships with commercial entities.



Romano La Harpe, MD - H126

Discloses no financial relationships with commercial entities. Laura M. Labay, PhD - K66

Discloses no financial relationships with commercial entities. Douglas S. Lacey, BS - C10

Apple Inc (Discussion of Commercial Products or Services). Ammar Lahouel, MD - A53

Discloses no financial relationships with commercial entities. Gianluca Landi - H7

Discloses no financial relationships with commercial entities. Natalie R. Langley, PhD

Discloses no financial relationships with commercial entities. - A23

National Institute of Justice (Grant Support). - A32

Patrick E. Lantz, MD - W14

Discloses no financial relationships with commercial entities.

Gerald M. LaPorte, MSFS

National Institute of Justice (Employee). - F16

Discloses no financial relationships with commercial entities. - F42

Christelle Lardi, MD - H143

Physio-Control Inc./Jolife AB (Discussion of Commercial Products or Services).

Geneva University Hospitals Switzerland (Employee).

S.B. Addison Larson, BA - D24, E70

Discloses no financial relationships with commercial entities. Heather LaSalle, MS - W24

Department of Justice, Federal Bureau of Investigation (Employee).

Krista E. Latham, PhD - A109

University of Indianapolis (Employee).

Erin A. Laurie, MS - B41

Jan S. Bashinski Graduate Grant, National Institute of Justice (Grant Support).

Eric S. Lavins, BS - K60

Discloses no financial relationships with commercial entities. Delphine Le Roux, PhD - B97

Promega Corporation, ZyGem Corporation Ltd (Discussion of Commercial Products or Services).

UVA (Employee).

Marc A. LeBeau, PhD - B200

Federal Bureau of Investigation (Employee).

Spencer Ledesma, MS - C7

Houston Forensic Science Center (Employee).

Soong Deok Lee, PhD - B47

Discloses no financial relationships with commercial entities. Carrie B. LeGarde, MA - A98

Discloses no financial relationships with commercial entities. Kevin M. Legg, PhD - K13

Agilent Technologies (Discussion of Commercial Products or Services).

Christina A. Leija, MS - E97

Discloses no financial relationships with commercial entities. Samuel J. Leistedt, MD, PhD - I16

Discloses no financial relationships with commercial entities.

Eric Lemaire, MD, PhD - H136

Discloses no financial relationships with commercial entities. Julia Lemarchand, MD - H49

Discloses no financial relationships with commercial entities. Emily C. Lennert, BS - B81

Discloses no financial relationships with commercial entities. John J. Lentini, BA - ES1, S1

Discloses no financial relationships with commercial entities. Nathan H. Lents, PhD - H82

Puritan Medical (Discussion of Commercial Products or Services).

Kate M. Lesciotto, JD, MS - A8

Discloses no financial relationships with commercial entities. Sandra Levick, JD - W6

Discloses no financial relationships with commercial entities. Martin D. Levin, DDS - G35

Discloses no financial relationships with commercial entities. Matthew P. Levitas, BS - B115

PerkinElmer Inc (Discussion of Commercial Products or Services).

Carolyn Lewis, BS - B8

Bio-Rad Laboratories, Inc, Promega Corporation, QIAGEN, Inc, Quantas Biosciences, Thermo Fisher Scientific Inc,

Whatman plc (Discussion of Commercial Products or Services).

Virginia Commonwealth University (Employee).

Cheri Lewis, DDS - G20

Discloses no financial relationships with commercial entities. Jane A. Lewis, MFS - J25

Discloses no financial relationships with commercial entities. Krystle Lewis, BS - A100

Discloses no financial relationships with commercial entities. Anne-Claire Lhoumeau, MD - E48

Pfizer, Inc (Discussion of Commercial Products or Services).

Ling Li, MD - H133

Collaborative Innovation Center of Judicial Civilization, China (Grant Support).

Emily Lichtenberger, BS - B111

Agilent Technologies, Alere, Inc, Cerilliant Corporation, Shimadzu Corporation, Sigma-Aldrich Co. LLC (Discussion

of Commercial Products or Services). North Carolina State University (Employee).

