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It is my honor as President of the American Academy of Forensic Sciences to welcome you to Orlando for the 67th Annual Scientific Meeting. The theme for our 2015 meeting is *Celebrating the Forensic Science Family*. I am excited to experience the breadth and diversity of our membership and to witness the synergy generated when forensic scientists come together to collaborate in the pursuit of truth and justice.

I welcome our international attendees from around the globe, our Fellows and long-time Academy veterans, and especially our newest members and students, for some of whom this may be their first meeting. I invite all of you, if you see me while you are here, to stop and to say hello. I look forward to the opportunity to meet and welcome you personally.

An outstanding program awaits you, including the Interdisciplinary Symposium where AAFS past presidents will discuss the future of forensic science; the Plenary Session which will focus on the phenomenon of cognitive bias and the ways in which it can covertly undermine our conclusions; and a scientific program jam-packed with special events including several outstanding multidisciplinary sessions and special programs dedicated to the best and brightest of our young forensic scientists as we celebrate 20 years of the Young Forensic Scientists Forum.

While we are gathered here together, I hope you will take time to seek out and thank your mentors for guiding you; to engage in some of the Academy’s new and old traditions; to widen your circle of AAFS colleagues and friends; and that you come away feeling energized and reinvigorated in your own pursuit of forensic knowledge and expertise.

I would like to thank everyone who has contributed to the success of this year’s meeting, including the awesome organizational efforts of AAFS Program Chair Ken Williams and Program Co-Chair Andy Baker, together with the entire Annual Meeting Program Committee. Their hard work will be well reflected in the meeting we are all about to experience. To all of you who submitted your work and have been selected to present new science at this meeting, both congratulations and heartfelt thanks. This is the true core of our mission: to advance science and its application to the legal system.

It has been a wonderful and rewarding experience for me this past year to serve as president of our Academy, and a personal honor to be the first forensic psychologist entrusted to serve in that capacity. I want to extend a particularly hearty handshake to the Academy staff, who undertake such a monumental effort and ensure that our experience as Academy members is always outstanding. Their talent and professionalism, marshalled with consummate skill by Executive Director Anne Warren, has made this year a particular pleasure for me both personally and professionally.

It will be my great privilege this week to pass the chain of office to Victor Weedn who will assume the mantle for the coming year. I take great comfort in knowing that the Academy family will find itself in such capable hands. My best to all of you as we celebrate who we are, where we have come from, and where the future will be taking us.
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For sixty-seven years, the AAFS has served a distinguished and diverse membership. Its 6,653 members are divided into eleven sections spanning the forensic enterprise. Included among the Academy’s members are physicians, attorneys, dentists, toxicologists, anthropologists, document examiners, digital evidence experts, psychiatrists, engineers, physicists, chemists, criminalists, educators, and others. Representing all 50 United States, Canada, and 70 other countries worldwide, they actively practice forensic science and, in many cases, teach and conduct research in the field as well. Each section provides opportunities for professional development, personal contacts, awards, and recognition. Many sections publish periodic newsletters and mailings which keep their members abreast of activities and developments in their fields.

The American Academy of Forensic Sciences is a multi-disciplinary professional organization that provides leadership to advance science and its application to the legal system. The objectives of the Academy are to promote professionalism, integrity, competency, education, foster research, improve practice, and encourage collaboration in the forensic sciences. It does so via the *Journal of Forensic Sciences* (its internationally recognized scientific journal), newsletters, its website, its annual scientific meeting, the conduct of webinars, 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 180 exhibitors will be present to showcase the cutting-edge technology and services of this ever-changing profession.

**Future Annual Meetings**

<table>
<thead>
<tr>
<th>2016 AAFS Annual Meeting</th>
<th>2018 AAFS Annual Meeting</th>
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<tr>
<td>Las Vegas, NV</td>
<td>Seattle, WA</td>
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<td>February 22-27</td>
<td>February 19-24</td>
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<tr>
<th>2017 AAFS Annual Meeting</th>
<th>2019 AAFS Annual Meeting</th>
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<tr>
<td>New Orleans, LA</td>
<td>Baltimore, MD</td>
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<td>February 13-18</td>
<td>February 18-23</td>
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<tr>
<th>2020 AAFS Annual Meeting</th>
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<tr>
<td>Anaheim, CA</td>
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<td>February 17-22</td>
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410 North 21st Street  
Colorado Springs, CO 80904  
Phone: (719) 636-1100  
Fax: (719) 636-1993  
Email: membership@aafs.org  
Website: www.aafs.org

Anne Warren, *Executive Director*
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Past President:  Barry K. Logan, PhD  
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Secretary:  John E. Gerns, MFS  
Treasurer:  Betty Layne DesPortes, JD, MS

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Criminalistics:  Lucy A. Davis, BHS  
Digital & Multimedia Sciences:  David W. Baker, MFS  
Engineering Sciences:  Laura L. Liptai, PhD  
General:  Julie A. Howe, MBA  
Jurisprudence:  Roderick T. Kennedy, JD  
Odontology:  John P. Kenney, DDS, MS  
Pathology/Biology:  Gregory G. Davis, MD  
Psychiatry & Behavioral Science:  John L. Young, MD  
Questioned Documents:  Jane A. Lewis, MFS  
Toxicology:  Ruth E. Winecker, PhD

2014 Annual Scientific Meeting Program Committee

Program Chair:  Ken Williams, MS, JD  
Program Co-Chair:  Andrew M. Baker, MD  
Plenary Session:  Roderick T. Kennedy, JD; Matthew R. Wood, MS  
Poster Sessions:  Laura C. Fulginiti, PhD; Tanisha V. Henson, MFS  
Workshops:  Gregory G. Davis, MD; Jane A. Lewis, MFS  
Breakfast Seminars:  Karen B. Rosenbaum, MD; Claire E. Shepard, MS  
Luncheon Seminars:  Laura L. Liptai, PhD; Adam J. Freeman, DDS  
Last Word Society:  James E. Starrs, LLM; Kenneth E. Melson, JD  
Bring Your Own Slides:  Michael M. Baden, MD; Randy L. Hanzlick, MD  
Student Academy:  Julie A. Howe, MBA; Marilyn T. Miller, EdD  
Interdisciplinary Symposium:  Elizabeth A. Murray, PhD; Jeri D. Ropero-Miller, PhD  
Local Arrangements:  Jan C. Garavaglia, MD  
Anthropology:  Gregory E. Berg, PhD; Kate Spradley, PhD  
Criminalistics:  Karolyn L. Tontarski, MS; Vincent J. Desiderio, Jr., MS  
Digital & Multimedia Sciences:  Peter R. Stephenson, PhD; Samuel I. Brothers, BBA  
Engineering Sciences:  Darren Franck, MSME  
General:  Steven C. Clark, PhD; Arthur S. Chancellor, MA  
Jurisprudence:  Donald E. Shelton, JD, PhD; Lauri Traub, JD  
Odontology:  Adam J. Freeman, DDS  
Pathology/Biology:  James Louis Caruso, MD  
Psychiatry & Behavioral Science:  Dean M. De Crisce, MD; R. Gregg Dwyer, MD, EdD  
Questioned Documents:  F.L. Jim Lee, Jr., MS  
Toxicology:  Rebecca A. Jufer Phipps, PhD; Dan T. Anderson, MS
Past Presidents

*R.B.H. Gradwohl, MD ........................................ 1949-51
*S.A. Levinson, MD, PhD ..................................... 1951-52
*R.N. Harger, PhD ............................................. 1952-53
*Louis P. Regan, MD, LLB ................................. 1953-54
*A.W. Freireich, MD ........................................ 1954-55
*Fred E. Inbau, BS, LLB, LLM ............................ 1955-56
*Alan R. Moritz, MD .......................................... 1956-57
*Val B. Satterfield, MD ...................................... 1957-58
*John F. Williams, BS ....................................... 1958-59
*Ordway Hilton, MA .......................................... 1959-60
*Russel S. Fisher, MD ....................................... 1960-61
*S.R. Gerber, MD, LLB ...................................... 1961-62
*Dolton Frank, MD ........................................... 1962-63
*Oliver C. Schroeder, Jr., JD ............................. 1963-64
*Dwight M. Palmer, MD ..................................... 1964-65
*Robert B. Forney, PhD .................................... 1965-66
*Jack L. Sachs, JD ........................................... 1966-67
*Charles S. Petty, MD ....................................... 1967-68
*Maier I. Tuchler, MD ....................................... 1968-69
*James W. Osterburg, MPA ................................ 1969-70
*Edwin C. Conrad, JD, PhD ............................... 1970-71
*Cyril H. Wecht, MD, JD .................................. 1971-72
*Anthony Longhetti, BA ................................. 1972-73
*Maier I. Tuchler, MD ....................................... 1974-75
*Robert J. Joling, JD ....................................... 1975-76
*James T. Weston, MD ..................................... 1976-77
*B. Edward Whittaker, BS ............................... 1977-78
*Kurt M. Dubowski, PhD ................................ 1978-79
*June K. Jones, MS ......................................... 1979-80
*Lowell J. Levine, DDS ................................... 1980-81
*Joseph H. Davis, MD ..................................... 1981-82

*Anthony Longhetti, BA ..................................... 1982-83
*George E. Gantner, MD .................................... 1983-84
*Maureen Casey Owens, AB ......................... 1984-85
*Arthur D. Goldman, DMD ............................ 1985-86
*Don Harper Mills, JD, MD ......................... 1986-87
*Yale H. Caplan, PhD .................................... 1987-88
*Richard S. Frank, BS ..................................... 1988-89
*Richard C. Froede, MD .................................. 1989-90
*Ellis R. Kerley, PhD ...................................... 1990-91
*Homer R. Campbell, Jr., DDS ..................... 1991-92
*Marina Stajić, PhD ......................................... 1992-93
*Enrico N. Togneri, BA .................................... 1993-94
*Steven C. Batterman, PhD .............................. 1994-95
*Haskell M. Pitluck, JD ................................. 1995-96
*Richard Rosner, MD ...................................... 1996-97
*Michael A. Peat, PhD .................................... 1997-98
*Patricia J. McFeeley, MD ............................... 1999-00
*John D. McDowell, DDS, MS ....................... 2000-01
*Mary Fran Ernst, BDS .................................. 2001-02
*Graham R. Jones, PhD .................................. 2002-03
*Kenneth E. Melson, JD .................................. 2003-04
*Ronald L. Singer, MS ................................... 2004-05
*Edmund R. Donoghue, MD ......................... 2005-06
*James G. Young, MD .................................... 2006-07
*Bruce A. Goldberger, PhD .............................. 2007-08
*Carol E. Henderson, JD ............................... 2008-09
*Thomas L. Bohan, PhD, JD ......................... 2009-10
*Joseph P. Bono, MA ...................................... 2010-11
*Douglas H. Ubelaker, PhD ......................... 2011-12
*Robert E. Barsley, DDS, JD ....................... 2012-13
*Barry K. Logan, PhD .................................... 2013-14

*Deceased
Section Officers

Anthropology
Chair: Phoebe R. Stubblefield, PhD
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Criminalistics
Chair: Lawrence Quarino, PhD
Secretary: John J. Lentini, BA

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Chair: Carol A. Erikson, MSPH
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Chair: Christine Funk, JD
Secretary: Stephanie Domitrovich, JD, PhD

Odontology
Chair: Iain A. Pretty, DDS, PhD
Secretary: Raymond G. Miller, DDS

Pathology/Biology
Chair: J.C. Upshaw Downs, MD
Secretary: Kathy H. Haden-Pinneri, MD

Psychiatry & Behavioral Science
Chair: Christopher R. Thompson, MD
Secretary: Karen B. Rosenbaum, MD

Questioned Documents
Chair: Thomas W. Vastrick, BS
Secretary: Linton Mohammed, PhD

Toxicology
Chair: Dwain C. Fuller, BS
Secretary: Sarah Kerrigan, PhD

R.B.H. Gradwohl Laureates

*Milton Helpern, MD ................. 1978  *Sidney Kaye, PhD ................. 1998  Sir Alec J. Jeffreys, DPhil ................. 1999
*Rolla N. Harger, PhD ............... 1979  *Richard C. Froede, MD ............. 2002  *Alan S. Curry, PhD ................. 2002
*James T. Weston, MD ............... 1984  *Joseph H. Davis, MD ............... 2005  Joseph Almog, PhD ................. 2005
*Oliver C. Schroeder, Jr., JD ...... 1987  Barry A.J. Fisher, MS, MBA ........... 2008  *Clyde C. Snow, PhD ................. 2008
Douglas M. Lucas, MSc, DSc ...... 1995  James E. Starrs, LLM ............... 2012  Duarte N. Vieira, MD, PhD ........... 2014
Kenneth S. Field, MBA ............. 1997  Thomas T. Noguchi, MD ............ 2015

Douglas M. Lucas Medalists

*Deceased

Distinguished Fellows

Douglas M. Lucas, MSc, DSc ...... 1990  *Homer R. Campbell, Jr., DDS ....... 1998  Randy L. Hanzlick, MD ............... 2009
Irwin N. Perr, MD, JD .............. 1990  John J. Harris, BS .................. 1998  Jay A. Siegel, PhD .................. 2009
Kurt M. Dubowski, PhD ............ 1991  Norman D. Sperber, DDS ............ 1998  Ronald L. Singer, MS ................. 2010
*Oliver C. Schroeder, Jr., JD ...... 1991  Robert E. Gaensslen, PhD ........... 2000  Mary Fran Ernst, BLS ................. 2011
*Clyde C. Snow, PhD ............... 1991  Steven C. Battersman, PhD .......... 2001  Patricia J. McFeeley, MD .......... 2011
*Emmanuel Tanay, MD .............. 1992  Robert B. J. Dorion, DDS ........... 2002  Haskell M. Pitluck, JD ............... 2012
*Joseph H. Davis, MD ............... 1993  Richard S. Frank, BS ................. 2002  John D. McDowell, DDS, MS ........ 2013
*Anthony Longhetti, BA .......... 1993  Carla M. Noziglia, MS ................. 2003  Marina Stajic, PhD ................. 2013
*Don Harper Mills, JD, MD ....... 1993  James L. Frost, MD ................. 2004  Edmund R. Donohue, MD ........... 2014
Henry C. Lee, PhD ................. 1994  Michael Finnegan, PhD ............... 2005  Marilyn A. Huestis, PhD ........... 2015
*David J. Purcell, PhD ............. 1994  Andre A. Moenssens, JD, LLM ........ 2005

* Deceased
**Registration Desk Hours**

_Hyatt Regency Orlando_

- **Sunday** February 15 1:00 p.m. - 5:00 p.m.
- **Monday** February 16 6:45 a.m. - 5:00 p.m.
- **Tuesday** February 17 6:45 a.m. - 6:00 p.m.
- **Wednesday** February 18 6:45 a.m. - 5:00 p.m.
- **Thursday** February 19 6:45 a.m. - 5:00 p.m.
- **Friday** February 20 6:45 a.m. - 4:00 p.m.
- **Saturday** February 21 7:30 a.m. - 9:30 a.m.

**Exhibit Hall Hours**

_Hyatt Regency Orlando_

- **Wednesday** February 18 11:30 a.m. - 4:00 p.m.
- **Thursday** February 19 9:00 a.m. - 2:00 p.m.
- **AAFS Reception (Exhibits Open)** February 19 6:00 p.m. - 8:00 p.m.
- **Friday** February 20 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 annual meeting.

Consult “Editorial Communications” which appears in each edition of the *Journal* for full instructions on manuscript preparation. **Authors are encouraged to submit their manuscripts electronically via Manuscript Central: [http://mc.manuscriptcentral.com/jofs](http://mc.manuscriptcentral.com/jofs).** Alternately, manuscripts may be sent to:

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Editor, *Journal of Forensic Sciences*  
6700 Woodlands Parkway, Suite 230-308  
The Woodlands, TX 77381  
Fax: (281) 419-6236  
jfs.editor@att.net

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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 turn off their cell phones when attending the sessions. If a phone conversation must be held, please step outside of the meeting room._
Dr. Thomas Noguchi has served the American Academy of Forensic Sciences and the forensic science community faithfully for more than 50 years. Born in Fukuoka-City, Japan in 1927, Dr. Noguchi graduated from Tokyo’s Nippon Medical School in 1951. The son of a doctor, he immigrated to the United States in 1952 where he interned at Orange County General Hospital. A series of residencies at Loma Linda University School of Medicine and Barlow Sanatorium in Los Angeles led to an appointment as a deputy coroner for Los Angeles County in 1961. In 1967, he became the county’s chief medical examiner. It was in this role that Dr. Noguchi came to public attention for a series of autopsies and investigations he either performed or supervised, including the deaths of Marilyn Monroe, Robert F. Kennedy, Sharon Tate, Janis Joplin, William Holden, Natalie Wood, John Belushi, and many more.

Dr. Noguchi’s 15 years as the chief medical examiner for Los Angeles County earned him the nickname of “Coroner to the Stars.” He stepped down as chief coroner in 1982 but continued to work with the county, finally retiring in 1999. He was honored that same year by the Emperor of Japan who awarded him the Order of the Sacred Treasures for “outstanding contribution to Japan in the area of forensic science.” He was later appointed Chief of Pathology at the University of Southern California and then as Administrative Pathologist for Anatomic Pathology services at the USC Medical Center.

Dr. Noguchi has been appointed Professor by both the University of Southern California and by UCLA. He is a Past President of the California State Coroners Association and the National Association of Medical Examiners (NAME). His service has continued as an Advisor to International Societies such as The International Journal of Legal Medicine, published by the Japanese Society of Legal Medicine, and The Journal of Medical Law.

Dr. Noguchi’s recent honors include recipient of NAME’s most prestigious award, the Milton Helpern Medal in 2005; the AAFS Distinguished Fellow Award in 2007; the Los Angeles Society of Pathologists Lifetime Service Award in 2008; and NAME’s Lifetime Achievement Award in 2014.

As an author and researcher, Dr. Noguchi has published more than 65 papers on a wide range of subjects in forensic pathology and toxicology as well as medical law. He has published in numerous peer review journals, and has authored several chapters in forensic books and many other publications. Over the course of his career, Dr. Noguchi has authored or co-authored a number of fiction and non-fiction books. Among these are Coroner, a best selling memoir written with Joseph DiMona, and Coroner at Large, both published in the 1980s; and Death Investigation, published in 1996 in Japanese.

Dr. Noguchi was elected into the AAFS membership of the Pathology/Biology Section as a Provisional Member in 1962 and as a Fellow in 1965. He served as Section Secretary in 1966-67 and as Section Chair in 1967-68. Dr. Noguchi was appointed to serve as the AAFS International Liaison by the Board of Directors in 2000, and he has continued to serve on the International Affairs Committee to this day. Dr. Noguchi has introduced numerous international forensic science dignitaries to the Academy and has promoted the Academy’s reputation as the premiere forensic science organization throughout the world.
Professor Marilyn Huestis is tenured senior investigator and Chief of Chemistry and Drug Metabolism, IRP, National Institute on Drug Abuse, National Institutes of Health, and Adjunct Professor, School of Medicine, University of Maryland. She thoroughly enjoys mentoring doctoral students in Toxicology, and to date has overseen the research of 16 distinguished new toxicologists in the US and other countries. Her research program seeks to discover mechanisms of action of cannabinoid agonists and antagonists, effects of in utero drug exposure, the neurobiology and pharmacokinetics of novel psychoactive substances, and the disposition of drugs and metabolites in a wide variety of biological matrices.

Dr. Huestis was elected Provisional Member in the AAFS Toxicology Section in 1987 and was promoted to Fellow in 1993. She served as Section Secretary in 1998-99 and Section Chair in 1999-2000. She has been appointed to numerous Academy committees including the Nominating Committee and the Toxicology Section’s Program Committee for the Academy’s 50th Anniversary Meeting. She served on the International Affairs Committee for several years and served as Chair of this committee in 2013-14. Dr. Huestis was a member of the Academy’s Board of Directors from 2008 to 2011.

Dr. Huestis published 354 peer-reviewed manuscripts and book chapters and presented more than 500 abstracts at national and international meetings. She currently serves on six scientific editorial boards and regularly reviews for 60 journals. She received her bachelor’s degree (cum laude) in biochemistry from Mount Holyoke College, a master’s degree with honors in clinical chemistry from the University of New Mexico, and a doctoral degree in toxicology with honors from the University of Maryland. Professor Huestis received a Doctor Honoris Causa in medicine and surgery from the Faculty of Medicine, University of Helsinki in 2010.