Hui Si Lim - B23

Health Sciences Authority (Employee).

Laura L. Liptai, PhD

Discloses no financial relationships with commercial entities.

Biomedical Forensics (Employee). - W18

Barry E. Lipton, DDS - G15

Discloses no financial relationships with commercial entities.

Cristian F. Lizama, BS - D13

Policia de Investigaciones Chile (Employee).

Sara Lo Pinto, MD - H113, H114

Discloses no financial relationships with commercial entities.



Andrew Loftus, PhD - B107

InnoGenomics Technologies, LLC, Thermo Fisher Scientific Inc (Discussion of Commercial Products or Services).

InnoGenomics Technologies, LLC (Employee).

Barry K. Logan, PhD

NMS Labs (Employee). - W5, W18

Discloses no financial relationships with commercial entities. - S2

Kelly E. Long, BSc - B51

Thermo Fisher Scientific Inc (Discussion of Commercial Products or Services).

Sarah Long, BS - A122

Discloses no financial relationships with commercial entities. Nicolene Lottering, PhD - S2

Discloses no financial relationships with commercial entities. Jennifer C. Love, PhD - A145

Discloses no financial relationships with commercial entities. Tara Lovestead, PhD - B66

National Institute of Standards and Technology (Employee). Douglas M. Lucas, DSc - B34

Discloses no financial relationships with commercial entities. Victoria S. Lucas, PhD - G8

Discloses no financial relationships with commercial entities. Francesco Lupariello, MD - H45, H147

Discloses no financial relationships with commercial entities. Ira S. Lurie, PhD - W20

Agilent Technologies, PerkinElmer, Shimadzu Corporation, Waters Corporation (Discussion of Commercial Products or Services).

National Institute of Justice, PerkinElmer Inc (Grant Support). Vincenzo Lusa, JD - LW2

Discloses no financial relationships with commercial entities. James R. Lyle, PhD - C19

AccessData, CRU Acquision Group, LLC, Guidance Software Inc, Logicube, Source Forge, Sumuri LLC, X-Ways Software Technologies AG (Discussion of Commercial Products or Services).

National Institute of Standards and Technology (Employee). Jeanne Lynch-Aird, PhD - A43

Discloses no financial relationships with commercial entities. Zachary R. Lysek, BA - E51, E66

Discloses no financial relationships with commercial entities.

#### M

Katrina F. Maddela, BS - B51

Thermo Fisher Scientific Inc (Discussion of Commercial Products or Services).

Francesca Maglietta, MD - H73

Discloses no financial relationships with commercial entities. Paola A. Magni, PhD - H3, H4

Discloses no financial relationships with commercial entities. Tara J. Mahar, MD - H51

Erie County Medical Examiner's Office (Employee).

Khurram W. Mahmood, MPhil - J8

Discloses no financial relationships with commercial entities. Christopher A. Maier, MA - A73

Discloses no financial relationships with commercial entities. Julia B. Maier. BSc - B141

Cedar Crest College Forensic Science Program (Other Financial Material Support).

Justin R. Maiers, BS - A118

Discloses no financial relationships with commercial entities. Heli Maijanen, PhD - A93

University of Oulu (Grant Support).

Venkatesh Maled, MD - A78, G6

Discloses no financial relationships with commercial entities. Claude Mallet, PhD - K27

Waters Corporation (Discussion of Commercial Products or Services and Employee).

Christina A. Malone, MFS - C5

Discloses no financial relationships with commercial entities.

Katherine F. Maloney, MD - H46

Erie County Medical Examiner's Office (Employee).

Joseph J. Maltese, JD, PhD - S1

Discloses no financial relationships with commercial entities. Sergey Mamedoy, PhD - B162

Discloses no financial relationships with commercial entities. João Manata, MSc - E60

Discloses no financial relationships with commercial entities. Chelsie K.R. Mangca Valdez, BS - H5

Extech (Discussion of Commercial Products or Services). Pierre A. J-L. Margot, PhD - B34

Discloses no financial relationships with commercial entities.