Other important awards include The International Association of Forensic Toxicologists (TIAFT) Alan Curry Award in 2010; the American Association for Clinical Chemistry Outstanding Contributions in a Selected Area of Research Award in 2008; the International Association of Therapeutic Drug Monitoring and Clinical Toxicology (IATDMCT) Irving Sunshine Award in 2007; the AAFS Toxicology Section’s Rolla N. Harger Award in 2005; and the Toxicology Section’s Irving Sunshine Award for Outstanding Research in Forensic Toxicology in 1992. The journal Clinical Chemistry recently featured her as an “Inspiring Mind.” In 2012, she was selected as a Distinguished Visiting Scholar for Australia, and as the Coy W. Waller Distinguished Lecturer University of Mississippi, and in 2013 the Meyer Bodansky Visiting Professorship of Experimental Pathology, University of Texas Galveston. She currently serves on the World Anti-doping Agency’s Prohibited List Committee, Transportation Research Board Committee on Alcohol and Other Drugs, National Safety Council’s Alcohol, Drugs and Impairment Division Executive Board, Substance Abuse Mental Health Services Drug Testing Advisory Board, and the new Organization of Scientific Area Committees Toxicology Subcommittee. Professor Huestis is Past President of the Society of Forensic Toxicologists (SOFT) and served as the first woman president of The International Association of Forensic Toxicologists. Dr. Huestis was recently selected as an ex-officio member of the National Commission on Forensic Science.

Our sincerest congratulations to Professor Marilyn Huestis, AAFS Distinguished Fellow!
The **R.B.H. Gradwohl Laureate Medallion** and the **Distinguished Fellow Award** will be presented on Wednesday, February 18, 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

*Thomas T. Noguchi, MD*

## Distinguished Fellow Honoree

*Marilyn A. Huestis, PhD*

**Section Awards** will be presented during Section Business Meetings, also on Wednesday, February 18 (see Section Business Meeting start times on page 13). The Section Award recipients will be acknowledged again before the entire membership during the AAFS Annual Business Meeting along with the presentation of the Gradwohl Medallion and the Distinguished Fellow Award.

## 2015 Section Award Honorees

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<tr>
<th><strong>Anthropology Section’s</strong></th>
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<tr>
<td>T. Dale Stewart Award</td>
<td>William D. Haglund, PhD</td>
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<td>J. Lawrence Angel Award</td>
<td>Lauren R. Pharr, MA</td>
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<tr>
<td>Paul L. Kirk Award</td>
<td>Ira S. Lurie, PhD</td>
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<tr>
<td>Mary E. Cowan Outstanding Service Award</td>
<td>Scott Ryland, BS</td>
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<td>Meritorious Service Award</td>
<td>Steven B. Lee, PhD</td>
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<th><strong>Digital &amp; Multimedia Sciences Section’s</strong></th>
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<tr>
<td>Outstanding Research Award</td>
<td>Kathryn C. Seigfried-Spellar, PhD</td>
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<td>Outstanding Case Study Award</td>
<td>Mark R. McCoy, EdD</td>
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<tr>
<td>Founders Award</td>
<td>Thomas P. Shefchick, BSEE</td>
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<td>Andrew H. Payne, Jr., Special Achievement Award</td>
<td>Sarah V. Hainsworth, PhD; and,</td>
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<td>Darren Franck, MSME</td>
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<th><strong>General Section’s</strong></th>
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<tr>
<td>Robert Gaffney Achievement Award</td>
<td>Maher Noureddine, PhD</td>
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<td>Paul W. Kehres Meritorious Service Award</td>
<td>Vernon J. Geberth, MS</td>
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<th><strong>Odontology Section’s</strong></th>
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<tbody>
<tr>
<td>Lester Luntz Award</td>
<td>Philip J. Levine, DDS</td>
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<tr>
<td>Reidar F. Sognnaes Award of Excellence in Forensic Odontology</td>
<td>Norman D. Sperber, DDS</td>
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</tbody>
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<thead>
<tr>
<th><strong>Pathology/Biology Section’s</strong></th>
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</thead>
<tbody>
<tr>
<td>2014 Best Resident Paper Award</td>
<td>Nicole Yarid, MD</td>
</tr>
<tr>
<td>2014 Best Resident Paper Award Honorable Mention</td>
<td>Mehdi Koolaee, MD</td>
</tr>
<tr>
<td>Milton Helpern Award</td>
<td>Bruce A. Hyma, MD</td>
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<tr>
<td>Award for Achievement in the Forensic Life Sciences</td>
<td>Richard W. Merritt, PhD</td>
</tr>
</tbody>
</table>
AWARDS & RECEPTIONS

Toxicology Section’s
Alexander O. Gettler Award
Marc A. LeBeau, PhD
Rolla N. Harger Award
Ashraf Mozayani, PharmD, PhD
Irving Sunshine Award
Jillian K. Yeakel, MS
June K. Jones Scholarship Award
Rebecca L. Hartman, BA

2015 AAFS Regional Award Winner
Southeastern Association of Forensic Document Examiners
Kate Butler, BS

2014-15 FSF Emerging Forensic Scientist Award Honoree
The FSF Emerging Forensic Scientist Award will be presented on Wednesday, February 18, during the AAFS Annual Business Meeting. You’ll want to be present to congratulate recipient:

Nicolene Lottering, BS

2014-15 FSF Henry C. Lee Scholarship Recipient
The FSF Henry C. Lee Scholarship will be presented on Wednesday, February 18, during the AAFS Annual Business Meeting. You’ll want to be present to congratulate recipient:

Gabriele C. Kruger, BSc

2014-15 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 18, during the Criminalistics Section Business Meeting. You’ll want to be present to congratulate recipient:

Erin A. Laurie, BS

RECEPTION INFORMATION

Academy Bash (Welcoming Reception) — Tuesday, February 17 — 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 67th Annual Wine & Cheese Reception — Thursday, February 19 — 6:00 p.m. - 8:00 p.m.
The AAFS Wine & Cheese Reception will be held to celebrate what promises to be an excellent 2015 program and to toast your return to the Academy’s 68th Annual Scientific Meeting in 2016 (Las Vegas, NV)!
The Sections

The Sections of the American Academy of Forensic Sciences will hold their annual business meetings on Wednesday, February 18. 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:

<table>
<thead>
<tr>
<th>Section</th>
<th>Luncheon</th>
<th>Business Meeting</th>
<th>Combined</th>
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<tbody>
<tr>
<td>Anthropology</td>
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<td>2:00 p.m. - 3:45 p.m.</td>
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<tr>
<td>Criminalistics(^1)</td>
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<td>12:00 p.m. - 3:45 p.m.</td>
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<tr>
<td>Digital &amp; Multimedia Sciences(^2)</td>
<td>12:00 p.m. - 1:45 p.m.</td>
<td>2:00 p.m. - 3:45 p.m.</td>
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<tr>
<td>Engineering Sciences</td>
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<td>2:15 p.m. - 3:45 p.m.</td>
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<tr>
<td>General(^2)</td>
<td>12:00 p.m. - 1:00 p.m.</td>
<td>1:15 p.m. - 3:45 p.m.</td>
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<tr>
<td>Jurisprudence(^2)</td>
<td>12:00 p.m. - 1:45 p.m.</td>
<td>2:00 p.m. - 3:45 p.m.</td>
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<tr>
<td>Odontology</td>
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<td>2:00 p.m. - 3:45 p.m.</td>
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<tr>
<td>Pathology/Biology(^2)</td>
<td>12:00 p.m. - 1:30 p.m.</td>
<td>1:45 p.m. - 3:45 p.m.</td>
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<tr>
<td>Psychiatry &amp; Behavioral Science(^3)</td>
<td>12:00 p.m. - 1:45 p.m.</td>
<td>2:00 p.m. - 3:45 p.m.</td>
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<tr>
<td>Questioned Documents</td>
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<td>2:00 p.m. - 3:45 p.m.</td>
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<tr>
<td>Toxicology(^2)</td>
<td>12:00 p.m. - 1:45 p.m.</td>
<td>2:00 p.m. - 3:45 p.m.</td>
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\(^1\)This section will have a combined luncheon and business meeting. The luncheon is open to voting members of the Criminalistics Section.

\(^2\)These luncheons requires pre-registration.

\(^3\)This luncheon requires pre-registration and is open only to members of the Psychiatry & Behavioral Science Section.

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 18, at 4:15 p.m., at the Hyatt Regency Orlando in Orlando, FL. 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 2015-16 Officers, consideration of bylaws amendments, presentation of the Gradwohl Medallion and the Distinguished Fellow 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 2016 AAFS Annual Scientific Meeting in Las Vegas, NV.
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 supplies and other materials needed to comply with requirements of the various continuing education accreditation agencies. 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 supplied to the appropriate state or national agency, as required.

Objectives of the AAFS Continuing Education Program

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

Expected Outcome of Participation

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

Faculty Disclosure Policy

As a sponsor of continuing education, the American Academy of Forensic Sciences must insure balance, independence, objectivity, and scientific rigor in all its educational activities. All faculty participating in a sponsoring activity are expected to disclose any relevant financial interest or other relationship for themselves, spouses, and/or partner: (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. Relevant financial interest or other relationship can include such things as: salary, royalty, consulting fee, intellectual property rights, honoraria, ownership interest (e.g., stocks, stock options or other ownership interest, excluding diversified mutual funds), or other financial benefit. Or, role(s) such as: employment, management position, independent contractor (including contracted research), consulting, speaking and caching, Membership on advisory committees or review panels, board membership, and “other activities.” 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 2014-15 Program Committees, it is required that relevant AAFS staff members, program committee members, and/or reviewers to complete a Financial Disclosure form before they were provided access to review submissions for the program. For continuing education accreditation purposes, the disclosed relationships are published 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.

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.
CONTINUING EDUCATION

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 1.75 credit hours.

Bring Your Own Slides
Purpose: To enable guided but spontaneous discussion and instruction related primarily to challenging death investigation cases involving forensic pathology and other related forensic science issues. Presented cases are used as a focal point for improving diagnostic methods and interpretation of pathologic findings and related evidence, and for presenting case-related information on previously unreported or rarely occurring cases which may alert forensic pathologists and scientists to information useful in future death investigations.

Educational Objectives: Attendees will be able to: a) discuss issues of importance regarding interpretation of selected wounds, diseases and evidence; b) provide arguments for and against opinions raised during specific case discussions; and, c) recognize when consultation with other experts may be indicated.

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.
Guidelines For Claiming Credit

As the sponsor of Continuing Education Credit, the AAFS recognizes that the forensic science disciplines are inextricably linked and that inter-disciplinary knowledge is critical to promote competence in forensic practice. As a result, the claiming of credit for various continuing education activities related to medicine, dentistry, law, 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.

Chemistry

Application will be made to the American Association for Clinical Chemistry, Inc., in order for AAFS to offer ACCENT® credit. Credit will be awarded on an hour-for-hour basis.

Dental

The American Academy of Forensic Sciences is designated as an Approved PACE Program Provider by the Academy of General Dentistry. The formal continuing education programs of this program provider are accepted by AGD for Fellowship/Mastership and membership maintenance credit. Approval does not imply acceptance by a state or provincial board of dentistry or AGD endorsement. The current term of approval extends from 1/1/13 to 12/31/16. Provider ID: 218044

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.

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™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.
The American Academy of Forensic Sciences would like to thank the following supporters for their contributions to the 2015 AAFS 67th Annual Scientific Meeting:

Aegis Sciences Corporation
Agilent Technologies
Anthropology Section
Bone Clones, Inc.
Cerillaint Corporation
Criminalistics Section
General Section
Human Relations Institute & Clinics
Immunalysis Corporation
Jurisprudence Section
Lipomed Inc.
NMS Labs
Pathology/Biology Section
QIAGEN Inc.
RTI International
Shamrock Glass Company
SPEware Corporation
Utak
The Academy would like to thank Qiagen Inc. for its contribution to the 2015 Guidebook Mobile App:

Schedules, Maps, Exhibitor information, and more are available on your mobile device - completely free.

Download Guidebook on the Apple App Store or Android Marketplace, or visit m.guidebook.com.
STUDENT ACADEMY

Pre-Registration Required

Tuesday
February 17 — 9:00 a.m. - 2:00 p.m.

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

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

Co-Chair:
Marilyn T. Miller, EdD
VA Commonwealth University
Richmond, VA

Chair Emeritus:
James L. Frost, MD
Morgantown, WV

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

Criminalistics:
Ken Williams, MS, JD
New Jersey State Police
Little Falls, NJ

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

Jurisprudence:
Pamela A.W. King, JD
Rochester, MN

Odontology:
Adam J. Freeman, DDS
Westport, CT

Pathology/Biology:
J.C. Upshaw Downs, MD
GBI Medical Examiner’s Office
Savannah, GA

Psychiatry & Behavioral Science:
Christopher R. Thompson, MD
Los Angeles, CA

Questioned Documents:
Paula Henderson, BAA
IRS-CI National Forensic Lab
Chicago, IL

Toxicology:
Philip M. Kemp, PhD
Bioaeronautical Research Laboratory
Oklahoma City, OK
**INTERDISCIPLINARY SYMPOSIUM**

**Pre-Registration Required**

**Past Presidents Future Science: Hot Leads in Contemporary Forensic Research**

Tuesday, February 17 — 8:30 a.m. - 12:15 p.m.  
3.25 CE Hours

<table>
<thead>
<tr>
<th>Chair:</th>
<th>Co-Chair:</th>
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</table>
| Elizabeth A. Murray, PhD  
College of Mount St Joseph  
Dept of Biology  
Cincinnati, OH | Jeri D. Ropero-Miller, PhD  
RTI International  
Research Triangle Park, NC |

<table>
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<th>Faculty:</th>
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**Robert E. Barsley, DDS, JD**  
Louisiana State University School of Dentistry  
Oral Health Resources  
New Orleans, LA

**Thomas L. Bohan, PhD, JD**  
MTC Forensics  
Peaks Island, ME

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

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

**John E. Gerns, MFS**  
Enkenbach-Alsenborn, GERMANY

**Bruce A. Goldberger, PhD**  
University of Florida College of Medicine  
Dept of Pathology  
Gainesville, FL

| Carol Henderson, JD  
Stetson University  
College of Law  
Gulfport, FL |

**Barry K. Logan, PhD**  
NMS Labs/CFSRE  
Willow Grove, PA

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

**Richard Rosner, MD**  
New York, NY

**John L. Sang, MS**  
Glen Head, NY

**Ronald L. Singer, MS**  
Tarrant County MEO  
Fort Worth, TX

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

**Description**

The Past Presidents of the American Academy of Forensic Sciences (AAFS) represent a vast repository of forensic science knowledge, insight, and wisdom. As a group, they are unique in the world with regard to the scope of their collective influence and leadership vision in the forensic sciences. This year’s Interdisciplinary Symposium will harness the energy from this eminent group of forensic scientists and focus it on the Academy’s future. The Interdisciplinary Symposium will showcase Past Presidents and other representatives from each of the Academy’s 11 sections. The speakers will share their vision for the future of forensic science in their respective disciplines, emphasizing hot leads from the laboratory, theoretical advances, and emerging technologies. The goal of this program is to envision where the forensic sciences will be a decade from now, the impact of these emerging advances on the law, and our place in it. This historic endeavor will be of significant interest to all Academy members and will provide a unique forum for learning from each other about the future of forensic science. Current AAFS President, Daniel A. Martell, PhD, will provide the Interdisciplinary Symposium’s introductory remarks.
Anthropology
Douglas H. Ubelaker, PhD — AAFS Past President (2011-12): Dr. Ubelaker believes that predicting the future of any discipline can prove challenging, yet current trends and developments provide useful clues. Within forensic anthropology, Dr. Ubelaker sees these trends related to issues of certification, accreditation, the nature of case applications, employment, training, enhanced methodology, and new research.

Criminalistics
Ronald L. Singer, MS — AAFS Past President (2004-05): His familiar quote with regard to this topic is, “May you live in interesting times.” According to Mr. Singer, the future of criminalistics is indeed going to be interesting. Technological advances and the increased reliance on computer-driven systems and databases will reduce the time required for analytical processes, make them more specific, and even allow many procedures to be handled at the crime scene as opposed to the laboratory. Using advanced DNA technologies, we will be able to predict physical features of unknown donors; probative information will be obtained from smaller and smaller samples; computer-assisted evaluation of the surfaces of fired bullets and cartridge cases will reduce the subjectivity involved in those analyses; and database searches will become faster and more accurate. With these advances come many challenges that will also have to be addressed. In some instances, criminalists will have to shift their focus from the bench to the preparation and monitoring of protocols for methods actually applied by non-scientists. In the laboratory, quality and accountability to our clients, the public, and the judiciary will continue to dominate our processes, but with considerably more oversight from outside bodies. This will inevitably impact our ability to deliver the services expected of us. As mandatory certification and accreditation become realities, education and training demands will increase, creating financial and staffing burdens on agencies, which in many cases will be met by a regionalization of some services, and an increased cooperation between laboratories. The Past Presidents from the Criminalistics Section are confident that these changes will lead to a vibrant future for the discipline.

Digital & Multimedia Sciences
Zeno J. Geradts, PhD — AAFS Director (2010-13): The Academy’s newest section, Digital and Multimedia Sciences, is represented by Zeno J. Geradts, PhD. With regard to future expectations, Dr. Geradts, in conjunction with his section’s working group, expects developments in big data analytics as well as multimedia analytics, due to the exponentially growing size of data. The use of strong encryption in data sources as well as communication channels is expected to rise. For that reason, forensic investigation of cloud computing, local storage media, silicon chip forensics, and mobile forensics will remain important. It is expected that many devices will be increasingly connected to the Internet, such as robotic vacuum cleaners, other household appliances, as well as various medical devices; this is being increasingly described as the “internet of things.” Forensic analysis of log files and location data of these and other tools will be more important in relation to crime scene investigation.

Engineering Sciences
Thomas L. Bohan, PhD, JD — AAFS Past President (2009-10): Having presided during the first year following the release of the 2009 National Academy of Sciences Report, Strengthening Forensic Science in the United States — A Path Forward, part of his presentation will deal with the effect – or to date – the “non-effect,” of that report on forensic engineering sciences. Engineering science practitioners come from a diversity of disciplines practically as wide as that of the AAFS itself. They include “rocket scientists” (really, engineers), space physicists, medical-device designers, transportation experts, materials testers and developers, fire investigators, and nearly everything except practicing physicians and attorneys, though some engineering scientists are physicians and attorneys as well. As such, they will be intimately involved in the complex activities shaping our society in the near and, it is hoped, distant future. It will be, to an even greater extent than at present, an electronically-monitored society. This monitoring includes governmental surveillance and automotive “black boxes,” but it also includes the microprocessor-coupled systems that “observe” and control our airplanes, ventilation systems, and surgical procedures. This monitoring is data-based and it produces data; and it occasionally fails in its assigned control tasks. Planes crash, surgical suites catch on fire, and building designs incorporate dangerous flaws. In the recipe for resolving the civil and criminal disputes created by such failures, practitioners from the forensic engineering sciences comprise the most common ingredient, often exceeding in number even the litigators. Dr. Bohan’s presentation will explore this role of his colleagues and how it will be affected by forensic reform measures when they are finally applied to the forensic engineering sciences.
Pre-Registration Required

Past Presidents Future Science: Hot Leads in Contemporary Forensic Research (continued)

General
John E. Gerns, MFS — AAFS Secretary (2013-14): Diversity of the General Section will continue to play a pivotal role in the future horizons of the forensic sciences. In keeping up with the changes being driven by the National Institute of Science and Technology (NIST) Organization for Scientific Areas Committees (OSAC) and Congressional Legislative action, the General Section’s Ad hoc Long Term Planning Committee is developing a long-term strategic plan which will serve as the General Section’s “blueprint for our future.” This is critical since many of our forensic disciplines fall under several of these new guidance committees. Discussion will focus on the potential challenges that face several of our forensic disciplines in the future, along with innovations in those disciplines which will enhance the application of the forensic sciences to the investigative mission.

Jurisprudence
Carol Henderson, JD — AAFS Past President (2008-09): Law and science have long been engaged in what has been called a reluctant embrace. The vast majority of civil and criminal cases involve scientific evidence that requires forensic scientists to comply with certain admissibility rules. While the legal system has usually reacted to emerging scientific discoveries, more recently it has been proactively striving to formulate a more robust legal/scientific framework for the introduction of scientific evidence into the courtroom. Topics to be explored in this presentation include trends regarding the admissibility of forensic evidence, the role of national and international organizations in shaping policies and guidelines to strengthen the foundation and acceptance of forensic science, strides made toward requiring more rigor in methodology of various fields of forensic science, judicial recognition of accreditation and certification, and current efforts to ensure lawyers and judges have the expertise necessary to comprehend and evaluate forensic evidence.

Odontology
Robert E. Barsley, DDS, JD — AAFS Past President (2012-13): The future for the Odontology Section will include progress in four key areas in the field. First, in the identification of unknown human remains, the digitization and adoption of the electronic health record on a worldwide scale will greatly improve the capture and transferability of the biometric data underlying dental identification. In particular, the rapid adoption of digital radiographic imaging not only benefits traditional methods of dental comparison but has also impacted the second area undergoing rapid development — dental aging. This includes age at time of death for unidentified remains as well as the use of oral-facial development to determine the age of living individuals, a technique important in immigration status, employment status, and even in criminal matters in various jurisdictions. The adoption of digital imaging has also played a key role in renewed interest in dental markers for sexual dimorphism. The third field is the study of dental biometric analysis in disaster victim identification. The “richness” or “granularity” (the detail) of dental data captured and then used in the calculations that develop and rank-order antemortem and postmortem findings is an area enjoying rapid development. At the same time odontologists are working across disciplines to develop unified identification software that allows those disciplines to share and use information as needed to complete identifications. Finally, the area of dental-related patterned injury (bitemark) analysis is under intense scrutiny. In addition to at least one recently completed National Institute of Justice (NIJ) funded study, numerous ongoing and completed studies are focused on pattern comparison, tissue injury and response in living test subjects, and the area of cognitive bias. A project to provide a decision tree for analysis and comparison of human bitemarks that may be useful in suspected biter linking and/or exclusion is underway as well.

Pathology/Biology
Edmund R. Donoghue, MD — AAFS Past President (2005-06): Dr. Donoghue reports that, at present, the future of forensic pathology appears good. Easy gains can be accomplished by distributing currently existing radiology and computer-imaging technology to medical examiner offices. A number of situations could create difficulty for forensic pathology in the future. If the American Board of Pathology drops its current requirement for forensic pathology training, hospital residents would no longer join medical examiner offices and could not be recruited for training in forensic pathology. Maintenance of certification and re-certification examination requirements are burdensome and create the possibility that some forensic pathologists might become unemployed in the future. Standards for accreditation of medical examiner offices and autopsy standards are becoming increasingly detailed and rigorous. These standards may be obtainable with adequate staffing, infrastructure, and funding, but may become unreachable when resources are scarce. Forensic pathologists will need to be vigilant to avoid over-regulation by the federal government and other entities.
Psychiatry & Behavioral Science
Richard Rosner, MD — AAFS Past President (1996-97): Dr. Rosner states, “As one wit put it, ‘Prediction is always difficult, especially about the future.’” Given that caveat, the foreseeable future of forensic psychiatry and behavioral science will have at least two facets. On the one hand, the current effort to advance neuroscience, e.g., the United States government’s proposed $100 million Brain Research Through Advancing Innovative Neurotechnologies (BRAIN) initiative is likely to advance our knowledge of the functioning of the brain and increase the scientific basis for our specialty. On the other hand, as noted by Thomas Nagel in his recent book, “Mind and Cosmos,” certain basic problems are likely to remain either unaddressed or inadequately addressed. These problems include the nature of consciousness, the relationship of the brain to the mind, and whether or not our subjective experience of “free will” is credible. Because our concept of personal responsibility (e.g., for criminal behaviors) is inextricably linked to those three issues, the impact of the anticipated scientific advances will be limited.

Questioned Documents
John L. Sang, MS — AAFS Past Vice President (2010-11): The future of questioned documents will likely be inclined toward digital signature examination and the use of automatic forensic handwriting analysis systems by Forensic Document Examiners (FDEs) to assist in case work. Certainly, handwriting examinations will become more data oriented and the field will see more measurement data and statistical analyses being conducted. Eventually, the field may get to the point where a machine can conduct a full examination, comparison, and analysis of handwriting. However, this is still a very long way down the road. In any event, a human examiner will still have to make the final decision. Clearly, the numbers of FDEs are declining and there will be very few government positions or a cadre of highly-skilled private FDEs as in Osborn’s days. There are a good number of jurisdictions that can’t afford to have FDEs, including state, local, and law enforcement agencies. The field is barraged with an influx of individuals, generally graphologists, who claim to have been trained as FDEs via internet instruction and training. These people do not come close to meeting the minimum standards required by the AAFS Questioned Documents Section; however, they are often allowed to testify as experts. Hopefully, the courts will stem this problem but, for now, that seems unlikely. It would make sense that the courts require FDEs to be certified before they can testify. The Questioned Documents Section has worked hard over the years to have a strong certification program through the American Board of Forensic Document Examiners (ABFDE) and a good network of professional organizations. A good base of standards has been developed by the American Society for Testing and Materials (ASTM)/the Scientific Working Group for Forensic Document Examination (SWGDOC). The new National Institute of Standards and Technology (NIST) and its Law Enforcement Standards Office (OLES) will be discussed in the presentation. A high priority will be the continuing research into Terminology for Expressing Conclusions of FDEs, and it is expected that all standards will grow stronger every year moving forward. Improvements in printing technology and 3D printers will provide more challenges and opportunities for FDEs. More research will be conducted into data produced by devices used to create mechanically produced signatures. Development of different types of toners and inks will also provide more challenges. For years, Mr. Sang has believed the field will be moving closer to the digital sciences. He hopes the courts will clearly see what a significant and progressive field forensic document examination is as practiced by our members at the AAFS.

Toxicology
Barry K. Logan, PhD — AAFS Past President (2013-14): Forensic toxicology is undergoing a change of focus and direction as we convene in Orlando in 2015. The focus for the last two decades has been on pushing the limits of laboratory technology to tweak the sensitivity of Gas Chromatography/Mass Spectrometry (GC/MS) methods, the workhorse instrument in the laboratory, to the point where we have techniques with adequate sensitivity to answer most questions about whether a person ingested or was exposed to forensically significant amounts of commonly encountered toxic or intoxicating substances. Going forward, the focus is on the next generation of Liquid Chromatograph/Mass Spectrometry (LC/MS) instrumentation with less demanding sample preparation requirements to achieve faster throughput and to help identify some of the more esoteric compounds and their metabolites not amenable to GC/MS analysis. Identifying the optimum techniques from Time-of-Flight (TOF) to MS^n and beyond in their various combinations and finding economical ways to sort and evaluate the data will be a focus in the immediate future. The second main area of change is in standards development. The Scientific Working Group for Toxicology (SWGTOX), a collaborative consensus-building approach to standards development, has achieved an incredible amount in the five years it has been in existence, and is challenging forensic toxicology labs and practitioners to refine and validate their methods and to ask more of the labs in improving quality and in estimating error and uncertainty in quantitative measurement. As SWGTOX transitions to a subcommittee of the Forensic Science Standards Board (FSSB), it
has produced a solid legacy on which to build a strong future. Combined, these two major initiatives will force a harder focus on what the results mean and what they tell us about the likelihood of an adverse effect or life-threatening condition. Drug interactions, pharmacogenomic differences in drug metabolism, the influence of tolerance in interpretation, and other factors will all have to be addressed in a more systematic way in interpretive toxicology. The Toxicology Section of the AAFS is working to equip today’s and tomorrow’s forensic toxicologists to answer these questions.

The AAFS Interdisciplinary Symposium for 2015 will be one of the highlights of the Academy meetings in Orlando. Attendees will hear from preeminent visionaries in their respective fields. The collection of speakers, the great majority of whom are Past Presidents of the American Academy of Forensic Sciences, represent a diverse and interdisciplinary view of the direction forensics will take in the years to come. These experts are not only familiar with the past in their fields, but are also looking forward to the future.

Program

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>8:30 a.m. - 8:35 a.m.</td>
<td>Opening Remarks</td>
<td>Daniel A. Martell, PhD</td>
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<tr>
<td>8:35 a.m. - 8:50 a.m.</td>
<td>Jurisprudence</td>
<td>Carol Henderson, JD</td>
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<tr>
<td>8:50 a.m. - 9:05 a.m.</td>
<td>Psychiatry &amp; Behavioral Science</td>
<td>Richard Rosner, MD</td>
</tr>
<tr>
<td>9:05 a.m. - 9:20 a.m.</td>
<td>Pathology/Biology</td>
<td>Edmund R. Donoghue, MD</td>
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<tr>
<td>9:20 a.m. - 9:35 a.m.</td>
<td>Anthropology</td>
<td>Douglas H. Ubelaker, PhD</td>
</tr>
<tr>
<td>9:35 a.m. - 9:50 a.m.</td>
<td>Criminalistics</td>
<td>Ronald L. Singer, MS</td>
</tr>
<tr>
<td>9:50 a.m. - 10:05 a.m.</td>
<td>Toxicology</td>
<td>Barry K. Logan, PhD</td>
</tr>
<tr>
<td>10:05 a.m. - 10:15 p.m.</td>
<td>Question and Answer</td>
<td>Bruce A. Goldberger, PhD</td>
</tr>
<tr>
<td>10:15 a.m. - 10:45 a.m.</td>
<td>Break</td>
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<tr>
<td>10:45 a.m. - 11:00 a.m.</td>
<td>Odontology</td>
<td>Robert E. Barsley, DDS, JD</td>
</tr>
<tr>
<td>11:00 a.m. - 11:15 a.m.</td>
<td>Engineering Sciences</td>
<td>Thomas L. Bohan, PhD, JD</td>
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**Program cont.**

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>11:15 a.m.</td>
<td>Questioned Documents</td>
<td>John L. Sang, MS</td>
</tr>
<tr>
<td>11:30 a.m.</td>
<td>General</td>
<td>John E. Gerns, MFS</td>
</tr>
<tr>
<td>11:45 a.m.</td>
<td>Digital &amp; Multimedia Sciences</td>
<td>Zeno J. Geradts, PhD</td>
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<tr>
<td>12:00 p.m.</td>
<td>Question and Answer</td>
<td>Bruce A. Goldberger, PhD</td>
</tr>
<tr>
<td>12:10 p.m.</td>
<td>Closing Remarks</td>
<td>Daniel A. Martell, PhD</td>
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**Pre-Registration Required**

Past Presidents Future Science: Hot Leads in Contemporary Forensic Research (continued)
Pre-Registration Required

YFSF 20th Anniversary: The Past, the Present, and Our Future

Tuesday

February 17 — 8:30 a.m. - 8:30 p.m.  5.75 CE Hours

President:  
Lara Frame-Newell, MA  
Richmond, VA

Secretary:  
Sarah J. Ellis, MS  
Raleigh, NC

Program Committee

Program Chair:  
Christina G. Hayes, BS  
St. Louis, MO

Program Co-Chair:  
Jessica Smith, BS  
Indianapolis, IN

BYOS Chair:  
Lindsay Saylors  
Chicago, IL

YFSF Poster Session Chair:  
Jennifer Curnow, MS  
Stafford, VA

Breakfast Chair:  
Alicja K. Lanfear, PhD  
Murfreesboro, TN

Long Term Planning Committee Representative:  
Lindsey E. Saunders, BS  
Washington, DC

Financial Support Liaison Chair:  
Katherine E. Maciag, BS  
Strongsville, OH

Each year at the American Academy of Forensic Sciences (AAFS) Annual Scientific Meeting, the Young Forensic Scientists Forum (YFSF) provides a program for a group of students and forensic scientists with less than five years of professional experience. The session allows participants to interact with their peers as well as with the professional speakers and to build professional relationships that foster growth and mentorship opportunities. Special session topics provide attendees with a broad overview of the many opportunities in the field of forensic science. In addition to the special session, YFSF offers two opportunities for young forensic scientists to present their own work or research: the YFSF Bring Your Own Posters (BYOP) Session and the YFSF Bring Your Own Slides (BYOS) Session. The Forensic Sciences Foundation (FSF) Emerging Forensic Scientist Award winner is also invited to present her award-winning paper during this special session.

For the AAFS 67th Annual Scientific Meeting in Orlando, FL, the YFSF Special Session will present YFSF 20th Anniversary: The Past, the Present, and Our Future. The special session includes speakers from many of the AAFS sections who will discuss personal experiences and improvements within the field of forensic science. Through the presentation, attendees will learn how various forensic fields are changing and what opportunities are available to undergraduate students, graduate students, and young professionals. Speakers will discuss educational and professional requirements in their respective fields as well as skills needed throughout the forensic science community.

Following the Tuesday session, the YFSF BYOP Session will be presented in the evening, giving young professionals the opportunity to showcase current cases and research in a poster format.
The annual YFSF BYOS Session takes place the evening of Wednesday, February 18, and will include presentations from students and new forensic scientists. The program will conclude Thursday, February 19, 2015, with the annual YFSF Breakfast Session which includes a resume review panel.

**Program:**

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>8:30 a.m.</td>
<td>2015 YFSF Introductions and Welcome</td>
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<tr>
<td>8:40 a.m.</td>
<td>The Role of Young Forensic Scientists in the AAFS</td>
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<tr>
<td></td>
<td><em>Daniel A. Martell, PhD</em></td>
</tr>
<tr>
<td>9:00 a.m.</td>
<td>Transformation of the Forensic Sciences</td>
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<td></td>
<td><em>Victor W. Weedn, MD, JD</em></td>
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</tbody>
</table>

**Speakers**

- **Barry A.J. Fisher, MS, MBA**
  - Indio, CA

- **Christine Funk, JD**
  - Department of Forensic Sciences
  - Washington, DC

- **Cheryl D. Hunter**
  - AAFS Staff
  - Colorado Springs, CO

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

- **Diane B. Fraser, MSFS**
  - Fort Walton Beach, FL

- **Jane A. Lewis, MFS**
  - Milwaukee, WI

- **Daniel A. Martell, PhD**
  - AAFS President
  - Park Dietz & Associates
  - Newport Beach, CA

- **John Nixon, MBA**
  - ARC
  - Bippus, IN

- **Nicole Lottering, BS**
  - Queensland University of Technology
  - School of Biomed Science, Faculty of Health
  - Brisbane, AUSTRALIA

- **Mark Pollitt, PhD**
  - Digital Evidence Professional Services, Inc
  - Ellicott City, MD

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

- **Elizabeth Richards, PhD**
  - Defense Forensic Science Center
  - Forest Park, GA

- **Ann H. Ross, PhD**
  - North Carolina State University
  - Sociology & Anthropology
  - Raleigh, NC

- **Tiffany B. Saul, MS**
  - Knoxville, TN

- **Ken Williams, MS, JD**
  - New Jersey State Police
  - North Regional Laboratory
  - Little Falls, NJ

- **Ruth E. Winecker, PhD**
  - OCME
  - Raleigh, NC

- **Victor W. Weedn, MD, JD**
  - AAFS President-Elect
  - George Washington University
  - Washington, DC
Pre-Registration Required

Program cont.

9:15 a.m. - 9:45 a.m.  Membership in the AAFS
Cheryl D. Hunter

9:45 a.m. - 10:15 a.m.  Questioned Documents: The Fairest of Them All
Jane A. Lewis, MFS

10:15 a.m. - 10:30 a.m.  Break

10:30 a.m. - 11:00 a.m.  By Their Teeth They Shall Be Known
John P. Kenney, DDS, MS

11:00 a.m. - 11:30 a.m.  Change Is Inevitable: Forensic Toxicology 1995-2015 (and Beyond)
Ruth E. Winecker, PhD

11:30 a.m. - 12:00 p.m.  Me? A Special Agent? An Exciting Career Option for Forensic Scientists
Elizabeth Richards, PhD

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

1:30 p.m. - 2:00 p.m.  Professionalism in Forensic Science
Anjali A. Ranadive, JD

2:00 p.m. - 2:30 p.m.  Dear Me: A Letter to My Baby Lawyer Self
Christine Funk, JD

2:30 p.m. - 3:00 p.m.  The Cloud Is the Crime Scene
Mark Pollitt, PhD

3:00 p.m. - 3:15 p.m.  Break

3:15 p.m. - 3:30 p.m.  Mentorship: My Experiences Mentoring My Son and Others
Barry A.J. Fisher, MS, MBA

3:30 p.m. - 3:45 p.m.  What’s the Difference Between Try and Triumph?
Ken Williams, MS, JD

3:45 p.m. - 4:15 p.m.  Implementing Change in a Multidisciplinary Forensic Science World
John Nixon, MBA

4:15 p.m. - 4:30 p.m.  Temporal Characterization of Ossification of the Crania in Australian Subadults: New Standards for Age Estimation Using Computed Tomography
Nicolene Lottering, BS

4:30 p.m. - 4:50 p.m.  Recreating a Career in Forensic Science
Diane B. Fraser, MSFS

4:50 p.m. - 5:00 p.m.  Closing Remarks
Christine G. Hayes, BS; Jessica Smith, BS

7:00 p.m. - 8:30 p.m.  YFSF Poster Session
Pre-Registration Required

Wednesday

February 18 — 6:00 p.m. – 7:00 p.m.

YFSF Bring Your Own Slides

Thursday

February 19 — 7:00 a.m. – 10:00 a.m.

Young Forensic Scientists Forum Annual Breakfast

Getting There: Unique Professional Journeys in Forensic Science

As in past years, the Breakfast Session will maintain focus on developing professional skills for the next generation of forensic professionals. Representatives from educational institutions, professional organizations, and various careers will present on career skills including networking and career preparation. The topics discussed will assist emerging scientists as they determine what careers they would like to have. After the presentations, attendees will have the opportunity to receive résumé assistance and feedback from AAFS members already established in their careers.

The Special Session provides students, young professionals, and AAFS members with a way to foster career-long relationships. The main goal of the YFSF is to encourage mentorship between young and veteran forensic scientists. Participants are encouraged to apply for membership in the AAFS and are given guidance on the many opportunities available to aid in career enrichment.

7:00 a.m. - 7:30 a.m. YFSF Annual Breakfast
7:30 a.m. - 7:45 a.m. Welcome and Speaker Introduction  
Alicja K. Lanfear, PhD; Tiffany B. Saul, MSc
7:45 a.m. - 8:15 a.m. How to Blossom Where You Are Planted and Figure Out How You’ll Grow  
Christine Funk, JD
8:15 a.m. - 8:45 a.m. Succeeding in Forensic Science: Not an Oxymoron  
Ann H. Ross, PhD
8:45 a.m. - 9:00 a.m. Panel Discussion: Q&A With Speakers and Résumé Panelists
9:00 a.m. - 10:00 a.m. Résumé Review and Feedback
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 17 — 8:30 a.m. - 3:30 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 Dept
Forensic Science Laboratory
Toms River, NJ

Commissioner:
Melissa A. Smrz, MS
American Society of Crime Laboratory Directors
Laboratory Accreditation Board
Alexandria, VA

Commissioner:
Suzanne Bell, PhD
West Virginia University
Dept of Chemistry
Morgantown, WV

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 on-site evaluations of academic programs. Successful completion of this one-day session will qualify participants for consideration to serve as on-site evaluators for FEPAC in the future (please note that participants must still meet other FEPAC requirements such as membership in the AAFS and designation as either a practitioner or academician).

The FEPAC is a standing committee of the AAFS with a membership that includes five educators, five forensic laboratory directors, and a public member as voting members. The mission of the FEPAC is to maintain and enhance the quality of forensic science education through a formal evaluation and recognition of college level academic programs. The primary function of the committee is to develop and maintain standards and 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:

<table>
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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>8:30 a.m. - 9:30 a.m.</td>
<td>Introduction and Welcoming Remarks</td>
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<td>Module 1: Accreditation, Mission, and History of FEPAC</td>
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<td></td>
<td>Matthew R. Wood, MS</td>
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<tr>
<td>9:30 a.m. - 10:00 a.m.</td>
<td>Module 2: Overview of FEPAC Process, Policies, and Procedures</td>
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<td>Melissa A. Smrz, MS</td>
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<tr>
<td>10:00 a.m. - 10:15 a.m.</td>
<td>Break</td>
</tr>
<tr>
<td>10:15 a.m. - 11:00 p.m.</td>
<td>Module 3: Review of Standards</td>
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<td>Suzanne Bell, PhD</td>
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</table>
Pre-Registration Not Required — Open to all Meeting Attendees

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

Program cont.