Mark Maric, PhD - E5
Discloses no financial relationships with commercial entities.
Charla Marshall, PhD

EMD Millipore, Illumina, Inc, Promega Corporation,

QIAGEN, Inc, Thermo Fisher Scientific Inc (Discussion of

Commercial Products or Services). - B183 ARP Sciences, LLC (Employee). - B183

Bio-Rad Laboratories, Inc, Bode Cellmark Forensics,

Clontech Laboratories, Inc, Illumina, Inc, QIAGEN, Inc

(Discussion of Commercial Products or Services). - B44

ARP Sciences, AFDIL (Employee). - B44

Pamela L. Marshall, PhD - E78

Discloses no financial relationships with commercial entities. Daniel A. Martell, PhD - I21

Discloses no financial relationships with commercial entities. Brent D. Martin, DMD - G10

Schick (Discussion of Commercial Products or Services).

Brittney W. Martin, BS - E30

Discloses no financial relationships with commercial entities. Sara A. Martin, BS - BS4

Discloses no financial relationships with commercial entities. Alan P. Martinez - K34

Discloses no financial relationships with commercial entities. Eloisa Maselli, MD - H60

Discloses no financial relationships with commercial entities.



Katelyn Mason, PhD - A34

Lawrence Livermore National Laboratory (Grant Support). Luca Massaro, MD - E56

Discloses no financial relationships with commercial entities. Benjamin Mathis, MD - H12

Discloses no financial relationships with commercial entities. Brendan Max, JD - W1

Cook County Public Defender Office (Employee).

Carrie Mayes, BS - B1

Integrated DNA Technologies, QIAGEN, Inc, Thermo Fisher Scientific Inc (Discussion of Commercial Products or Services). Sam Houston State University (Employee).

Rodrigo Mayrink, MA - D14

Discloses no financial relationships with commercial entities. Peter Mazari, MD - H137

Discloses no financial relationships with commercial entities. Edward Mazuchowski II, MD, PhD - W11

Discloses no financial relationships with commercial entities. Thomas C. McAndrew, MA - W4

Discloses no financial relationships with commercial entities. Derik McCarthy - K7

National Science Foundation Division of Chemistry (Grant Support).

Carl R. McClary, BA - J3

Discloses no financial relationships with commercial entities. Brandi C. McCleskey, MD - H75

Discloses no financial relationships with commercial entities. Bruce R. McCord, PhD - W20

Florida International University (Employee).

Kyle A. McCormick, PhD - A62

Discloses no financial relationships with commercial entities. Mark R. McCoy, EdD - E100

Forensic Science Institute - University of Central Oklahoma (Employee).

Chloe P. McDaneld, MA - A97

Discloses no financial relationships with commercial entities. Austin L. McDaniel, BS - B21

National Institute of Justice (Grant Support).

Anna G. McDonald, MD - W14

Discloses no financial relationships with commercial entities. Michael D. McDowell, MS - D23

Discloses no financial relationships with commercial entities. Leif McGoldrick, BS - E8, E9, E55, E95

State University of New York, University at

Albany (Employee).

Arlene M. McGrath - B146

Discloses no financial relationships with commercial entities. Heather E. McKiernan, MSFS - B106

Agilent Technologies (Discussion of Commercial Products of Services).

National Institute of Justice (Grant Support).

Mary C. McMurray, BS - F27

Discloses no financial relationships with commercial entities. Lauren A. Meckel, MA - A97

Discloses no financial relationships with commercial entities.

Tahnee Nelson Mehmet, MSFS - B207

Discloses no financial relationships with commercial entities. Malorie Mella, BA - K50

Waters Corporation (Discussion of Commercial Products or Services and Employee).

Kenneth E. Melson, JD - ES1

Discloses no financial relationships with commercial entities. John Melville, MD - G38

Business Casual Software (Discussion of Commercial Products or Services and Shareholder).