11:00 a.m. - 11:45 a.m.  Module 4: Scenarios and Evaluation
  Melissa A. Smrz, MS

11:45 a.m. - 1:00 p.m.  Lunch

1:00 p.m. - 1:45 p.m.  Module 5: Graduate Standards
  Matthew R. Wood, MS

1:45 p.m. - 2:15 p.m.  Module 6: The On-Site Visit
  Suzanne Bell, PhD

2:15 p.m. - 2:30 p.m.  Break

2:30 p.m. - 3:00 p.m.  Module 7: Scenario and Evaluation
  Matthew R. Wood, MS; Melissa A. Smrz, MS; Suzanne Bell, PhD

3:00 p.m. - 3:30 p.m.  Questions and Answers
  FEPAC Commissioners and Director of Accreditation
Pre-Registration Not Required — Open to all Meeting Attendees

Forensic Sciences — Keep It Simple, Stupid!

Tuesday, February 17 — 8:00 p.m. - 9:30 p.m.

Speakers

<table>
<thead>
<tr>
<th>J.C. Upshaw Downs, MD</th>
<th>Jennifer L.P. Downs, BA</th>
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<tbody>
<tr>
<td>GBI Medical Examiner’s Office</td>
<td>Savannah, GA</td>
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<tr>
<td>Carla M. Noziglia, MS</td>
<td>Anjali A. Ranadive, JD</td>
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<tr>
<td>ICITAP</td>
<td>SciLawForensics, Ltd</td>
</tr>
<tr>
<td>Aiken, SC</td>
<td>Brookings, SD</td>
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**Educational Objective:** After attending this presentation, attendees will learn a simple paradigm to balance four key elements of practice in order to enhance opportunities for a long-term, successful career.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by providing a memorable framework to balance the critical areas of education, analysis, reporting/testimony, and ethics.

The career of the forensic science practitioner is arduous. Reflection and simplification may prove beneficial in coping with the myriad stresses inherent in the profession. The requisite training is intellectually challenging, often continuing into graduate and postgraduate studies. Continuing education is essential to stay current with the latest scientific developments and techniques, in addition to exploring potential new research in order to develop improved procedures and protocols. Application of the knowledge base in investigating a particular event is a daily exercise for the forensic caseworker, regardless of discipline.

The awesome responsibility imposed by applying precise analytical methodology while maintaining scientific objectivity which must be balanced with the reality of the significance of the results can prove burdensome. Eventually, the results of the forensic analysis will yield a scientific report which is often presented in court. Sharing the vast wealth of background information with a lay jury by means of unbiased reports and courtroom testimony is an oft underappreciated skill. The convergence of presenting detailed science with conveyance of the essential data while maintaining neutrality requires both sophistication and simplification in communication. Finally, given the gravity of the consequences of the adversarial system and the inherent nature of the casework, the forensic scientist experiences profound ethical challenges during the course of a career. Those successful in the long term are careful to pay heed to the needs of the individual human spirit. Diversions and moderation can help balance the ethics of personal and professional life in order to maximize the individual’s potential for overall success.

Thus, the four cornerstones of knowledge, investigation, sharing, and spirit are the bedrock upon which a successful career in the forensic sciences can be structured. Utilizing an entertaining multimedia format, the panel will discuss each of these four elements in order to demonstrate how each might be integrated into a successful whole. These lessons will no doubt prove beneficial to attendees at all points on the career path, from novice to retiree. Ultimately, the foundation will remind all that a successful mantra for forensics is easy to remember – keep it simple, stupid!
The Academy Cup

A Quiz Game to Test Your Knowledge of AAFS

The AAFS 2015 Academy Cup will take place on Wednesday, February 18, 2015, 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 session. Teams will have fifteen 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 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 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: Distinguished Fellow Carla M. Noziglia, MS
Co-Chair: Past President Carol Henderson, JD
Co-Program Chair: Andrew M. Baker, MD
Co-Plenary Chair: Matthew R. Wood, MS
YFSF & Teams: Lara Frame-Newell, MA

Academy Cup Team Leaders:
Anthropology: Phoebe R. Stubblefield, PhD
Criminalistics: Lawrence Quarino, PhD
Digital & Multimedia Sciences: Rhesa G. Gilliland, MS
Engineering Sciences: John Nixon, MBA
General: Claire E. Shepard, MS
Jurisprudence: Christine Funk, JD
Odontology: Iain A. Pretty, DDS, PhD
Pathology/Biology: J.C. Upshaw Downs, MD
Psychiatry & Behavioral Science: Christopher R. Thompson, MD
Questioned Documents: Thomas W. Vastrick, BS
Toxicology: Dwain C. Fuller, BS

Program:
8:00 a.m. - 8:15 a.m. Instructions, Introductions of Team Leaders and Teams Strategize
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 18 — 9:00 a.m. - 11:30 a.m. 2.5 CE Hours

Welcoming Remarks

Human Factors in Forensic Science: Why Cognitive Bias Can Lead to Flawed Expert Opinions and Testimony, How Its Influence Can Be Minimized, and What Challenges Testifying Experts and Judges Can Expect to Face

Daniel A. Martell, PhD
President
American Academy of Forensic Sciences
Park Dietz & Associates
Newport Beach, CA

Plenary Session Chair:
Roderick T. Kennedy, JD
New Mexico Court of Appeals
Albuquerque, NM

Plenary Session Co-Chair:
Matthew R. Wood, MS
Ocean County Sheriff’s Department
Forensic Science Laboratory
Toms River, NJ

Moderator & Speaker:
Andrew Sulner, MSFS, JD
Forensic Document Examinations, LLC
New York, NY
Human Factors in Forensic Science: Why Cognitive Bias Can Lead to Flawed Expert Opinions and Testimony, How Its Influence Can Be Minimized, and What Challenges Testifying Experts and Judges Can Expect to Face (continued)

Pre-Registration Not Required — Open to all Meeting Attendees

Speakers

Andrew M. Baker, MD  
Hennepin County ME  
Minneapolis, MN

Saul Kassin, PhD  
John Jay College of Criminal Justice  
New York, NY

Barry C. Scheck, JD  
The Innocence Project  
New York, NY

Dan Simon, SJD  
USC Gould School of Law & Dept of Psychology  
Los Angeles, CA

William C. Thompson, PhD, JD  
University of California  
Dept of Criminology  
Law & Society  
Irvine, CA
Overview

The past year marked the formation of the Organization of Scientific Area Committees (OSAC) as part of an initiative by the National Institute of Science and Technology (NIST) and the Department of Justice (DOJ) to strengthen forensic science in the United States. One of its three Resource Committees is the Human Factors Committee, which provides guidance throughout the OSAC on the influence of systems design on human performance and on ways to minimize cognitive and confirmation bias and mitigate errors in complex tasks.

The Plenary Session will present a distinguished panel of speakers that will discuss the manner in which cognitive bias can adversely impact evaluations of evidence and decision making in all forensic disciplines. Understanding the various sources of bias and learning how to limit or minimize their influence is essential for improving the reliability and accuracy of decisions made by forensic experts and for avoiding miscarriages of criminal and civil justice. All forensic scientists and laboratory directors can benefit from developing a better understanding and keen awareness of the potential for bias and the types of internal procedures and protocols that can be implemented to minimize the impact of bias in forensic investigations and casework. In our adversarial judicial system, testifying experts, trial lawyers and judges need this knowledge in order to effectively fulfill their respective roles and ethical obligations.

The continued education of our community is essential to foster the growth and integrity of forensic science. This Plenary Session will provide a forum for examining how cognitive bias can improperly sway the perceptual and cognitive judgments of forensic examiners, how such cognitive contamination can produce faulty conclusions even absent malicious intent, and why our community should embrace the concept of bias control in pursuing the interests of justice.

Program:

9:00 a.m. - 9:05 a.m. Welcoming Remarks  
**AAFS President Daniel A. Martell, PhD**

9:05 a.m. - 9:30 a.m. Cognitive and Motivational Causes of Investigative Error  
**Dan Simon, SJD**

9:30 a.m. - 9:55 a.m. Are Good Intentions and Willpower Sufficient to Overcome Contextual Bias? A Look at the Psychological Literature  
**William C. Thompson, PhD**

9:55 a.m. - 10:20 a.m. Confessions in Context: Why Confessions Corrupt Forensic Perceptions and Judgments  
**Saul Kassin, PhD**

10:20 a.m. - 10:25 a.m. Why Forensic Scientists Should Embrace the Concept of Bias Control: A Practitioner’s Perspective  
**Andrew Sulner, MSFS, JD**

10:25 a.m. - 10:45 a.m. Cognitive Bias in Forensic Pathology  
**Barry C. Scheck, JD**

10:25 a.m. - 11:05 a.m. History, Cognitive Bias, Incompetence, and Corruption are not the Same Things  
**Andrew M. Baker, MD**

11:05 a.m. - 11:30 a.m. Panel Discussion  
**AAFS President Daniel A. Martell, PhD**
Monday

#1 Wildland Fires of Electrical Origin — Deaths and Litigation

February 16 — 7:00 a.m. - 8:30 a.m. .75 CE Hour

Helmut G. Brosz, PEng, BASc
Brosz Forensic Services
Markham, ON CANADA

Educational Objectives: After attending this presentation, attendees will better understand some of the causes of wildland fires resulting in deaths, injury, and litigation, resulting in a more effective understanding of forensic methods and issues.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing information to the legal, insurance, electrical utility, and forensic engineering industry as well as authorities having jurisdiction that become involved in wildfire losses, claims, litigation, and investigation. At the outset, the cause of a wildfire is often not known. Investigation after the “smoke” has cleared requires specialized knowledge and methodology in order to determine the origin, cause, and reason for the initiation of a wildfire. Spoliation issues will also be discussed.

California, Australia, and Florida share a high number of wildfires caused by or involving power lines, lightning, animals, carelessness, vehicles, arson, etc., and other unusual causes. Wildfires have caused thousands of deaths (directly and indirectly), property destruction of dwellings and infrastructure, and business interruption. The millions of dollars of loss invariably result in civil litigation if a chance of monetary recovery is likely. Criminal litigation is also likely if the proper circumstances exist.

Issues such as sag and tension of power lines before and after a fire and line-to-line and line-to-ground voltages need to be considered. Clearances from vegetation (trees) and clearances to ground at various temperatures often require not only measurements but catenary calculations and elongation characteristics of copper, aluminum, and Aluminum-Conductor Steel-Reinforced (ACSR) wires. Sometimes energized power lines sag into vegetation due to the heat from a fire below and then make contact with vegetation. The track left by the arcing event may sometimes be interpreted as causal as opposed to resulting.

The importance of accurate surveys of sections of overhead distribution lines along with the ground below are often necessary to determine if the overhead line was built according to applicable codes and standards.

Animals and birds sometimes cause short circuits on lines and at hardware on poles. Animals may fall to the ground while on fire and initiate a wildfire at the base of the pole, giving the appearance of the fire having been caused by utility apparatus. The origin will be at a pole, the cause will be the bird/animal, but the reason will be known only to this critter. Responsibility is sometimes focused on the electric utility and not on the animal. Laboratory simulation tests in a high-voltage lab as well as field tests with portable equipment can be of assistance at these times. Lightning discharges on electrical lines, poles, and hardware can also start wildfires.

The Topanga Canyon wildfire of 1993 near Malibu, Los Angeles County, CA burned 19,000 acres at a high speed in a span of a few hours; burned 739 structures, homes, and cars; killed three people; and provides an example of a criminal arson investigation gone awry.

The Cavendale fire of 1996 burnt about 3,000 acres of mostly vineyards in Sonoma and Napa Valley, California as well as a few structures. Did a tree grow into a line or did a line sag into a tree? Did a Steller’s Jay bird commit animal electrical suicide? Did California wines develop a smoky taste that year? More than $30,000,000 was at stake in the ensuing litigation.

Wildfires are here to stay and death, destruction, litigation, and the rebirth of forests and fields continues.
BREAKFAST SEMINARS

Pre-Registration Required

Tuesday

#2  Mental Health Support to Law Enforcement: Practical Issues

February 17 — 7:00 a.m. - 8:30 a.m.  .75 CE Hour

R. Gregg Dwyer, MD, EdD
Community & Public Safety Psychiatry Division
Medical University of South Carolina
Charleston, SC

Eric Skidmore, DMin
South Carolina Law Enforcement Assistance Program
Columbia, SC

Andy Gruler, MSW
Greer, SC

Educational Objective: The goal of this presentation is to provide a description of mental health services for law enforcement personnel with guidance on the establishment and maintenance of such services.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing guidance on developing and implementing a mental health program for personnel exposed to exceptionally stressful work environments and content.

Although police work has always had the risk of negatively impacting the mental health of line law enforcement forensic personnel through their exposure to violent crime scenes, officer-involved shootings, line-of-duty deaths, and other critical events, services have been limited. There are multiple combinations and settings in which mental health services can be provided to the law enforcement community. They vary from answering informal questions to formal consulting contracts for service with the mental health professional embedded in an agency for real-time access by law enforcement personnel. Services include pre-employment screening, fitness-for-duty evaluations, training on stress prevention and management, post-critical incident services, responding real-time to crime scenes, Special Weapons and Tactics (SWAT) operations, hostage and barricaded person negotiations, threatened suicide-in-progress, officer-involved shootings, and other traumas. This seminar provides an overview of the types of services available, the necessary and suggested credentials to be an effective consultant, a how-to guide for finding and recruiting such a consultant, and potential conflicts with dual-agency relationships, all presented using actual examples from the field.
Tuesday

#3 Bank Robbery on Chicago’s South Side — 75 Years After John Dillinger

February 17 — 7:00 a.m. - 8:30 a.m. .75 CE Hour

Brian S. Clark, MFS
Orland Park, IL

Educational Objectives: The goal of this presentation is to introduce attendees to the current difficulties and challenges of investigating violent crime from both an investigator’s and a forensic science perspective.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by creating a better understanding of the crime of bank robbery and the evidentiary issues associated with the crime.

The crime of bank robbery has been the subject of many Hollywood movies, books, and news stories in the United States since the mid-1800s. These events have sometimes been portrayed as glamorous and at other times as the violent and desperate actions of someone with nothing to lose. The closure rate on bank robbery cases varies over time based on numerous variables such as the skill and experience of the robber, the statement of the victims and witnesses, and the location of responding local police officers. However, the quality and amount of evidence available to investigators continues to climb.

As various examination methods of biological evidence get more sensitive, training is provided to bank employees on the importance of preparing the bank counters and other surfaces for the day. It is incumbent on the bank employees to ensure surfaces used by customers and potential bank robbers are cleaned each and every day to help ensure that the biological material from previous customers and employees is removed prior to a robbery.

This presentation consists of a review of several bank robberies on the south side of Chicago to include unarmed note jobs to high-profile takeover-style robberies with multiple subjects with an emphasis on the forensic evidence used in the investigation or lack thereof. Included is the unique experience of an investigating agent on bank robbery investigations who also undertook the responsibility on several occasions to process the evidence involved with the crime scene, the subsequent arrests, and any related search warrants.

Three cases will be presented that illustrate the difficulties and challenges of investigating the crime of bank robbery. The first case is a copy of the movie, The Town, in which the robbers, a man and a woman, dressed as nuns, robbed the bank at gunpoint. The second case is a robbery in which the robber conducted reconnaissance from inside the bank as well as surveillance of the bank prior to the robbery. The subject attempted to use the Crime Scene Investigation (CSI) effect leading up to trial and during sentencing to argue that absence of evidence is, in fact, evidence of absence proving that he was kidnapped and placed under duress which resulted in him robbing the bank. A range of video, forensic, digital, and circumstantial evidence was used to convict the subject. The third case involved two individuals who traveled to the Chicago area to rob a bank and planned to flee back to Oklahoma. After preparing for the robbery by obtaining disguises, a rental vehicle, weapons, and a scanner, they robbed a bank, only to be followed by a local tow truck driver who called the police, directing responding officers to the getaway vehicle. The chase was recorded by police dashboard cameras while one of the subjects called 911 to demand they be allowed to escape, ultimately threatening and firing a bullet into another vehicle before crashing into a police car.
Wednesday

#4 Crime Scene Reconstruction of Nine United States Air Force Members Killed in Kabul, Afghanistan

February 18 — 7:00 a.m. - 8:30 a.m. .75 CE Hour

Chad W. Hutchins, MFS
Waverly, GA

Educational Objectives: After attending this presentation, attendees will understand some principles of crime scene reconstruction, such as how to gain explicit knowledge from a series of events or event segments that surround the commission of a crime, the application of deductive and inductive reasoning, the integration and interpretation of physical evidence, strict adherence to the scientific method, and the interrelationship of all the components into a final product.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by demonstrating how crime scene reconstruction can enhance an investigation with critical interdisciplinary reliance. Crime scene processing techniques, criminalistics, digital sciences, pathology, serology/toxicology, firearms analysis, and other disciplines of forensic science all contribute vital information in this example of a practical application of crime scene reconstruction.

On April 27, 2011, eight United States Air Force (USAF) active duty members and one civilian were murdered by a trusted Afghan pilot being mentored by the USAF members in a surprising blitz-style attack. The incident took place in the two-story Afghan Air Corps Headquarters building on the Afghan Air Force’s side of the Kabul International Airport, Kabul, Afghanistan. Just before a routine weekly meeting, seven USAF active duty members and one civilian were gunned down in the Afghan Air Command and Control Center (ACCC); the meeting was to take place just minutes later in an adjoining conference room. The eighth USAF active duty member was murdered just outside the building after he and another active duty USAF member exited the conference room and engaged the gunman throughout two separate hallways of the headquarters building. The gunman was wounded at some point during the gun fight, which left clues to his actions before he walked to the second floor of the building where he sustained two fatal gunshot wounds to the chest.

Four different multi-national response and law enforcement teams processed the scene before the Air Force Office of Special Investigations (AFOSI) was allowed unrestricted access five days later. By this time, furniture had been moved from its original position and cleaned, all visible projectiles and cartridge casings had been collected in a manner which made it impossible to determine exactly where they had come from, blood on the floors and walls had been cleaned and painted over, glass containing bullet holes had been replaced, and the decedent’s clothes had been incinerated.

Many questions were immediately asked. Was there more than one gunman? If not, how could one person murder this many military members, most of whom were armed, without being stopped? Crime scene reconstruction was the only way to take this extremely complex case with fragmented physical evidence from a severely contaminated crime scene and produce answers.

Statements from several Afghan witnesses present in the ACCC were used to aid in the reconstruction; however, available physical evidence and autopsy findings were crucial. The rest of the reconstruction, spanning a building of approximately 14,000 square feet, relied heavily upon interpreting physical evidence, deductive and inductive reasoning, and applying the scientific method to come to conclusions.

Many times a crime scene reconstruction is accomplished to answer a specific question or sequence specific events involved in a crime. In this case, the reconstruction was performed to simply identify the major event segments and place them in as much of a sequence as possible in an effort to answer the question, “What happened?” This enabled the conclusion of only one gunman and provided clues as to how one person could carry out a murder spree against military personnel who were carrying weapons.
Thursday

#5 The Roso Case: An Unpublished Trial Regarding Hermaphroditism Verified Through the Expertise and Written Advice of Leading Physicians in 19th-Century Florence

February 19 — 7:00 a.m. - 8:30 a.m. .75 CE Hour

Educational Objectives: After attending this presentation, attendees will understand the techniques and methods used at what, in 19th-century Europe, was considered a famous trial: the case of Maria Rosa Fantini (1764-1839), which centered on a series of reports regarding the very delicate issue at the center of a case of “doubtful sex” and who was later shown to be a hermaphrodite. This trial remained buried in the Archiepiscopal Archives of Florence and has only recently been brought to light.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by illustrating the importance of introducing, at trial, the technical expertise and opinions of such famous Italian doctors of the time as Vincenzo Chiarugi (1759-1820), the father of Italian psychiatry. In addition, attendees will better understand how the methods of the Positivist School, which had shaped such forensic scientists as the criminal anthropologist Cesare Lombroso (1835-1909), were able to demonstrate a person’s true sexual identity with psychological developments that emerged in court, thus revolutionizing the perception each individual has of themself. During the presentation, the previously unpublished court records and reports of this particular case will be presented along with the findings of the proceedings.

The research conducted at the Fiesole (Italy) Diocesan Historical Archives has permitted a reconstruction of Fantini’s life. On July 15, 1805, an initial application was filed at the Court of the Episcopal Curia of Fiesole by the husband, Dionisio, to dissolve his marriage to Maria Rosa, whose poor genital conformation invalidated the marriage. Subsequently, on February 13, 1818, Dionisio, convinced of his marriage’s illegality, brought action for an annulment before the Episcopal Court of Florence where, at the behest of the lawyer Simeone Döthel, a second report, entrusted this time to Vincenzo Chiarugi, was filed. The examination showed a surprisingly large enterocèle in the right groin area and, at the uppermost part of the pubic arch, a glans imperforate, resembling a foreskin circumcision, and a very well-built frenulum that forced the glans toward the bottom. On the basis of anatomical data, Chiarugi concluded that Maria Rosa was a male. The clinical history found in the Historical Archives of the University of Florence, shows that Maria Rosa was admitted to the women’s ward, where the anatomist Giuseppe Chiarugi, son of Vincenzo Chiarugi, identified her as being a male. She was then transported to the men’s infirmary (bed number 598) and given the masculinized name of Roso. On her deathbed, she declared her regret that, “In the midst of the confusion of the opposite sex, I am and was a woman and I am surprised at how these gentlemen want me to die here among men.” Maria Rosa died at 11:00 a.m. on the morning of April 16, 1839, in the men’s ward of the Santa Maria Nuova Hospital. The autopsy, performed by Stanislao Petri, confirmed the previous forensic report. As evidenced by copies of the death certificate, found at the Florence State Archives and the Archiepiscopal Historical Archives of Florence, the deceased was recorded under the name of Roso Fantini, an unmarried male.

The case of Maria Rosa “Roso” Fantini provides valuable material for scientific research and an unpublished look at Italian positivism regarding the nascent “sexual question.” The extraordinary nature of this now-forgotten case was mentioned by Caesar Taruffi (1821-1902), Professor of Pathology at the University of Bologna and a leading expert on hermaphroditism in the period in the work Ermafroditismo ed agenosoma (1902). In keeping with the dictates of scientific writing at the time, Vincenzo Chiarugi’s forensic report was published in the form of letter (Sopra una supposta specie di ermafroditismo, 1819) highlighting indirect evidence of Maria Rosa’s sexual behavior. Having been raised and having lived as a female, she believed that she had been born and lived as a woman. Trials in that period demonstrated that, in instances of “ambiguity,” it was possible to divert “nature” from its course, as in the case of Maria Rosa, psychologically changing a male into a female. On the subject of hermaphroditism, Cesare Lombroso, from the School of Criminal Anthropology, also strongly supported the influential role of education in the formation of sexual identities.

Pre-Registration Required

Annarita Franzia, PhD
Florence, ITALY

Vincenzo Lusa, JD
Rome, ITALY
Thursday

#6 Recent Changes in Pharmaceutical Industry Operations: Boon or Bane?

February 19 — 7:00 a.m. - 8:30 a.m.  .75 CE Hour

Abraham T. Philips, MD
Regional MEO
Newark, NJ

Educational Objective: After attending this presentation, attendees will have a greater understanding of what is happening in manufacturing, marketing, and distribution of medications in the United States.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by increasing awareness of the pharmaceutical industry on several levels. The recent developments in the pharmaceutical industry operations have adverse effects at the micro, macro, and global level. At the micro level, attendees will gain insights about the medications they or their loved ones have been taking. At the community level, and specifically related to medicolegal work, is the potential harm these medications have on the communities we in forensic science serve. At the national level, these developments also undermine the United States health care system and perpetuate fraud on the nation.

There have been at least three widely acclaimed books regarding several of the issues that will be discussed in this presentation. The clarion call regarding negative impact of the trade practices of the pharmaceutical industry was given by Marcia Angell, MD, Past Editor of the New England Journal of Medicine in her book, The Truth About the Drug Companies: How They Deceive Us and What to Do About It, published in 2004. Ms. Angell comes on as a strong critic of the pharmaceutical industry, the Food and Drug Administration (FDA), and the United States health care system. In addition, she lambastes the academic medical establishment about their biases and conflicts of interest while promoting pharmaceutical products.

More recently, a broadside against the same industry was published from across the great pond (Atlantic Ocean) by Ben Goldacre, a physician and academic, in his book, Bad Pharma, published in 2012. Echoing several of the same themes, Dr. Goldacre also highlights the role of the Cochrane Collaboration to promote proper research and publication of data by the industry. The latest book publication in this series is David Healy’s (a psychiatrist from the United Kingdom) book, Pharmageddon, which was published last year.

On another front, there has been a move to outsource pharmaceutical production to compounding pharmacies. This move, in a largely under-regulated and poorly supervised industry, had led to issues regarding increased mortality and morbidity due to medications. One recent example was the outbreak of fungal meningitis due to contamination of steroid injections for epidural infusion. The medication, manufactured at a plant in Framingham, MA, was distributed to 75 medical facilities in 23 states. Doses from contaminated lots were administered to approximately 14,000 patients. The outbreak of fungal meningitis started in October 2012, claiming 48 lives, while 720 others were treated for persistent infection. Attempts were made to introduce legislation to rectify the loopholes in the good manufacturing practices, with the passage of the Drug Quality and Security Act of 2013. However, it has turned out to be only lip service to improvement, and on July 23, 2014, the FDA warned of a recall of drugs compounded by two pharmacies in Texas.

The latest twist to this saga is the production and distribution of drugs by internet pharmacies through what is known as the “Dark Net” or the “Silk Road.” These changes have raised concerns regarding illegal or unethical practices in the form of dispatching outdated, substituted, and counterfeit medications; potential lack of confidentiality; improper packaging; inability to check for drug interactions; etc. This current change in the process of obtaining medications from online sources puts additional stress on law enforcement, primarily the United States Customs, but also everyone charged with medicolegal death investigation. On July 17, the Federal Express Corporation (FedEx) was indicted for allegedly shipping prescription drugs from illegal online pharmacies to dealers and addicts, according to documents filed in federal court. According to Ms. Melinda Haag, the United States Attorney dealing with the case, “The indictment highlights the importance of holding corporations that knowingly enable illegal activity responsible for their role in aiding criminal behavior.”
Friday

#7 The Businessman, the Wife, the Aunt, and the Children: Multiple Murders by Drowning

February 20 — 7:00 a.m. - 8:30 a.m. .75 CE Hour

Chris Milroy, MD, LLB
Ottawa Hospital
Ottawa, ON CANADA

Educational Objectives: After attending this presentation, attendees will understand “honor killings” and the role they play in certain societies, the pathology of drowning, and the importance of a complete death investigation system.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing an understanding of the importance of a full autopsy in drowning cases and the role that cultural values play in supplying a motive for some homicides.

On June 30, 2009, near the City of Kingston, Ontario, a car was found in the Rideau Canal, a 126-mile (202km) canal that runs between Ottawa and Kingston, Ontario. When a diver located the car, there were four bodies present. The bodies were recovered and a Nissan® Sentra® car removed from the water. On the same day, a Canadian businessman of Afghani origin reported that three of his daughters, aged 19, 17, and 13 years of age were missing along with their 50-year-old aunt. The father reported that they had been on holiday at Niagara Falls, were returning to Montreal, and stopped at a motel for the night. The 19-year-old daughter, who had apparently been learning to drive, was reported to have taken the car keys to the Nissan® Sentra® stating she needed something, and had then driven off with her aunt and sisters.

When the bodies were recovered, the police initially assumed the deaths were an accident. Postmortem examinations were conducted and the deaths were recorded as drownings. Toxicological analysis of the four victims was negative.

However, soon after the deaths, Kingston police became concerned that the deaths were not accidental. The oldest son of the businessman had reported that he had been involved in an accident with his car in Montreal on the morning the bodies had been found and had reported the crash to the Montreal police, though no other car was involved. However, glass found at the scene in Kingston indicated that the glass was from the Lexus® (which had a defect in the headlight) the son was driving in Montreal.

A very comprehensive criminal investigation which involved multiple jurisdictions was conducted. The aunt turned out to be the first wife of the businessman, who was in a polygamous marriage with his second wife, the mother of all seven children in the family. On July 22, 2009, the businessman, his wife, and their oldest son were arrested and subsequently charged with first-degree murder of all four victims.

Inquiries by the police indicated that the four victims in the car had been intentionally killed. The evidence did not support the four victims dying in the car, as they appeared to have been killed elsewhere. Covert surveillance had indicated that the father, mother, and son had been involved in killing their children/siblings. The son subsequently admitted that he had been at the scene when the Nissan® entered the water, but said it was an accident.

The motive presented by the prosecution was that these deaths were “honor” killings based upon the three teenage girls having become too “westernized.” The offences have been called “honoricides” by the press.

The businessman, his wife, and son were tried for first degree homicide. The trial lasted over two months and involved witnesses giving evidence in four languages including Dari, the Persian dialect spoken by the defendants. Both parents gave evidence in their defense, but not the son. The jury returned guilty verdicts against all three defendants.

This presentation will discuss how the complex investigation developed, the pathology of the victims, and the concept of “honor killings.”
Pre-Registration Required

Friday

#8 Thomas Krauss Bitemark Breakfast: From Frye to Daubert — A Change in Legal Standard

February 20 — 7:00 a.m. - 8:30 a.m. .75 CE Hour

Jeffrey L. Ashton, JD
Office of the State Attorney
Orlando, FL

Educational Objectives: The goal of this presentation is to discuss the challenges facing prosecutors in presenting scientific evidence, generally and specifically those faced when presenting new or novel scientific advances. In particular, discussion will encompass the implication of the change in legal standards from Frye to Daubert as they apply using the State of Florida as an example.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing a more complete understanding of the prosecution of Casey Anthony.

Born on October 3, 1957, in St. Petersburg, Florida, Jeff Ashton studied law at the University of Florida School of Law and became an Orlando prosecutor. In 1987, he was the first lawyer to earn a conviction by introducing DNA evidence into a case. Decades later, he became the head prosecutor of the sensational 2011 Casey Anthony trial. Ashton has written a book about his experiences, Imperfect Justice: Prosecuting Casey Anthony, and was sworn in as a state attorney in 2013.

Jeff Ashton worked in a number of divisions that were part of the state attorney's office before winning his first murder conviction in a 1983 trial. While serving as assistant state attorney in 1987, Ashton took on a groundbreaking role: he began working as prosecutor on the trial of a Florida serial rapist, and during the trial, he introduced DNA-based evidence. The case resulted in the first conviction using DNA testing, with such evidence being used regularly thereafter, in cases throughout the country. Three years later, Ashton established his office's homicide division.

For a time in 2002, Ashton was appointed as head of the juvenile division of the state attorney's office, but missed the courtroom and decided to return to prosecuting. Over his decades-long career, he has taken hundreds of cases to trial.

In June 2011, Ashton worked as prosecutor in the highly sensational Casey Anthony trial. Anthony, a young woman from Florida, was accused of murdering her 2-year-old daughter, Caylee Anthony, whose remains were found near the Anthony home. The case received a huge amount of media attention focusing on the Anthony family's back-story, with the prosecution taking the stance that Anthony was guilty of murder, and the defense countering that Caylee's death was an accident that was subsequently covered up.

On July 5, 2011, the jury found Casey Anthony not guilty of first-degree murder, aggravated manslaughter or aggravated child abuse charges. Anthony was found guilty of charges related to providing the police with false information, and was placed on parole after receiving a fine and credit for time served. Ashton was stunned by the decision.

As he'd intended, Ashton retired from working as prosecutor after the trial and worked part-time at a law firm. In November 2011, Ashton released the best-selling book, Imperfect Justice: Prosecuting Casey Anthony, published by William Morrow. In his book, the prosecutor deconstructs the case, including his thoughts on Anthony Defense Attorney, Jose Baez, and the use of the death penalty.

In 2012, Ashton ran for the state attorney seat in the Floridian counties of Orange and Osceola, against his former supervisor, Lawson Lamar. Ashton won the election and, in early January 2013, was sworn in as a state attorney. That same month, the Lifetime® Network aired, Prosecuting Casey Anthony, a TV movie based on Ashton's book, starring Rob Lowe as the prosecutor.
Educational Objectives: After attending this presentation, attendees will be aware of the common conflicts and personality qualities of those who commit kidnapping by cesarean section. Attendees will also be informed about the modus operandi of this most peculiar crime. The data will be integrated into recommendations for forensic assessment and public safety.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by presenting findings from 15 completed and five attempted cases of fetal kidnapping by cesarean section and by providing insights about perpetrators who commit this unthinkable crime so that prevention can play a role in any future research.

The National Center for Missing and Exploited Children (NCMEC), concerned with the abduction of children (birth through six months) by non-family members, has been studying such cases since 1983, focusing on the abductors and violence, and has been providing guidelines for healthcare professionals on prevention of and response to infant abductions. While educational programs for healthcare agencies and hospitals proved successful in deterring abductions from institutions, the number of abductions from non-agency settings and the numbers of infant abductions from non-hospital settings increased. A study of 247 infant abductions over three decades revealed birth mother injury as an important change between the years of 1983-1992 and 1993-2006. The occurrence of fetal abduction by cutting open the mother’s abdomen, though rare, has increased. This raises questions as to the motivation for the act, the dynamics in the planning, the lethal intent to secure a baby, the legal outcomes, and the lessons to be learned for prevention.

Fetal abduction involves behaviors that are not well understood or researched. In the first study of its kind, media-reported, non-family cesarean section cases were reviewed. This presentation reports the findings on the 15 completed and five attempted, non-family member cases reported to the NCMEC. Data were obtained from court documents as well as NCMEC records. A number of demographic variables were investigated: perpetrator gender (all female), state the crime was committed in (13 states), year the crimes took place (with the number doubling since 2000), race (varied, with race of the victim mother being consistent with the offender’s), and age (most abductors targeted a younger mother, with the offender’s age ranging from 19 to 40 years of age). Furthermore, all perpetrators (except one) were in a relationship, more than half already had children, and nine offenders were (or believed they were) infertile.

Several themes were identified across the 15 cases. All abductors lied that they were pregnant, although the motivation for the lie varied. Abductors sought out medical information on childbirth and cesarean sections to prepare for the crime. A critical component of pregnancy simulation is targeting either a “known” mother and gaining her trust or frequenting places pregnant women attended to select a “random” victim mother. For all perpetrators, the murder plan had long been in their mind, and they usually prepared cesarean “kits” in advance; however, the location of the crime varied. In all but one case, the victim mother died, and only ten of the 15 babies survived. This research investigated the psychological defenses employed in each case, and the topics of lying, pregnancy simulation, and capacity to commit murder for personal gain of a newborn while legally sane were critical to this study. Perhaps most important was the underlying issue of fertility as central to the identity of the perpetrator.

This presentation reviews the findings of this study and its implications for public safety and for forensic assessment. Examples illustrating the expression of these peculiar personalities, how they relate to others in their lives antecedent to and following the crime, and lessons from how victims are ensnared — and escape — are also presented.
Educational Objective: After attending this presentation, attendees will learn how investigators linked the murders of two women in New York City in the 1970s with a string of California homicides committed by “Dating Game Killer” Rodney Alcala, and how he came to justice after 40 years.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by illustrating investigative, forensic, and prosecutorial techniques that turn cold cases into court cases.

What would you think if you picked Bachelor #1 on the Dating Game and he turned out to be a serial killer? That’s what happened in 1978 to a contestant who chose Rodney Alcala as her date. Luckily, that woman’s “Spidey-sense” went off after they met backstage and she refused to go out with him.

Alcala had killed four women by the time he was a Dating Game contestant in 1978; at least three more victims followed. A decade earlier, Alcala had abducted an 8-year-old California schoolgirl and drove her to his house. A witness called police, who broke down the front door as Alcala jumped out a back window. Tali Shapiro was naked and near death; Alcala had choked her by putting a barbell across her throat.

He escaped to New York City and enrolled in New York University’s film school under the name John Berger. Then, in 1971, 23-year-old stewardess Cornelia Crilley was found with bitemarks on her breast, raped, strangled, and posed inside her Upper East Side bedroom, but the case remained unsolved. Later that summer, while “Berger” worked at a music camp in New Hampshire, campers recognized his picture on a Federal Bureau of Investigation (FBI) wanted poster. He was extradited for the Shapiro assault and served four years in jail.

He returned to New York, where aspiring actress Ellen Hover made a date with him, writing “John Berger” on her calendar. She disappeared from her Manhattan apartment in July, 1977. Her badly decomposed body was found buried in a Westchester park near the Hudson River almost a year later.

After Hover’s disappearance, Alcala returned to California. Within a span of 20 months, he killed five women: a teenage health aide, a 27-year-old nurse, a 32-year-old secretary, a 21-year-old data processor, and a 12-year-old on her way to ballet class. Each was raped, strangled, and posed; some were beaten, some had bitemarks.

One victim survived; Alcala had picked up a 15-year-old hitchhiker, drove into the mountains, where he sodomized, raped, and choked her. He let her live when she promised to be his girlfriend.

DNA eventually linked the California attacks. Alcala was convicted and sentenced to death in 2010. Detectives uncovered hundreds of photos of young women and boys in his storage locker in Seattle and searched for new victims. Meanwhile, the Crilley and Hover cases remained unsolved. Links to Alcala were made; his fingerprint was on an envelope found beneath Crilley’s body and bitemarks on her breast were consistent with Alcala. In addition, the “Berger” notation on Hover’s calendar was linked to his alias.
The Manhattan District Attorney’s Cold Case Unit and the New York City Police Department (NYPD) worked to pull together a legally sufficient case to charge Alcala in those deaths. Retired FBI Senior Profiler Mark Safarik, who worked the original California cases, and the Office of Chief Medical Examiner (OCME) Forensic Pathologist Jonathan Hayes, scoured autopsy reports and crime scene photos for similarities. Investigators found friends and neighbors of the victims, Alcala’s old girlfriends, eyewitnesses, vehicle registrations, toll receipts, decades-old serology reports, and medical and military records. Alcala’s surviving victim relived the horrible details of her ordeal, and the victims’ families cried again as they relived the last time they saw their sisters and learned about their deaths. Alcala was indicted for killing Crilley and Hover. He pleaded guilty to their murders in 2013 and received the maximum sentence. Headlines at the time read, “Judge Weeps as Serial Killer Sentenced.” Alcala was returned to San Quentin where he still lives on Death Row.
#1 Mass Fatality Incidents: An Integrated Approach

## Educational Objectives:
After attending this presentation, attendees will understand how the Armed Forces Medical Examiner System integrates various areas of forensic science in mass fatality incidents. In addition, attendees will have an understanding of how emerging technologies are leveraged in each of the areas.

## Impact on the Forensic Science Community:
This presentation will impact the forensic science community by demonstrating an effective and proven approach to integrating various fields of forensic science and emerging technologies in mass fatality incidents.

### Chair:
- **Christian Crowder, PhD**
  - Armed Forces Medical Examiner System
  - Dover AFB, DE

### Co-Chair:
- **Todd M. Howell, MFS**
  - Magnolia, DE

### Faculty:
- **Edward Mazuchowski II, MD, PhD**
  - Dover AFB, DE
- **Edward A. Reedy, PhD, MD**
  - Armed Forces Medical Examiner System
  - Dover AFB, DE
- **Sean A. Swiatkowski, DO**
  - Armed Forces Medical Examiner System
  - Dover AFB, DE
- **Ladd Tremaine**
  - APO, AE

## Program Description:
This presentation will provide an overview of how various areas of forensic science are integrated in mass fatality incidents. These areas include law enforcement, mortuary affairs, medicolegal death investigation, forensic photography, fingerprint specialists, forensic odontologists, DNA specialists, forensic radiology, forensic anthropology, forensic pathology, and forensic toxicology. In addition, the emerging technologies of each field will be highlighted.

### Program:

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>8:30 a.m.</td>
<td>AFMES and Mass Fatality Incident Overview</td>
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<tr>
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<td><strong>Ladd Tremaine</strong></td>
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<tr>
<td>8:45 a.m.</td>
<td>Scene Operations</td>
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<td><strong>Christian Crowder, PhD; Todd M. Howell, MFS</strong></td>
</tr>
<tr>
<td>10:00 a.m.</td>
<td>Break</td>
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<tr>
<td>10:15 a.m.</td>
<td>Scientific Identification</td>
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<td></td>
<td><strong>Edward A. Reedy, PhD, MD</strong></td>
</tr>
<tr>
<td>10:45 a.m.</td>
<td>Autopsy Operations and Disposition</td>
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<tr>
<td></td>
<td><strong>Sean A. Swiatkowski, DO; Edward Mazuchowski II, MD, PhD</strong></td>
</tr>
</tbody>
</table>
Educational Objectives: After attending this presentation, attendees will better understand the role of an electrical abnormality in impulsive aggression and will appreciate the concomitant normalization of abnormal event-related potentials and impulsive aggressive behaviors.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by enabling attendees to explain the strengths and weaknesses of impulsive aggression, with its electrophysiological manifestation, in mental defenses against criminal charges.