Mara L. Merlino, PhD

Discloses no financial relationships with commercial entities.

National Institute of Justice (Grant Support). - J24 Vadim Mesli, MD - G2

Discloses no financial relationships with commercial entities.

Diana L. Messer, MS - A84

Discloses no financial relationships with commercial entities. Erin Michaels, MFS - W11

Discloses no financial relationships with commercial entities. Katarzyna Michaud, MD - H40, H150

Discloses no financial relationships with commercial entities. Harry L. Miles, JD - F8

Discloses no financial relationships with commercial entities. Barrie Miller, MD - H67

Discloses no financial relationships with commercial entities. James T. Miller, BS - B84

Houston Forensic Science Center employee (Employee).

Marilyn T. Miller, EdD - E1, E34

Leica Geosystems (Discussion of Commercial Products or Services).

Ross James Miller, MD - H56

Lodox Systems (Discussion of Commercial Products or Services).

James Millette, PhD - D22

Discloses no financial relationships with commercial entities.

Caroline Mireault, MA - J13

Natural Sciences and Engineering Research Council of Canada, Fonds de recherche du Québec - Nature et technologies (FRONT) (Grant Support).

Randolph L. Mitchell, DMD - G25

Discloses no financial relationships with commercial entities. Ellen Moffatt, MD - H85

Discloses no financial relationships with commercial entities. Amanda Moffett, MFS - BS2

United States Secret Service (Employee).

Linton Mohammed, PhD - J23, S1

Discloses no financial relationships with commercial entities.

Amanda L.A. Mohr, MSFS - W5

Centre for Forensic Science Research and Foundation (Employee).

Mehdi Moini, PhD

PerkinElmer Inc, Thermo Fisher Scientific Inc (Discussion of Commercial Products or Services). - J11

National Science Foundation (Grant Support). - B173



Benjamin Mokdad - E88

Discloses no financial relationships with commercial entities. Cristina Mondello - H127

Discloses no financial relationships with commercial entities. Katherine N. Moore, MS - B13

National Forensic Laboratory Information System (NFLIS) (Other Financial/Material Support).

Ronald L. Moore, Esq., JD - F7

Discloses no financial relationships with commercial entities. Harley A. Moraes, MSc - D36

Discloses no financial relationships with commercial entities. Kimberlee Sue Moran, MSc - W13

Academia, AcademicRoom, Instagram, Klout, Inc, LinkedIn, ResearchGate, Twitter, Inc (Discussion of Commercial Products or Services).

Arcadia University (Employee).

Zachary Moran, PhD - I43

Mental Health, Law and Policy Institute, Simon Fraser University, Van der Hoeven Stichting (Discussion of Commercial Products or Services).

Tamyra Moretti, PhD - B102

Discloses no financial relationships with commercial entities. John Morgan, PhD - B199

Discloses no financial relationships with commercial entities. Lee Morgan - H26

Apollo Business Supplies, Avery Products Corporation,

Evident, Inc, (Discussion of Commercial Products or Services).

Stephen L. Morgan, PhD - B158

National Institute of Justice, Office of Justice Programs, U.S. Department of Justice (Grant Support).

Sharon K. Moses, PhD - E49

Discloses no financial relationships with commercial entities. Thaddeus Mostowtt, MFS - K18

National Institute of Justice (Grant Support).

Melissa Mourges, JD - B191, F14

Discloses no financial relationships with commercial entities. Yasmine Moustafa, BS - E6

Discloses no financial relationships with commercial entities. Courtney L. Mower, BS - E72

Illumina, Inc, QIAGEN, Inc, Thermo Fisher Scientific Inc (Discussion of Commercial Products or Services).

Arcadia University (Other Financial/Material Support).

Kimberly B. Murga, MFS - W24

Las Vegas Metropolitan Police Department (Employee). Claire Muro, BS - B89

National Institute of Justice, Office of Justice Programs, U.S. Department of Justice (Grant Support).

Lisa Murphy, MCA - I32

Discloses no financial relationships with commercial entities. Patrick A. Murray, DDS - G29

Discloses no financial relationships with commercial entities. Laura Muscatello, MD - I8

Discloses no financial relationships with commercial entities.

N

Marcela Najarro, MFS - B59

Safran Identity & Security (Discussion of Commercial Products or Services).

The U.S. Department of Homeland Security Science and Technology Directorate, National Institute of Standards and Technology (Grant Support).

Cheryl F. Nelson, DVM - E19

Discloses no financial relationships with commercial entities. Yolanda Nerkowski, BA - A131, G22

Discloses no financial relationships with commercial entities. Tara L. Newcomb, MS - G37

Discloses no financial relationships with commercial entities. Michael J. Nichols, JD - F6

Discloses no financial relationships with commercial entities. Gregory Nigoghosian, BSc - H9

Purdue University (Employee).

Yasuhiro Nishio - D12

Discloses no financial relationships with commercial entities. John Nixon, CEng, MBA - D20

Discloses no financial relationships with commercial entities. Jacqueline Noble, MFS - A18

Discloses no financial relationships with commercial entities. Jamie O. Norman, JD - D27

Discloses no financial relationships with commercial entities. Katelyn Norman, BFA - E14

Frank H. Netter, MD School of Medicine of Quinnipiac University (Grant Support).

Paul Norris - B69

Discloses no financial relationships with commercial entities. Maher Noureddine, PhD - E58

Colt's Manufacturing Company LLC, Copan Italia, Fabbrica d'Armi Pietro Beretta, Glock, Inc, Mikhail Kalashnikov,

Remington Arms Company, LLC, Smith & Wesson, Sturm,

Ruger & Co, Thermo Fisher Scientific Inc, Volunteer

Enterprises (Discussion of Commercial Products or Services). David Novosad, MD - I40

Discloses no financial relationships with commercial entities. Nicole M. Novroski, MS - B186

Forensic Science Foundation Lucas Grant (Grant Support).

Carraugh R. Nowak, MFS

Erie County Medical Examiner's Office (Employee). - E52 National Institute of Justice (Discussion of Commercial

Products or Services). - E35

Hilbert College (Employee). - E35 Carolina Núñez-Vázquez, PhD - H15

Discloses no financial relationships with commercial entities.

Kiana F. Nurideen, BS - B150

DEA (Employee).

Ziyad Nuwayhid, MD - I9

Discloses no financial relationships with commercial entities. W. Milton Nuzum, JD - S1

Discloses no financial relationships with commercial entities.



Emilio Nuzzolese, PhD - G11

Discloses no financial relationships with commercial entities.

#### 0

Kerry J. O'Connell, JD - F44

Discloses no financial relationships with commercial entities. Stephanie L. Oddi, BSc - B117

Discloses no financial relationships with commercial entities. William R. Oliver, MD - H38

National Institute of Justice (Grant Support).

Tiffany O'Neill, DO - H43

Discloses no financial relationships with commercial entities. Simone Onti, MD - H27, I30

Discloses no financial relationships with commercial entities. Kayla L. Orr, BSc - A54

Discloses no financial relationships with commercial entities. Carmen E. Osorno Solís - A144

CAMMINA PROGRAM, Ford Foundation, Mac Arthur Foundation, Oak Foundation, Open Society Foundation, Sigrid Rausing Fund (Grant Support).

Alessio Ostuni, MD

Bendamustine® Brentuximab Vedotin® (Discussion of Unlabeled Investigational Use of Product/Device). - F13 Discloses no financial relationships with commercial entities. - I28, I29

#### P

Donna M. Papsun, MS - K31, W5

NMS Labs (Employee).

Dae-Kyoon Park, MD, PhD - E41

Discloses no financial relationships with commercial entities. Glendon Parker, PhD - A96

Forensic Science Center, Lawrence Livermore National Laboratory (Paid Consultant).