Program Description: If the ability to control one’s behavior pertains to criminal responsibility, a neurophysiological correlate of impulsive aggression may be relevant. Using event-related potentials, investigators have demonstrated that the abnormal electrical activity of the brain in impulsive aggression normalizes as the impulsive aggressive behavior improves with certain medications. After a presentation of the science of such potentials is explained, an excerpt from a mock trial will illustrate the legal issues involved when the science of these potentials is applied to criminal responsibility.

Program:

8:30 a.m. - 8:40 a.m. Welcome and Introduction
   
   Alan R. Felthous, MD; Stephen J. Ferrazzano II, JD

8:40 a.m. - 9:00 a.m. “The Electric Will”
   
   Alan R. Felthous, MD

9:00 a.m. - 9:20 a.m. Neurophysiology and Pathological Significance of ERPs
   
   Ghazala Hayat, MD

9:20 a.m. - 9:40 a.m. Medication Effects on ERPs
   
   Kelly N. Gable, PharmD
WORKSHOPS

Pre-Registration Required

#2 The Electrophysiology of Impulsive Aggression and Criminal Responsibility (continued)

Program cont.

9:40 a.m. - 10:00 a.m. ERPs and Impulsive Aggression  
\textit{Matthew S. Stanford, PhD}

10:00 a.m. - 10:15 a.m. Break

10:15 a.m. - 10:35 a.m. The ALI and EED Defenses  
\textit{Stephen J. Ferrazzano II, JD}

10:35 a.m. - 11:30 a.m. Mock Direct and Cross Examination of Expert Giving Testimony on ERPs and Impulsive Aggression in Defendant Tried for Murder  
\textit{Stephen J. Ferrazzano II, JD; Matthew S. Stanford, PhD}

11:30 a.m. - 12:00 p.m. Verdict and Review
Classification of Typewritten Documents

Monday, February 16 8:30 a.m. - 4:30 p.m. 6.25 CE Hours

Educational Objective: After attending this presentation, participants should have an understanding of the typewriter typestyle classification systems and understand their uses and limitations.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing an update of typewriter typestyle classification systems.

Program Description: Typewriting and typewritten documents have shown an increase in popularity the last few years and an increase in typestyle examinations is inevitable. This presentation will enhance and refresh attendees’ skills in the examination and classification of typewritten documents. Attendees will learn basic to advanced techniques. The morning session will cover the basic principles for classifying typewriter type styles and the afternoon session will cover classification techniques using the WinType® classification program, the Haas® Atlas, and the Interpol typewriter cards. Practical exercises will provide a hands-on experience. A copy of the WinType® program will be provided.

Program:

8:30 a.m. - 8:40 a.m. Opening Remarks
Peter V. Tytell, BA

8:40 a.m. - 10:00 a.m. History of Typestyle Classification Systems
Karen J. Nobles, BA; Peter V. Tytell, BA

10:00 a.m. - 10:15 a.m. Break

10:15 a.m. - 12:00 p.m. Principles and Mechanics of Typestyle Classification
Karen J. Nobles, BA; Peter V. Tytell, BA

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

1:00 p.m. - 2:30 p.m. Use of the WinType® Program and the Interpol System With Practical Problems
Karen J. Nobles, BA; Peter V. Tytell, BA

2:30 p.m. - 2:45 p.m. Break

2:45 p.m. - 4:15 p.m. Continuation of Practical Problems
Karen J. Nobles, BA; Peter V. Tytell, BA

4:15 p.m. - 4:30 p.m. Closing Remarks
Peter V. Tytell, BA
#4 Obtaining Successful DNA Profiles From Challenging Samples

**Monday, February 16**
8:30 a.m. - 4:45 p.m.
6.75 CE Hours

**Educational Objectives:** After attending this presentation, attendees will understand how to overcome challenges associated with trace and/or degraded forensic DNA samples by using novel DNA extraction, quantification, profiling, and analysis technologies to provide probative results from even the most compromised DNA samples.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by serving as a forum for disseminating the latest information regarding the analysis of challenging forensic DNA samples. The panel discussion will include information on new DNA testing systems and methodologies for cases where traditional methods do not produce results.

**Chair:**
Sudhir K. Sinha, PhD
InnoGenomics Technologies, LLC
New Orleans, LA

**Co-Chair:**
Bruce R. McCord, PhD
Florida International University
Dept of Chemistry
University Park
Miami, FL

**Faculty:**
John Ballantyne, PhD
University of Central Florida
Dept of Chemistry
Orlando, FL

Craig O. O’Connor, PhD
NYC Office of Chief Medical Examiner
New York, NY

Arthur J. Eisenberg, PhD
UNT Health Science Center at Fort Worth
Fort Worth, TX

Mark R. Wilson, PhD
Western Carolina University
Dept of Chemistry/Physics
Forensic Science Program
Cullowhee, NC

Timothy P. McMahon, PhD
Dover Airforce Base
Dover, DE

**Program Description:** This workshop will present current advances for analyzing challenging forensic samples. It will include improvements in extraction efficiency, optimizing laboratory processing methods, improved methods in quantification of DNA, setting thresholds for capillary electrophoresis, trace DNA methods, novel marker systems, and result interpretation issues for challenging samples, such as mixtures, probabilities, and allele dropout.

**Program:**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>8:30 a.m.</td>
<td>Introduction</td>
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<tr>
<td></td>
<td><em>Sudhir K. Sinha, PhD</em></td>
</tr>
<tr>
<td>8:35 a.m.</td>
<td>The Development and Application of Trace DNA Methods to Household Dust and Touch Evidence</td>
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<tr>
<td></td>
<td><em>John Ballantyne, PhD</em></td>
</tr>
<tr>
<td>9:25 a.m.</td>
<td>Optimized Processing Methods Developed and Utilized for the Identification of Highly Challenged Human Remains</td>
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<tr>
<td></td>
<td><em>Timothy P. McMahon, PhD</em></td>
</tr>
</tbody>
</table>
Program cont.

10:15 a.m. - 10:30 a.m. Break

10:30 a.m. - 11:15 a.m. Development of New Technologies for DNA Analysis of Challenging Forensic Samples
Sudhir K. Sinha, PhD

11:15 a.m. - 12:00 p.m. Analysis of Highly Degraded Missing Persons Samples
Arthur J. Eisenberg, PhD

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

1:00 p.m. - 1:50 p.m. Improvements in DNA Extraction Efficiency From Challenging Samples Such as Hair and Bone
Mark R. Wilson, PhD

1:50 p.m. - 2:40 p.m. How to Set Analytical Thresholds in the Face of New Instrumentation and Improved STR Kits
Bruce R. McCord, PhD

2:40 p.m. - 3:30 p.m. Forensic Statistics at the NYC OCME — Dealing With Complex DNA Mixtures
Craig O. O’Connor, PhD

3:30 p.m. - 3:45 p.m. Break

3:45 p.m. - 4:35 p.m. World Trade Center Disaster Samples 14 Years Later
Craig O. O’Connor, PhD

4:35 p.m. - 4:45 p.m. Questions and Answers
Pre-Registration Required

#5 Ancestry Estimation in the 21st Century

Monday, February 16 8:30 a.m. - 5:00 p.m. 6.25 CE Hours

Educational Objectives: After attending this presentation, attendees will: (1) understand methodological and theoretical aspects of ancestry estimation in light of the modern understanding of human biological variation and classification statistics; (2) comprehend the complex population groups within the United States and the best methods and terminology to use when providing an ancestry estimate; (3) recognize the best methods to use for non-metric and metric ancestry estimation; and, (4) foster an understanding of the role played by the cultural profile in medical examiners’ offices and the role of the forensic pathologists in ancestry estimation.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing up-to-date methodologies and modern theoretical considerations in ancestry estimation using traditional and novel approaches. Additionally, attendees will be provided with new approaches and solutions to new concerns when confronted with the current population demographics of the United States.

Chair: 
Kate Spradley, PhD
Texas State University
Dept of Anthropology
San Marcos, TX

Co-Chair: 
Joseph T. Hefner, PhD
Michigan State University
Dept of Anthropology
East Lansing, MI

Faculty: 
Bruce E. Anderson, PhD
Pima County OME
Forensic Science Center
Tucson, AZ

Richard Jantz, PhD
University of Tennessee
Dept of Anthropology
Knoxville, TN

Kathryn H. Haden-Pinneri, MD
Harris Co Inst Forensic Sciences
Houston, TX

Stephen D. Ousley, PhD
Mercyhurst College
Dept of Applied Forensic Sciences
Erie, PA

Program Description: This presentation will focus on multiple aspects of ancestry estimation in the modern era and direct attention to some of the more important considerations necessary when making these estimates. Following a general introduction and a thorough overview of human biological variation and secular change, the focus of attention will be refined to illuminate aspects of ancestry estimations from different viewpoints and multiple forms of analysis. Ancestry estimates by the medical examiner rely on aspects of human biological variation related to, but different from, those used by forensic anthropologists. Understanding how each practitioner can assist each other and appreciating the separate questions answered is necessary and timely, given the changing demographics in the United States. When attempting to identify the remains of an individual from a complex population, we must understand the history of that population and how that history affects population structure. In other words, we need to “know” the population in order to estimate ancestry. Methodological approaches to the estimation of ancestry will also be addressed. These will include comprehensive discussions on metric and non-metric methods of analysis and a thorough exchange of ideas on the traditional and novel statistical methods and theories being used today. While metric and non-metric methods have traditionally dominated forensic anthropological analysis of ancestry, the cultural profile in conjunction with the biological profile, stands as a novel although very important tool for ancestry estimates, particularly in Undocumented Border Crossing (UBC) cases from the southwest where the cultural profile was developed. The cultural profile has been instrumental in the identification of UBCs from Central and South America.
Program:

8:30 a.m. - 9:00 a.m.  
Introduction
Kate Spradley, PhD; Joseph T. Hefner, PhD

9:00 a.m. - 10:00 a.m.  
General Overview: Human Variation, Secular Change, Statistics, and Ancestry Estimation in the Modern Era
Richard Jantz, PhD

10:00 a.m. - 10:15 a.m.  
Break

10:15 a.m. - 11:15 a.m.  
Complex Populations: Variation and Secular Change
Kate Spradley, PhD

11:15 a.m. - 12:15 p.m.  
The “New Deal” of Non-Metric Traits: Morphoscopic Trait Analysis in the 21st Century
Joseph T. Hefner, PhD

12:15 p.m. - 1:30 p.m.  
Lunch

1:30 p.m. - 2:30 p.m.  
Statistical Methods for Metric and Non-Metric Data
Bruce E. Anderson, PhD

2:30 p.m. - 3:30 p.m.  
The Biological and Cultural Profile
Kathryn H. Haden-Pinneri, MD

3:30 p.m. - 3:45 p.m.  
Break

3:45 p.m. - 4:45 p.m.  
Ancestry in the Medical Examiner’s Office
Stephen D. Ousley, PhD

4:45 p.m. - 5:00 p.m.  
Discussion
Kate Spradley, PhD; Joseph T. Hefner, PhD; Stephen D. Ousley, PhD; Richard Jantz, PhD; Bruce E. Anderson, PhD; Kathryn H. Haden-Pinneri, MD
#6 Practical Homicide Investigation®: Offender-Manipulated Homicide Scenes Relating to Equivocal Death and Staged Crime Scenes

Monday, February 16 8:30 a.m. - 5:00 p.m.  6.25 CE Hours

**Educational Objectives:** After attending this presentation, attendees will better understand of the unique dynamics of offender-manipulated homicide scenes and equivocal death investigations as well as the application of professional homicide investigation and medicolegal analysis to these events.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by providing and familiarizing forensic scientists and investigators with the art and science involved in the professional examination of homicides and sudden, violent death scenes which have been manipulated by the offender to mislead and thwart the investigation.

**Chair:**
Vernon J. Geberth, MS
Garnerville, NY

**Co-Chair:**
Barbara C. Wolf, MD
Leesburg, FL

**Faculty:**
Thomas C. McAndrew, BA
Pennsylvania State Police
Orefield, PA

**Program Description:** This presentation will familiarize forensic scientists and investigators with the art and science involved in death investigation. Attendees will benefit from more than 100 years of combined homicide and forensic pathology experience of the three presenters. This presentation will focus on the elements of homicide investigation and medicolegal analysis and how follow-up procedures require close communication between prosecutors, criminalists, pathologists, and other forensic specialists. The workshop learning points are supported by detailed accounts of actual murder cases.

Offender-manipulated homicide scenes pose a unique problem for the first responders and investigators because these events are equivocal death investigations and, as such, are open to interpretation. Crime scene and autopsy observations may suggest more than one meaning. The facts may be purposefully vague or misleading as in the case of the “staged crime scene” or where the death is suspicious or questionable based upon what is presented to the authorities.

Such deaths may present as homicides, suicides, accidents, or natural causes and may be altered by the offender to misdirect the investigation through staging of the scene and/or posing or mutilation of the body. They are open to interpretation pending further information of the facts, the victimology, and the circumstances of the event.

This workshop will include major case presentations of high-profile equivocal death investigations in which the presenters jointly participated and concurred in the final analysis and determination of the proper classification of death. Attendees will be taken through the entire medical and investigative process from the discovery of the body, through the autopsy and forensic evaluation of evidence, to the final disposition of the case.

**Program:**

8:30 a.m. - 10:00 a.m.  Introduction to Practical Homicide Investigation®: The Preliminary Investigation at the Scene of Equivocal Deaths — Case Histories
  
  *Vernon J. Geberth, MS*

10:00 a.m. - 10:30 a.m.  Break
#6  Practical Homicide Investigation®: Offender-Manipulated Homicide Scenes Relating to Equivocal Death and Staged Crime Scenes (continued)

Program cont.

10:30 a.m. - 12:00 p.m.  Medicolegal Evaluation of Offender-Manipulated Homicides  
   *Barbara C. Wolf, MD*

12:00 p.m. - 1:15 p.m.  Lunch

1:15 p.m. - 3:00 p.m.  Case Histories of Offender-Manipulated Homicide Scenes  
   *Vernon J. Geberth, MS; Thomas C. McAndrew, BA*

3:00 p.m. - 3:30 p.m.  Break

3:30 p.m. - 4:45 p.m.  Medicolegal Evaluation of Equivocal Deaths  
   *Vernon J. Geberth, MS; Barbara C. Wolf, MD*

4:45 p.m. - 5:00 p.m.  Discussion  
   *Vernon J. Geberth, MS; Barbara C. Wolf, MD*
Pre-Registration Required

#7  Challenges in Fire Debris Analysis

Monday, February 16  
8:30 a.m. - 5:30 p.m. 
7.0 CE Hours

Educational Objectives: After attending this presentation, attendees will better understand the interfering products that can be found in fire debris analysis and how the products make identification of ignitable liquids difficult. Additionally, attendees will become familiar with: (1) different ignitable liquid classes and their chemical characteristics; (2) the effects of the extraction techniques on the recovered ignitable liquid residues; (3) the thought processes used to identify interfering products and ignitable liquids from fire debris samples; (4) the composition of various non-traditional ignitable liquids; and, (5) why different analytical procedures are needed. After this presentation, attendees will be able to return to their forensic laboratories and handle the interpretation of the most difficult fire debris samples.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by helping attendees better understand and interpret data related to the analysis of fire debris samples, which will lead to a reduction in the number of false negative conclusions and will eliminate false positive conclusions. The direct impact of this presentation on the forensic science community will be a more accurate and reliable science being practiced in crime laboratories.

Chair: 
Eric Stauffer, MS  
Police cantonale Fribourg  
Fribourg, SWITZERLAND

Co-Chair: 
Reta Newman, BS  
Pinellas County Forensic Laboratory  
Largo, FL

Faculty: 
Douglas E. Byron, BS  
Forensic & Scientific Testing  
Lawrenceville, GA

Julia A. Dolan, MS  
Bureau of ATF  
Forensic Science Laboratory  
Ammendale, MD

Program Description: This program will present advanced concepts pertaining to fire debris analysis. The fundamental principles from which interferences occur in fire debris samples will be explained in depth and the effects of the extraction procedures to the recovery of ignitable liquid residues will be presented in great detail. Other factors influencing the preservation and recovery of ignitable liquid residues will also be explained. The key elements to the interpretation of chromatograms of extracts from fire debris samples will be introduced and the proper cognitive process explained in great depth. A discussion of non-traditional ignitable liquids will be presented, including recommendations for analysis. Finally, exercises will be performed to put into practice the theory learned throughout the day.

Program:

8:30 a.m. - 8:45 a.m.  
Introduction  
Eric Stauffer, MS

8:45 a.m. - 9:15 a.m.  
Fire Debris Samples Creation  
Eric Stauffer, MS

9:15 a.m. - 10:00 a.m.  
Traditional Petroleum-Based Ignitable Liquids  
Julia A. Dolan, MS

10:00 a.m. - 10:15 a.m.  
Break
#7 Challenges in Fire Debris Analysis (continued)

**Program cont.**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
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</table>
| 10:15 a.m. - 11:15 a.m. | Non-Traditional Ignitable Liquids  
*Douglas E. Byron, BS* |
| 11:15 a.m. - 12:30 p.m. | Fire Debris Samples Interferences  
*Eric Stauffer, MS; Julia A. Dolan, MS* |
| 12:30 p.m. - 1:45 p.m. | Lunch |
| 1:45 p.m. - 3:15 p.m. | Extraction Effects on Ignitable Liquid Residue Recovery  
*Reta Newman, BS* |
| 3:15 p.m. - 3:30 p.m. | Break |
| 3:30 p.m. - 5:30 p.m. | Methodology of Interpretation  
*Eric Stauffer, MS; Reta Newman, BS; Julia A. Dolan, MS; Douglas E. Byron, BS* |
#8  From Fire Dynamics to Legal Dynamics: Shifted Science and the Criminal Justice System’s Response

Monday, February 16 8:30 a.m. - 5:30 p.m. 6.75 CE Hours

Educational Objectives: After attending this presentation, attendees will grasp the changes that have inundated the fire investigation profession and, to a larger extent, the criminal justice system in which wrongful convictions are sadly a part of the process. Attendees will develop an appreciation of a systematic approach to the prevention of wrongful convictions, much like the National Transportation Safety Board (NTSB) focuses on the causes of train wrecks and plane crashes, not with the idea of blaming someone, but of preventing the next disaster.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by raising awareness of new science, new standards, and new methods of review on the criminal justice system’s handling of fire litigation.

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

Co-Chair:
Mark E. Goodson, PE
Denton, TX

Faculty:
Steven W. Carman, MS
Carman & Associates Fire Investigation, Inc
Grass Valley, CA

Terry-Dawn Hewitt, LLM
McKenna Hewitt
Denver, CO

James M. Doyle, LLM
Bassil, Klovee & Budreau
Boston, MA

Program Description: This presentation will explore the changes that have swept through the fire investigation profession in the last few years, both in terms of our understanding of how fires behave and how the courts have come to view fire-related expert testimony.

Program:

8:30 a.m. - 8:45 a.m.  Introduction
John J. Lentini, BA

8:45 a.m. - 10:15 a.m.  Changes in the Understanding of Fire Behavior and Accuracy of Origin Determinations
Steven W. Carman, MS

10:15 a.m. - 10:30 a.m.  Break

10:30 a.m. - 11:45 a.m.  A Perfect Storm Brewing for Fire Investigators in Court
Terry-Dawn Hewitt, LLM

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

1:15 p.m. - 2:45 p.m.  Cases Where Shifted Science as “New Evidence” Played a Role
John J. Lentini, BA

2:45 p.m. - 3:00 p.m.  Break
WORKSHOPS

ORLANDO 2015

Pre-Registration Required

#8 From Fire Dynamics to Legal Dynamics: Shifted Science and the Criminal Justice System’s Response (continued)

Program cont.

3:00 p.m. - 4:15 p.m. Sentinel Events Initiative: Methodology for Examining Wrongful Convictions and “Near Misses”
James M. Doyle, LLM

4:15 p.m. - 5:30 p.m. Texas Scientific Review Board: Exploring the Integrity of Arson Convictions
Mark E. Goodson, PE
Pre-Registration Required

#9 Forensic Anthropology and Cold Case Investigations: Breaking the Ice

Monday, February 16 8:30 a.m. - 5:30 p.m.  7.5 CE Hours

Educational Objective: The goal of this presentation is to provide training specific to long-term unsolved cases in the areas of forensic anthropology and archaeology, imaging, human identification, and geochemical profiling. This workshop is relevant for anyone in homicide investigations, forensic science, or forensic anthropology working in the United States or internationally.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing an in-depth exploration of a range of new tools and an integrated approach to investigating previously unsolved or long-term cases. The integration of scientific experts into homicide investigations provides an array of evidence and investigative leads that help increase case solvability.