Gustavo G. Parma, MD - E91

Discloses no financial relationships with commercial entities. Kevin J. Parmelee, PhD - E22

Nikon, Inc (Discussion of Commercial Products or Services). Alexis Parr, BS - B53

Applied Biosystems, NetBio, Inc, Promega Corporation, QIAGEN, Inc (Discussion of Commercial Products or Services and Unlabeled/Investigational Use of Product/Device).

Hillary R. Parsons, PhD - E50, E114

History Flight Inc. (Employee).

Barry Pass, PhD - G35

Discloses no financial relationships with commercial entities. Nicholas V. Passalacqua, PhD - A11

Discloses no financial relationships with commercial entities.

Furio Martino Patete - E47

Discloses no financial relationships with commercial entities. David G. Pauly, MFS - W21

Nikon, Inc (Discussion of Commercial Products or Services). Sirchie (Paid Consultant).

Jennifer L. Pechal, PhD - H97, W22

Discloses no financial relationships with commercial entities. Michal Peer - A26

Mansell Color (Discussion of Commercial Products or Services). Vinicio Pelino, MS - C29

Discloses no financial relationships with commercial entities. Carla R. Penner, DDS - G13

Discloses no financial relationships with commercial entities. Mark W. Perlin, PhD, MD

Cybergenetics (Shareholder and Discussion of Commercial Products or Services). - B190, F29, F11

Lauren M. Perry, BS - J7

Discloses no financial relationships with commercial entities. Caterina Petetta, MD - H61

Discloses no financial relationships with commercial entities. Nicholas Petraco, MS - B119

National Institute of Justice (Grant Support).

Pierre-Antoine Peyron, MD - H141

Discloses no financial relationships with commercial entities. Lauren R. Pharr, PhD - A28

EBSCO Industries, Inc (Discussion of Commercial Products or Services)

Louisiana State University, National Science Foundation (Grant Support).

Angelina I. Phillips, MD - H23

Discloses no financial relationships with commercial entities. Jennifer Piel, MD - I22

Discloses no financial relationships with commercial entities. David Pienkowski, PhD - D4, D15

Discloses no financial relationships with commercial entities. Michal L. Pierce, MS - E63

Discloses no financial relationships with commercial entities. Marin A. Pilloud, PhD - A72

Discloses no financial relationships with commercial entities. Joao E.S. Pinheiro, PhD, MD - H41

Discloses no financial relationships with commercial entities. Christine M. Pink, PhD - A87

Metropolitan State University of Denver (Employee).

Danea Pirtle, BA - H2

Discloses no financial relationships with commercial entities. Alicia Marie Swartz Pitts, MS - W11

Discloses no financial relationships with commercial entities. John E. Pitts, DDS - G24

Discloses no financial relationships with commercial entities. Sharon L. Plotkin, MS - W15

Discloses no financial relationships with commercial entities. Christopher J. Plourd, JD - B179, W6

Discloses no financial relationships with commercial entities. Danny J. Pogoda, DDS - G32

Discloses no financial relationships with commercial entities.



Corey Pollock - A9

Munsell Color (Discussion of Commercial Products or Services).

Boston University School of Medicine, Department of Anatomy and Neurobiology (Other Financial/Material Support).

Austin L. Polonitza, BS - A138, H57

Discloses no financial relationships with commercial entities. Carrie Polston, BA - J9

Regula (Discussion of Commercial Products or Services).

Cristoforo Pomara, MD, PhD - E108

Discloses no financial relationships with commercial entities. Elayne J. Pope, PhD - A126

Discloses no financial relationships with commercial entities. David J. Porta, PhD - D29

Bosh Automotive Service Solutions Inc (Discussion of Commercial Products or Services).

Caitlin E. Porterfield, MS - B42, E100

University of Central Oklahoma - Forensic Science Institute (Employee).