Chair:
Erin H. Kimmerle, PhD
University of South Florida
Dept of Anthropology
Tampa, FL

Co-Chair:
Gregory E. Berg, PhD
JPAC-Central ID Laboratory
Joint Base Pearl Harbor-Hickam, HI

Faculty:
Jose P. Baraybar, MSc
EPAF
Jesus Maria, PERU

George D. Kamenov, PhD
University of Florida
Dept of Geological Sciences
Gainesville, FL

Liotta N. Dowdy, BS
University of South Florida
Dept of Anthropology
Tampa, FL

Darren Norris, BA
Sumter County Sheriff’s Office
Bushnell, FL

James Holmes, BA
International Homicide Investigators Association
Wisconsin Department of Justice, Division of Criminal Investigation
Madison, WI

Greg Thomas, BA
Hillsborough County Sheriff’s Office
Tampa, FL

Program Description: Homicide cases in which the victims are unknown are the hardest to solve and make up a significant portion of the unidentified persons pool in the United States. Increasingly, anthropologists are also used by law enforcement to assist at the crime scene with human identification, imaging, and media outreach. The purpose of this presentation is to provide training specific to long-term unsolved cases and is relevant for anyone in homicide, forensic science, or forensic anthropology. Experts from anthropology, geochemistry, and homicide investigations will discuss current trends for methods and case analysis in several key areas: (1) Cold Case Analysis: Opening Pandora’s Box; (2) Witness Interviews and Issues of Episodic Memory; (3) Crime Scene and Field Methods: From Excavation to Remote Sensing; (4) Forensic Anthropology Methods of Ancestry and Imaging; (5) Geochemical Methods to Track Mobility, Birth Origins, and Diet; (6) Public Outreach: Using Media as a Tool to Bring in Leads; (7) Case Management: When the Years Pass By; and, (8) Trends and Opportunities in Education and Training in Cold Cases.

Program:

8:30 a.m. - 8:50 a.m.  Introduction to Forensic Anthropology & Cold Case Investigations
Erin H. Kimmerle, PhD
Pre-Registration Required

#9 Forensic Anthropology and Cold Case Investigations: Breaking the Ice (continued)

Program cont.

8:50 a.m. - 9:35 a.m. Cold Case Analysis: Opening Pandora’s Box
James Holmes, BA

9:35 a.m. - 9:50 a.m. Break

9:50 a.m. - 10:40 a.m. Death Investigations at the Florida Industrial School for Boys
Erin H. Kimmerle, PhD; Gregory E. Berg, PhD; Greg Thomas, BA

10:40 a.m. - 12:40 p.m. Case Studies: Innovative Methods and Case Solvability
Greg Thomas, BA; Darren Norris, BA

12:40 p.m. - 1:40 p.m. Lunch

1:40 p.m. - 2:30 p.m. Field Methods: Search & Recovery
Gregory E. Berg, PhD

2:30 p.m. - 3:20 p.m. Issues in Human Identification
Jose P. Baraybar, MSc

3:20 p.m. - 3:35 p.m. Break

3:35 p.m. - 4:25 p.m. Geochemical Profiling for Mobility, Birth Origins, and Diet
George D. Kamenov, PhD; Liotta N. Dowdy, BS

4:25 p.m. - 4:45 p.m. Facial Reconstructions and Forensic Imaging
Erin H. Kimmerle, PhD

4:45 p.m. - 5:30 p.m. Forensic Interviewing and Episodic Memory
Greg Thomas, BA
WORKSHOPS

#10 NamUs: The Results of Forensic Collaboration

Monday, February 16 8:30 a.m. - 5:30 p.m. 7.25 CE Hours

Educational Objectives: After attending this presentation, attendees will: (1) learn about the history of the National Missing and Unidentified Persons System (NamUs) and the various NamUs user types, the manner in which NamUs receives and validates its case data; (2) understand how the NamUs databases interact to produce potential matches; (3) realize how case exclusions are made; and, (4) grasp the importance of the “public user” to the success of NamUs.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by increasing the attendees’ ability to enter cases into the NamUs system and participate in the investigation or tracing of missing and unidentified persons cases nationally. The skills and knowledge obtained in this presentation will assist attendees in communicating with other forensic investigators on cases of missing and unidentified persons regardless of jurisdictional boundaries.

Chair: Steven C. Clark, PhD
Big Rapids, MI

Co-Chair: Joanna L. Collins, MFS
San Antonio, TX

Faculty:
Bruce E. Anderson, PhD
Pima County OME
Forensic Science Center
Tucson, AZ

Charles M. Heurich, MFS
National Institute of Justice
Dept of Justice, OJP
Washington, DC

Ronald Brunelli
Syracuse, NY

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

Emily A. Craig, PhD
Georgetown, KY

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

John E. Filippi, DDS
Valley, NE

B.J. Spamer, MFS
NamUs/UNT Health Science Center
Fort Worth, TX

Brenda Galarza, BA
National Center for Missing and Exploited Children
Alexandria, VA

Daniel J. Warren, MS
Fort Myers, FL

Randy L. Hanzlick, MD
The Fulton County Medical Examiner’s Center
Atlanta, GA

Program Description: This presentation will educate attendees on the National Missing and Unidentified Persons System (NamUs) as an investigative tool used to identify the unidentified dead in medical examiners’ and coroners’ offices nationally.
#10 NamUs: The Results of Forensic Collaboration (continued)

**Program:**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>8:30 a.m. -</td>
<td>8:40 a.m. Introduction steven C. Clark, PhD</td>
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<tr>
<td>8:40 a.m. -</td>
<td>9:25 a.m. NamUs: An Open Source Investigative Tool Randy L. Hanzlick, MD</td>
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<td>9:25 a.m. -</td>
<td>9:50 a.m. NamUs.gov: Why the National Institute of Justice Supports NamUs Charles M. Heurich, MFS</td>
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<td>9:50 a.m. -</td>
<td>10:10 a.m. The Public Side of NamUs B.J. Spamer, MFS</td>
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<td>10:10 a.m. -</td>
<td>10:25 a.m. Break</td>
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<tr>
<td>10:25 a.m. -</td>
<td>11:00 a.m. Chronology of a Missing Person Daniel J. Warren, MS</td>
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<tr>
<td>11:00 a.m. -</td>
<td>11:35 a.m. Chronology of a Missing Child Brenda Galarza, BA</td>
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<td>11:35 a.m. -</td>
<td>12:20 p.m. Chronology of an Unidentified Person Jeffrey M. Jentzen, MD</td>
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<td>12:20 p.m. -</td>
<td>1:30 p.m. Lunch</td>
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<td>1:30 p.m. -</td>
<td>2:30 p.m. NamUs and the Forensic Odontologist John E. Filippi, DDS</td>
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<td>2:30 p.m. -</td>
<td>3:15 p.m. NamUs and the Forensic Anthropologist Emily A. Craig, PhD</td>
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<td>3:15 p.m. -</td>
<td>3:30 p.m. Break</td>
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<td>3:30 p.m. -</td>
<td>4:10 p.m. Matches and Exclusions Bruce E. Anderson, PhD</td>
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<td>4:10 p.m. -</td>
<td>4:50 p.m. Case Closed! Ronald Brunelli</td>
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<td>4:50 p.m. -</td>
<td>5:20 p.m. Raising the Next Generation of NamUs Investigators Elizabeth A. Murray, PhD</td>
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<tr>
<td>5:20 p.m. -</td>
<td>5:30 p.m. Questions</td>
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</table>

Proceeds from this workshop will benefit the Forensic Sciences Foundation, Inc.
#11 RADid: Using Radiologic Technologies to Identify Unknown Decedents

**Monday, February 16**  
1:00 p.m. - 5:00 p.m.  
3.25 CE Hours

**Educational Objectives:** After attending this presentation, attendees will understand: (1) the role of radiography and advanced Radiologic Imaging (RADid) in the process of decedent identification; (2) techniques for performing high-quality imaging and creating 3D images and strategies to be able to use these images to make successful identifications; (3) anthropologic approaches to RADid; (4) the need for interdisciplinary collaboration; and, (5) the evolving nature of the evidence basis and standards for RADid.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by enhancing the ability of practitioners to perform RADid, solidifying awareness of the scientific underpinnings of the methodology, and fostering the interdisciplinary collaboration necessary to ensure the most appropriate methods are considered in any given case. The overall goal is to increase the use of these valuable techniques and, in so doing, increase the number of identifications that are successfully made in the medicolegal death-investigative community.

**Chair:**  
Gary M. Hatch, MD  
University of New Mexico  
Rad-Path Ctr for Forensic Imaging  
Albuquerque, NM

**Co-Chair:**  
Sharon M. Derrick, PhD  
Harris County Institute of Forensic Science  
Houston, TX

**Faculty:**

**Sam W. Andrews, MD**  
Office of Medical Investigator  
Albuquerque, NM

**Chandra Gerrard, BS**  
Office of the Medical Investigator  
Rad-Path Ctr for Forensic Imaging  
Albuquerque, NM

**Jamie Elifritz, MD**  
University of New Mexico  
Diagnostic Radiology  
Albuquerque, NM

**Kurt B. Nolte, MD**  
Rad-Path Ctr for Forensic Imaging  
Office of Medical Investigator  
University of NM  
Albuquerque, NM

**Patricia M. Flach, MD**  
Zurich, SWITZERLAND

**Program Description:** This presentation will provide a detailed overview of the process of using radiologic technologies for decedent identification, including historical and background information, demonstration of the various methodologies, and illustration via numerous case examples.

**Program:**

1:00 p.m. - 1:20 p.m.  
Introduction  
*Sam W. Andrews, MD*

1:20 p.m. - 1:50 p.m.  
3D Rendering  
*Jamie Elifritz, MD*

1:50 p.m. - 2:20 p.m.  
Technique Considerations  
*Chandra Gerrard, BS*
#11  RADid: Using Radiologic Technologies to Identify Unknown Decedents (continued)

Program cont.

2:20 p.m. - 2:50 p.m.  Advanced Imaging and Dental Identification in the Swiss Virtopsy Project  
*Patricia M. Flach, MD*

2:50 p.m. - 3:20 p.m.  Break

3:20 p.m. - 4:05 p.m.  Anthropologic Approaches  
*Sharon M. Derrick, PhD*

4:05 p.m. - 4:50 p.m.  Lines of Evidence and Case Examples  
*Gary M. Hatch, MD*

4:50 p.m. - 5:00 p.m.  Conclusion  
*Kurt B. Nolte, MD*
#12  Implementing and Evaluating 3D Technology in a 2D World

Monday, February 16  1:00 p.m. - 5:00 p.m.  3.5 CE Hours

Educational Objective: After attending this presentation, attendees will have an understanding of the principles behind each of the technologies presented and the strengths and weaknesses that have been observed. The theory of use, method development, maintenance, and applications within the field of firearms/toolmarks will be discussed. The presentation will focus on the studies that have been conducted, evaluation of the data generated, and the potential impact these technologies will have in the discipline of firearms and toolmarks.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by expanding the knowledge-base regarding the use of newer technologies in the forensic firearms/toolmarks setting.

Chair:  
Heather J. Seubert, MS  
FBI Laboratory  
Firearms/Toolmarks Unit  
Quantico, VA

Co-Chair:  
Paula H. Wulf, JD  
Alexandria, VA

Faculty:  
Deion P. Christophe, MS  
Edmond, OK

Erich D. Smith, MS  
Quantico, VA

Derrick McClarin, MSFS  
Sterrett, AL

Jennifer L. Stephenson, MSFS  
Federal Bureau of Investigation  
Quantico, VA

Program Description: This presentation will present the evaluation/validation work that has been conducted on the Sensofar® Instrument, TopMatch-GSTM 3D Imaging and Analysis System, and the Alicona® Infinite Focus® microscope. As a result of these validation experiences, an overview of the necessary validation processes that a laboratory should consider when planning to incorporate new technologies in today’s forensic laboratories will be provided as well as how to set up a training program for personnel conducting analyses with these systems. An introduction on how to report the results generated from these methodologies will be presented as well as how to approach court challenges and effectively articulate these technologies and interpretation of results in a court of law.

Program:

1:00 p.m. -  1:15 p.m.  Introduction and Overview  
Heather J. Seubert, MS

1:15 p.m. -  2:00 p.m.  Confocal Microscopy  
Deion P. Christophe, MS; Derrick McClarin, MSFS

2:00 p.m. -  2:45 p.m.  TopMatch-GSTM 3D Imaging and Analysis  
Erich D. Smith, MS; Jennifer L. Stephenson, MSFS

2:45 p.m. -  3:00 p.m.  Break

3:00 p.m. -  3:30 p.m.  Alicona® Infinite Focus® Microscope  
Erich D. Smith, MS; Jennifer L. Stephenson, MSFS
#12 Implementing and Evaluating 3D Technology in a 2D World (continued)

Program cont.

3:30 p.m. - 4:00 p.m. Validation, Training, and Potential Internal Challenges With Traditional Examinations and Review of Old Cases
Erich D. Smith, MS

4:00 p.m. - 4:45 p.m. Legal Challenges for New Technologies
Paula H. Wilff, JD

4:45 p.m. - 5:00 p.m. Discussion
#13  The Examination of Skillfully Simulated Signatures

**Monday, February 16**  
1:00 p.m. - 5:00 p.m.  
3.75 CE Hours

**Educational Objectives:** After attending this presentation, attendees will be able to examine and give opinions on signatures that may be genuine or the product of skillful simulations. Attendees will learn the requirements for a skillful simulator and the characteristics they should look for in the examination of a signature that may have been skillfully simulated.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by making attendees more aware of the features that may be present in a skillful simulation and, therefore, increasing the examiner’s reliability and accuracy in determining the authenticity of signatures.

**Chair:**  
F.L. Jim Lee, Jr., MS  
Eden, UT

**Co-Chair:**  
Kevin P. Kulbacki, MSFS  
Osborn & Son  
Middlesex, NJ

**Faculty:**  
Brenda N. Lanners, BS  
San Diego County Sheriff’s Regional Crime Lab  
San Diego, CA

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

**Pre-Registration Required**

**Program Description:** After attending this presentation, attendees will understand the requirements of a skillful simulator. Attendees will examine and work on signature problems in which the questioned signatures are genuine or skillfully simulated.

**Program:**

1:00 p.m. - 1:30 p.m.  
Introduction: Genuine and Skillfully Simulated Signatures  
*Linton Mohammed, PhD; Peter V. Tytell, BA; Brenda N. Lanners, BS*

1:30 p.m. - 2:30 p.m.  
Hands-On Signature Examinations I — Attendees Work on Signature Problems  
*Linton Mohammed, PhD; Peter V. Tytell, BA; Brenda N. Lanners, BS*

2:30 p.m. - 2:45 p.m.  
Break

2:45 p.m. - 3:45 p.m.  
Hands-On Signature Examinations II — Attendees Work on Signature Problems  
*Linton Mohammed, PhD; Peter V. Tytell, BA; Brenda N. Lanners, BS*

3:45 p.m. - 4:45 p.m.  
Discussions of Answers to the Problems-Indicators of Skillful Simulations  
*Linton Mohammed, PhD; Peter V. Tytell, BA; Brenda N. Lanners, BS*

4:45 p.m. - 5:00 p.m.  
General Discussion
#14 On the Leading Edge of Forensic Science

Monday, February 16 1:00 p.m. - 5:30 p.m. 3.75 CE Hours

Educational Objective: The goal of this presentation is to describe how new developments might impact forensic scientists in their work. Practical examples will be presented.

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

Co-Chair:
Howard A. Harris, PhD, JD
University of New Haven
Forensic Science Program
West Haven, CT

Faculty:
Jurrien Bijhold, PhD
NFI
Den Haag, NETHERLANDS

Ronald Prins, MS
Fox IT
Delft, NETHERLANDS

Gerda Edelman
Netherlands Forensic Institute
Den Haag, NETHERLANDS

Richard Vorder Bruegge, PhD
FBI
Quantico, VA

Program Description: A wide variety of developments that will soon impact forensic science have been identified within the Think Tank Committee of the Forensic Sciences Foundation. These range from developments in facial comparison systems, labs on a chip, cloud forensics, drone forensics, cybercrime (including hacking medical devices such as insulin pumps), bitcoins, and augmented reality to 3D printing and even printing DNA for storage of information or making a clone of Van Gogh’s ear based on DNA.

Program:

1:00 p.m. - 1:15 p.m. Opening
Zeno J. Geradts, PhD; Howard A. Harris, PhD, JD

1:15 p.m. - 1:45 p.m. New Developments by the FSF Think Tank Committee, Big Data, 3D Printing, Programmable Matter, Wearable Sensors, Storing Data in DNA, and Lab on a Chip
Zeno J. Geradts, PhD

1:45 p.m. - 2:30 p.m. Facial Comparison
Richard Vorder Bruegge, PhD

2:30 p.m. - 3:15 p.m. Drone Forensics and Cybercrime Investigation
Ronald Prins, MS

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

3:45 p.m. - 4:30 p.m. Visualizing the Invisible: Hyperspectral Imaging at the Crime Scene
Gerda Edelman
#14 On the Leading Edge of Forensic Science (continued)

Program cont.

4:30 p.m. - 5:15 p.m. Virtual Reality and Augmented Reality at the Crime Scene: Hype or an Emerging Useful Technology?  
Jurrien Bijhold, PhD

5:15 p.m. - 5:30 p.m. Discussion and Closing
Pre-Registration Required

#15 Clinical Toxicology of the Poisoned Patient

Tuesday, February 17 8:30 a.m. - 12:00 p.m. 3.0 CE Hours

Educational Objectives: After attending this presentation, attendees will be able to describe the process used to evaluate, triage, and treat patients in the emergency room. They will be able to identify situations where consultation with a clinical or medical toxicologist can benefit an investigation, and find new resources available through medical toxicology professional organizations to support their investigations.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by creating better understanding between forensic science professionals and their counterparts who treat living patients prior to their deaths.

Chair: Robert A. Middleberg, PhD
NMS Labs
Willow Grove, PA

Co-Chair: Barry K. Logan, PhD
NMS Labs/CFSRE
Willow Grove, PA

Faculty:
Jeffrey Brent, MD, PhD
University of Colorado School of Medicine
Denver, CO

Paul M. Wax, MD
University of Texas Southwestern
Dallas, TX

Jay L. Schauben, PharmD
University of Florida Health Science Center
Department of Emergency Medicine
Jacksonville, FL

Program Description: The goal of this presentation is to identify the similarities and differences between medical toxicology and forensic toxicology and how the two fields can work together and with other forensic professionals, including death investigators and pathologists, to improve the quality of investigative information available to help direct laboratory testing and certify cause and manner of death. The presentation will present the approaches taken by clinicians in diagnosing, treating, and managing the poisoned patient, starting from calls to poison control centers through assessment and treatment, and end-of-life patient support.

Attendees will learn how patient history and treatment information from poison control centers can be used to identify patients in need of emergent care and how such data can direct clinicians in their practice. The role of medical toxicologists in the forensic setting will also be reviewed to demonstrate both the uniqueness of the role such individuals can play as well as areas of overlap with forensic toxicologists. This will include their involvement in medicolegal consulting and areas where their expertise is complementary to that of the forensic specialist. The presentation will conclude with descriptions of the synergies between the two fields and how lessons learned can be used to enhance future forensic investigations involving poisonings. Pathologists, investigators, and toxicologists should leave this session with a better understanding of the value of the diagnostic, management, and treatment process in interpreting postmortem findings.

Program:

8:30 a.m. - 8:45 a.m. Introduction & Welcome
Barry K. Logan, PhD; Robert A. Middleberg, PhD

8:45 a.m. - 9:30 a.m. Clinical Approach to the Poisoned Patient
Paul Wax, MD
## Program cont.