Jessica L. Powers, MA - B109

Discloses no financial relationships with commercial entities. Mark C. Pozzi, MS

Chrysler, Ford Motor Company, General Motors, Kenworth (Discussion of Commercial Products or Services). - D5

Discloses no financial relationships with commercial entities. - D7

Chrysler (Discussion of Commercial Products or Services). - D16

General Motors, Takata Corporation (Discussion of Commercial Products or Services). - D18

Joseph A. Prahlow, MD - E31, H87

Discloses no financial relationships with commercial entities. Samuel Prahlow - E65, H105

Discloses no financial relationships with commercial entities. Sebastien S. Prat, MD - I23, I41

Discloses no financial relationships with commercial entities. Julia R. Prince-Buitenhuys, MA - A58

Discloses no financial relationships with commercial entities. Noemi Procopio, MSc - A22

Royal Society (Grant Support).

Beatriz A. Pujols, BS - B126

Promega Corporation (Discussion of Commercial Products or Services).

Duquesne University (Other Financial/Material Support).

#### Q

Walter Quattrociocchi, PhD - C29

Discloses no financial relationships with commercial entities. Matthew Quinn - B17

National Institute of Justice, Office of Justice Programs, U.S. Department of Justice (Grant Support).

#### R

Houssam Raai - I12

Discloses no financial relationships with commercial entities. Nemanja Radojevic, MSc - LW5

Discloses no financial relationships with commercial entities. Alicia R. Rairden, MS - B169

Houston Forensic Science Center (Employee).

Ashwyn Rajagopalan, MD - H34, H109

Discloses no financial relationships with commercial entities. Bayan Ramadan, BSc - J19

United Nations Office on Drugs and Crime (Grant Support). Donald J. Ramsell, JD - F39

Discloses no financial relationships with commercial entities. Katherine Ramsland, PhD - E66, ES1, W17

Discloses no financial relationships with commercial entities. Anjali A. Ranadive, JD - W6

Discloses no financial relationships with commercial entities. Rebekah Ranger, BA - 15

Discloses no financial relationships with commercial entities. Nicole Rapino, BA - B61

Discloses no financial relationships with commercial entities. Amy V. Rapkiewicz, MD - H101

Discloses no financial relationships with commercial entities. Sara Raponi, JD - F1

Discloses no financial relationships with commercial entities. Sophia I. Reck - E32

RJL Systems (Discussion of Commercial Products or Services). Sarah Davis Redman, PhD - E68

Centers for Disease Control and Prevention (Grant Support). Stacey L. Reed, DO - H100

Discloses no financial relationships with commercial entities. Trenna M. Reeve, DMD - G13

Discloses no financial relationships with commercial entities. Michaela F. Regan - E96

University College London, Engineering and Physical Sciences Research Council (Grant Support).

Robin C. Reineke, PhD - A143

CAMMINA Program, Ford Foundation, Lacey & Larkin Frontera Fund, Oak Foundation, Porticus Foundation (Grant Support).

Karl J. Reinhard, PhD - A65

Discloses no financial relationships with commercial entities. Marcello Rendine - E85

Discloses no financial relationships with commercial entities. Thomas B. Renegar, BS - B205

Freeman Manufacturing & Supply Co (Discussion of Commercial Products or Services).

National Institute of Standards and Technology (Employee). Evelyn Reyes, BS - K26

Discloses no financial relationships with commercial entities. Jenise Reyes-Rodriguez, BS - C23

National Institute of Standards and Technology (Employee).



Selden Richard, MD - B100

NetBio, Inc (Discussion of Commercial Products or Services Employee).

Elizabeth Richards, PhD - W11

Discloses no financial relationships with commercial entities. Taylor J. Rider - A45

3D Systems, NextEngine, Inc (Discussion of Commercial Products or Services).

Mercyhurst University, Research Assistantship (Employee).

Michael F. Rieders, PhD - W18

NMS Labs (Employee).

Amber D. Riley, MS - G39

Discloses no financial relationships with commercial entities. Sarah Riman, PhD

Applied Biosystems (Discussion of Commercial Products or Services). - B105

FSF Jan S. Bashinski Grant, National Institute of Justice, Office of Justice Programs, United States Department of Justice (Grant Support). - B105

Promega Corporation (Discussion of Commercial Products or Services). - B212

National Institute of Standards and Technology

(Grant Support). - B212

Bruce N. Ringstrom, Jr., JD - F10

Discloses no financial relationships with commercial entities. Jariangely Rivera - H25

Discloses no financial relationships with commercial entities. David B. Rivers, PhD - H92

Loyola University Maryland (Employee).

Tania Rizzo, BS - I8

Discloses no financial relationships with commercial entities. Brianna L. Robbins, BA - B96

Discloses no financial relationships with commercial entities. Bonnie C. Roberts, BS - D28

Discloses no financial relationships with commercial entities. Graham J. Roberts, MDS - G33

Discloses no financial relationships with commercial entities. Lindsey G. Roberts, MA - A19

Southern Illinois University (Employee).

Maria A. Roberts - B165, B166

Federal Bureau of Investigation (Employee).

C. Andrew Robinson, Jr., PhD - F36

IonSense, Inc, SCIEX (Discussion of Commercial Products or Services).

University of Alabama at Birmingham, Department of Pathology (Employee).

Karlee Rock, BA - B10

Applied Biosystems, Foster + Freeman, Ltd, Glock, Inc, Promega Corporation, QIAGEN, Inc, Syntronics, LLC (Discussion of Commercial Products or Services).

Sandra E. Rodriguez-Cruz, PhD - B82, B83

Drug Enforcement Administration (Employee).

Scott Roeske, MFS - W11

Discloses no financial relationships with commercial entities. Marcus Rogers, PhD - C24

Discloses no financial relationships with commercial entities.

Meghan Roig, BS - B128

Applied Biosystems, Pressure BioSciences, Inc, Stemcell Technologies, Streck, Inc (Discussion of Commercial Products or Services).

Pressure BioSciences, Inc (Grant Support).

Matthew D. Rolland, BS - A99

Discloses no financial relationships with commercial entities. Jeri D. Ropero-Miller, PhD

Discloses no financial relationships with commercial entities. - S2

RTI International (Employee). - W24

Karen B. Rosenbaum, MD - I4

Discloses no financial relationships with commercial entities. Michael Rosenfield, BS - D41

Ford Motor Company (Discussion of Commercial Products or Services).

Ann H. Ross, PhD - W19

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Horizon2020 (Grant Support). - E69

AEGLE (Discussion of Unlabeled/Investigational Use of Product/Device). - E69

Telstra Corporation (Discussion of Products and Services). - E69

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S

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Chrysler (Discussion of Commercial Products or Services). - D16

General Motors, Takata Corporaton (Discussion of Commercial Products or Services). - D18

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Applied Biosystems, Eppendorf AG, Life Technologies Corporation, Promega Corporation, QIAGEN, Inc, Thermo Fisher Scientific Inc (Discussion of Commercial Products or Services).

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T

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Discloses no financial relationships with commercial entities. Lauren M. Vinsick, BS - W8

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JEOL, Ltd. (Discussion of Commercial Products or Services). National Institute of Justice, Office of Justice Programs, U.S. Department of Justice. (Grant Support).

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Discloses no financial relationships with commercial entities. Laura Volpini, PhD - I19

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D Printed Firearm-B154	Alere <sup>™</sup> DDS <sup>®</sup> 2-K44	Artifacts-D35
3D Scan-E40	Algeria-A53	ASB-J2
D Scanner-G32	Alkyl Glycols-B20	Asbestos-D22
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D Technology-A7, B35	Aluminum Powder-B79	Asphyxia-E86, H114, H144, I28, I30
	Alzheimer's Disease-I38	Assessment-I5
	Amalgam-G21	Assignment Model-A101
1	Ambient Mass Spectrometry-B113	Astrocyte-K5
	American Forensic Odontology-G19	Asymmetry-A44
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DA CLC 1 1 F0	Analysis-B54, D37, G16	AuNPs/Aptamer-B25
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