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker/Details</th>
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<tbody>
<tr>
<td>9:30 a.m.</td>
<td>Poison Control Centers — Data and Decision Points</td>
<td>Jay L. Schauben, MD</td>
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<tr>
<td>10:15 a.m.</td>
<td>Break</td>
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<tr>
<td>10:30 a.m.</td>
<td>Role of Medical Toxicologist in Forensic Issues</td>
<td>Jeffrey Brent, MD, PhD</td>
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<tr>
<td>11:15 a.m.</td>
<td>Synergies Between Medical and Forensic Toxicology</td>
<td>Robert A. Middleberg, PhD</td>
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</table>

*Supported by: NMS Labs*
#16 Your Attention, Please! — A Public Speaking Skills Workshop

Tuesday, February 17 8:30 a.m. - 1:00 p.m. 4.0 CE Hours

Educational Objectives: The goal of this presentation is to present an oral communications-skills workshop for forensic science students and professionals that will: (1) present more than 55 oral communications learning tools that attendees will be able to implement immediately; (2) facilitate thought and ideas for an effective, entertaining, and strategically planned oral presentation; and, (3) demonstrate how to be customer-focused on your audience.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by educating attendees to the fact that just being an expert in your field does not provide you with the additional skills necessary to present material in an effective manner. Strong and clear oral communication is paramount in the forensic sciences field to present legal and scientific information in a manner that can be heard, understood, and remembered by listeners. This presentation provides attendees with more than 55 learning points that can immediately be implemented to make a difference in how information is presented in the classroom, courtroom, or working environment.

Chair: Frank Horvath, PhD
National Academy for Credibility Assessment
Fort Jackson, SC

Co-Chair: Laura R. Ellsworth, MFS
Bowie, MD

Faculty:
Thomas P. Mauriello, MFS
Laurel, MD

Lynne M. Yates, BA
Silver Spring, MD

Program Description: Aristotle once said, “It is not enough to know what to say — one must know how to say it.” This presentation focuses on “how to say it” with emphasis on your message being heard, understood, and remembered. It is an oral communications-training workshop for anyone needing to develop or fine-tune their skills. The presentation modules include oral presentation preparation and development, effective delivery techniques, how to read your audience, proper use of visual aids, use of nonverbal communication, and eliminating stage fright.

Program:

8:30 a.m. - 10:00 a.m. Introduction; Objectives; Communications Model; Preparation and Development
Thomas P. Mauriello, MFS; Lynn M. Yates, BA

10:00 a.m. - 10:15 a.m. Break

10:15 a.m. - 11:45 a.m. Use of Mindmapping; the Audience; Delivery Techniques
Thomas P. Mauriello, MFS; Lynn M. Yates, BA

11:45 a.m. - 12:00 p.m. Break

12:00 p.m. - 1:00 p.m. Use of Non-Verbals; Visual Aids; Summary
Thomas P. Mauriello, MFS; Lynn M. Yates, BA
#17 Quality Assurance in Human Identification

**Educational Objectives:** After attending this presentation, attendees will be able to understand the basic quality assurance principles and measures applicable to human identification. Attendees will learn the unique challenges faced by professionals involved in human identification when striving to have their facilities, procedures, and casework meet the standards demanded by the criminal justice and medicolegal systems. Attendees should be able to utilize the material presented to formulate a quality assurance program for their organizations.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by demonstrating how quality assurance in forensic laboratories and forensic programs has led to objective and measurable standards of performance that ultimately strengthen and elevate the forensic profession as a whole.

**Program Description:** This presentation introduces the forensic professionals involved in human identification to basic quality assurance principles and measures. Attendees will be able to utilize these principles and measures to establish a quality assurance program for human identification within their organizations. Implementation of these quality assurance principles and measures can ultimately result in professional accreditation for their human identification programs. While the presentation focuses on the human identification laboratory, sole practitioners of human identification may find portions of the presentation useful to their own operations.

**Program:**

<table>
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<tr>
<th>Time</th>
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<tr>
<td>8:30 a.m.</td>
<td>Introductory Remarks</td>
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<td><em>Vincent J. Sava, MA; Thomas D. Holland, PhD</em></td>
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<td>8:40 a.m.</td>
<td>Overviews</td>
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<td><em>Vincent J. Sava, MA</em></td>
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<td>9:10 a.m.</td>
<td>Personnel</td>
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<td><em>John E. Byrd, PhD</em></td>
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<td>9:55 a.m.</td>
<td>Break</td>
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<td>10:10 a.m.</td>
<td>Infrastructure &amp; Support</td>
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<td><em>Vincent J. Sava, MA</em></td>
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#17  Quality Assurance in Human Identification (continued)

Pre-Registration Required

Program cont.

11:30 a.m. - 12:00 p.m.  Gathering & Interpreting Evidence  
Vincent J. Sava, MA

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

1:00 p.m. - 1:30 p.m.  Ethics  
Bradford Byrnes, LLM

1:30 p.m. - 2:00 p.m.  Research & Development  
John E. Byrd, PhD

2:00 p.m. - 2:30 p.m.  Monitoring & Corrective Action  
Vincent J. Sava, MA

2:30 p.m. - 3:15 p.m.  Document & Records Control — Information Release  
Stephanie R. Ah Sam, MS

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

3:30 p.m. - 4:00 p.m.  Uncertainty of Measurement  
John E. Byrd, PhD

4:00 p.m. - 4:30 p.m.  Validation of Technical Procedures  
John E. Byrd, PhD

4:30 p.m. - 5:00 p.m.  Accreditation  
Vincent J. Sava, MA
#18  Sadism:  Distinguishing Between Criminal Behavior and Offender Analysis

Tuesday, February 17  8:30 a.m. - 5:00 p.m.  6.5 CE Hours

Educational Objective:  After attending this presentation, attendees will have a conceptual and applied understanding of the complexities of sadism (sexual and nonsexual). The framework presented will begin by introducing participants to the history of sadism and reviewing its development as a psychological construct before employing a crime assessment model that utilizes the crime continuum to explicate behavior, not the psychological paradigm currently in use.

Impact on the Forensic Science Community:  This presentation will impact the forensic science community by clarifying the complexities of sadism to facilitate understanding. The attendees will learn the profound impact that sadism has in our daily forensic work in the disciplines of psychology, psychiatry, criminalistics, law, or criminal investigations, as well as in a myriad of hidden inferences in other related disciplines.

Program:

8:30 a.m. - 8:45 a.m.  Introduction  
_Amanda L. Farrell, PhD_

8:45 a.m. - 10:00 a.m.  The Variant Way of Sadism in Forensic Psychiatry  
_Klaus C. Neudecker, MD_

10:00 a.m. - 10:15 a.m.  Break  

10:15 a.m. - 11:30 a.m.  Understanding Sadism and the Three Ds From the Crime Assessment Perspective  
_Richard D. Walter, MA_
Pre-Registration Required

#18  Sadism:  Distinguishing Between Criminal Behavior and Offender Analysis (continued)

Program cont.

11:30 a.m. - 12:00 p.m.  Morning Wrap-Up and Q&A Session  
Lurena A. Huffman, BS

12:00 p.m. - 1:15 p.m.  Lunch

1:15 p.m. - 2:30 p.m.  Sexual Sadism:  Crime Behavior and Case Application  
Richard D. Walter, MA; Patrick Zirpoli

2:30 p.m. - 3:30 p.m.  Non-Sexual Sadism:  Crime Behavior and Case Application  
Richard D. Walter, MA; Patrick Zirpoli

3:30 p.m. - 3:45 p.m.  Break

3:45 p.m. - 4:30 p.m.  Reconciling and Clarifying the Distinctions Between Clinical and Criminological Understandings of Sadism:  Wrap-Up and Review  
Klaus C. Neudecker, MD; Richard D. Walter, MA; Patrick Zirpoli

4:30 p.m. - 5:00 p.m.  Discussion and Q&A  
Lurena A. Huffman, BS; Amanda L. Farrell, PhD
#19  Automating Image Production for Forensic Document Examiners

Tuesday, February 17  
8:30 a.m. - 5:00 p.m.  
6.5 CE Hours

**Educational Objectives:** After attending this presentation, attendees will be able to automate simple tasks and will know how to combine these simple tasks into complex actions. As an example, attendees will have the ability to take physical evidence consisting of 20 request writing samples on separate forms and create a complete chart of all 20 signatures in approximately five minutes, remove colored backgrounds at the click of a button, or batch-process large quantities of images with a simple drag-and-drop action. The main focus of this presentation will be to demonstrate how the automation of common tasks associated with the production of writing comparison charts, image enhancement, and document-examination demonstrative aids can save time. This is accomplished primarily through the use of Adobe® Photoshop® features, actions, and droplets.

**Impact on the Forensic Science Community:** This presentation will impact the forensic society community by explaining that with the increasing documentation requirements for laboratory accreditation, court testimony, and the increasing complexity of cases, the time required for completion of many forensic document examination cases has increased significantly. To help alleviate the additional time requirements, this workshop will include various tips and tricks in Adobe® Photoshop®, Adobe® Acrobat®, and Adobe® Bridge® to reduce the amount of time the examiner spends preparing and organizing documentary evidence prior to the actual examination.

**Chair:**  
Kevin P. Kulbacki, MSFS  
Osborn & Son  
Middlesex, NJ

**Co-Chair:**  
F.L. Jim Lee, Jr., MS  
Eden, UT

**Faculty:**  
Mark Goff, BA  
MSP Lansing Laboratory  
Lansing, MI

Todd W. Welch, BA  
MSP Bridgeport Laboratory  
Bridgeport, MI

**Program Description:** This presentation will feature techniques to speed up the production of documentary evidence image production.

**Program:**

8:30 a.m. - 10:00 a.m.  
Making the Most of Hardware and Software  
*Mark Goff, BA; Todd W. Welch, BA*

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

10:30 a.m. - 12:00 p.m.  
Image Naming, Organizing, and Searching  
*Mark Goff, BA; Todd W. Welch, BA*

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

1:00 p.m. - 3:00 p.m.  
Creating Actions  
*Mark Goff, BA; Todd W. Welch, BA*

3:00 p.m. - 3:30 p.m.  
Break

3:30 p.m. - 5:00 p.m.  
Batch Processing  
*Mark Goff, BA; Todd W. Welch, BA*
**Pre-Registration Required**

#20  Cognitive Bias Issues in the Forensic Analysis of Pattern and Impression Evidence and in Medicolegal Evaluations

Tuesday, February 17  
8:30 a.m. - 5:00 p.m.  
7.0 CE Hours

**Educational Objectives:** After attending this presentation, the attendees will be acquainted with the different types of bias that can influence the outcome of forensic investigations. Attendees will learn about classic psychological research studies and real-life case histories demonstrating the effects of bias upon interpretations of pattern and impression evidence and upon medicolegal evaluations and assessments, especially in Shaken Baby Syndrome/Abusive Head Trauma (SBS/AHT) cases. Attendees will also discover how bias can improperly sway the perceptual and cognitive judgments of forensic examiners and produce faulty conclusions, even in the absence of malicious intent.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by clearly demonstrating how various types of bias can adversely impact evaluations of evidence and decision-making in all forensic disciplines. Understanding the sources of bias and learning how to limit or minimize their influence is essential for improving the reliability and accuracy of decisions made by forensic experts and avoiding miscarriages of criminal and civil justice. All forensic scientists and laboratory directors must be keenly aware of the potential for bias and the types of internal procedures and protocols that can and should be implemented to minimize the impact of bias in forensic investigations and casework.

**Chair:**  
Andrew Sulner, MSFS, JD  
Forensic Document Examinations, LLC  
New York, NY

**Co-Chair:**  
Barry C. Scheck, JD  
The Innocence Project  
New York, NY

**Faculty:**

**Keith A. Findley, JD**  
University of Wisconsin Law School  
Madison, WI

**Saul Kassin, PhD**  
John Jay College of Criminal Justice  
New York, NY

**Glenn M. Langenburg, PhD**  
Saint Paul, MN

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

**Daniel C. Murrie, PhD**  
Charlottesville, VA

**Michael Risinger, JD**  
One Newark Center  
Newark, NJ

**Lucy B. Rorke-Adams, MD**  
The Children’s Hospital of Philadelphia  
Department of Pathology  
Philadelphia, PA

**Donald E. Shelton, JD, PhD**  
Saline, MI

**Dan S. Simon, LLB, MBA, SJD**  
University of Southern California  
Gould School of Law  
Department of Psychology  
Los Angeles, CA

**Deborah Tuerkheimer, JD**  
Northwestern University School of Law  
Chicago, IL

**William C. Thompson, PhD, JD**  
University of California  
Dept of Criminology  
Law & Society  
Irvine, CA
Pre-Registration Required

#20  Cognitive Bias Issues in the Forensic Analysis of Pattern and Impression Evidence and in Medicolegal Evaluations (continued)

Program Description: A multidisciplinary faculty of distinguished psychologists, lawyers, forensic scientists, and others will provide attendees with a clear picture and concrete examples of how and why bias affects the outcome of forensic investigations. Attendees will learn about the various experimental research studies that reveal the susceptibility of investigations to the prospect of psychological error due to cognitive and motivational factors, thereby increasing the risk of miscarriages of criminal and civil justice. Attendees will learn about practices that should be avoided and followed in order to minimize potential biasing influences. Examples from actual forensic casework in both criminal and civil cases will be used to illustrate the impact of bias on the outcome of forensic examinations and the manner in which such opinions are reported or expressed in court. Attendees will also learn about how proffered expert opinion evidence tainted by bias can be challenged or impeached at trial and how trial judges may rule on the admissibility of such evidence in the face of challenges predicated on examiner (cognitive) bias.

Program:

8:30 a.m. - 8:35 a.m. Introductory Remarks by AAFS President Daniel A. Martell, PhD
Daniel A. Martell, PhD

8:35 a.m. - 9:05 a.m. Bias Control: The National Commission on Forensic Science, The National Institute of Standards and Technology (NIST) and the Draft Guidance on Cognitive Bias Effects From the Forensic Science Regulator for England and Wales
Michael Risinger, JD

9:05 a.m. - 9:40 a.m. Bias Effects in Forensic Handwriting Investigations and Expert Testimony: An Insider’s View
Andrew Sulner, MSFS, JD

9:40 a.m. - 10:15 a.m. Bias in Forensic Science Evidence: A Judicial Perspective
Donald E. Shelton, JD, PhD

10:15 a.m. - 10:30 a.m. Break

10:30 a.m. - 11:15 a.m. Cognitive and Motivational Causes of Investigative Error
Dan S. Simon, LLB, MBA, SJD

11:15 a.m. - 12:00 p.m. The Forensic Confirmation Bias: Problems in Human Nature and Solutions
Saul Kassin, PhD

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

1:00 p.m. - 1:30 p.m. Recent Research Addressing Cognitive Bias in Forensic Evaluations and Psychological Assessments
Daniel C. Murrie, PhD

1:30 p.m. - 2:00 p.m. Bias Effects in Forensic Science: A Perspective From a Caseworking Forensic Scientist Who Uses Sequential Unmasking Techniques
Glenn M. Langenburg, PhD
#20  Cognitive Bias Issues in the Forensic Analysis of Pattern and Impression Evidence and in Medicolegal Evaluations (continued)

Program cont.

2:00 p.m.  -  2:45 p.m.  Contextual Bias and Domain-Relevance: Lessons From Weapons of Mass Destruction (WMD) Forensics
William C. Thompson, PhD, JD

2:45 p.m.  -  3:00 p.m.  Break

3:00 p.m.  -  3:30 p.m.  Cognitive Bias Issues in Evaluating Shaken Baby Syndrome/Abusive Head Trauma (SBS/AHT)
Deborah Tuerkneimer, JD

3:30 p.m.  -  4:00 p.m.  The Bias of the Gold Standard
Lucy B. Rorke-Adams, MD

4:00 p.m.  -  4:30 p.m.  A Critical Look at Cognitive Bias Issues in Expert Testimony About Non-Accidental Head Injury
Keith A. Findley, JD

4:30 p.m.  -  5:00 p.m.  Cognitive Bias Issues in Shaken Baby Syndrome/Abusive Head Trauma (SBS/AHT) Cases: A Litigation Perspective
Barry C. Scheck, JD
Pre-Registration Required

#21  Death in a Bathtub: The Trial of Drew Peterson

Tuesday, February 17 8:30 a.m. - 5:00 p.m. 6.0 CE Hours

Educational Objectives: After attending this presentation, attendees will understand the courtroom procedures for admission of evidence and expert witness testimony. In addition, attendees will learn the factors involved in injury identification and analysis with an emphasis on the investigation of drowning.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by presenting the multidisciplinary reconstruction of one of the most riveting cases in recent American trial history. This presentation will detail the factors and evidence that influenced the decision-making process and will assist future prosecutors, judges, and death investigators in courtroom procedures.

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

Co-Chair: Jeffrey M. Jentzen, MD
University of Michigan
Ann Arbor, MI

Faculty:

James Glasgow, JD
Will County States Attorney’s Office
Joliet, IL

Andrea Zaferes, BA
Shokan, NY

Program Description: This presentation brings together many of the experts as well as the prosecutor involved in the 2012 trial of Drew Peterson. The trial was truly unique in the scope of the evidence, precedent-setting legislation, and the personalities involved. This presentation will discuss the investigative, pathological, and criminalistic evidence as well as legal strategies used in one of the most exciting trials in recent history.

Program:

8:30 a.m. - 9:15 a.m. Initial Case Investigation
Mary E.S. Case, MD; Jeffrey M. Jentzen, MD

9:15 a.m. - 10:00 a.m. Initial Pathology Findings
Mary E.S. Case, MD; Jeffrey M. Jentzen, MD

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

10:30 a.m. - 11:15 a.m. Prosecution Strategy
James Glasgow, JD

11:15 a.m. - 12:00 p.m. Prosecution Expert
Mary E.S. Case, MD

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

1:30 p.m. - 2:15 p.m. Drowning Expert
Andrea Zaferes, BA

2:15 p.m. - 3:00 p.m. Defense Medical Expert
Jeffrey M. Jentzen, MD
**#21 Death in a Bathtub: The Trial of Drew Peterson (continued)**

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<tr>
<td>3:00 p.m. - 3:30 p.m.</td>
<td>Break</td>
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<tr>
<td>3:30 p.m. - 4:15 p.m.</td>
<td>Closing Arguments</td>
<td>James Glasgow, JD; Jeffrey M. Jentzen, MD</td>
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<tr>
<td>4:15 p.m. - 5:00 p.m.</td>
<td>Audience “Jury” Questions and Answers</td>
<td>Mary E.S. Case, MD; James Glasgow, JD; Jeffrey M. Jentzen, MD; Andrea Zaferes, BA</td>
</tr>
</tbody>
</table>
#22 Looking Toward a Greater Awareness of Youth Street Gangs

Tuesday, February 17 8:30 a.m. - 5:30 p.m. 7.25 CE Hours

Educational Objectives: After attending this presentation, attendees will be able to: (1) explain the organization and historical evolution of youth street gangs (examining African American, Latino, Asian, and Caucasian youth street gang activities from the crimes they commit to their tattoos, graffiti, and hand signs); (2) distinguish the behavioral differences and similarities between gangs (evaluating why one decides to join a gang and the motivational factors that play a role in gang membership); (3) compare and contrast activities of various gangs; and, (4) explore the issue of female gang members and sexual assault.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by increasing understanding of the crimes and circumstances that involve youth street gangs.

Chair: Cliff Akiyama, MPH, MA
Akiyama and Associates, LLC
Philadelphia, PA

Co-Chair: Janet B. Duval, MSN
Greensburg, IN

Program Description: This presentation will focus on the history and growth of youth street gangs in the United States with particular emphasis on gang behavior and psychology, identification, and criminal activity. Participants will learn about the motivation and other environmental/community factors that drive youths to join gangs.

Program:

8:30 a.m. - 8:35 a.m. Welcome 
Cliff Akiyama, MPH, MA

8:35 a.m. - 9:45 a.m. Introduction to Youth Street Gangs: Definition of a Youth Gang, Gang Typologies, Gang Structure, and Gang Motivation
Cliff Akiyama, MPH, MA; Janet B. Duval, MSN

9:45 a.m. - 10:45 a.m. African American Gangs
Cliff Akiyama, MPH, MA

10:45 a.m. - 11:00 a.m. Break

11:00 a.m. - 12:00 p.m. Latino Gangs
Cliff Akiyama, MPH, MA

12:00 p.m. - 1:15 p.m. Lunch

1:15 p.m. - 2:15 p.m. Asian Gangs
Cliff Akiyama, MPH, MA

2:15 p.m. - 2:45 p.m. Female Gangs and Sexual Violence
Cliff Akiyama, MPH, MA; Janet B. Duval, MSN

2:45 p.m. - 3:45 p.m. Skinhead Gangs and Hate Groups
Cliff Akiyama, MPH, MA
#22  Looking Toward a Greater Awareness of Youth Street Gangs (continued)

Pre-Registration Required

Program cont.

3:45 p.m. - 4:00 p.m.  Break

4:00 p.m. - 4:30 p.m.  Gang Enhancement Laws and Civil Injunctions  
                       Cliff Akiyama, MPH, MA

4:30 p.m. - 5:00 p.m.  Gang Intervention and Prevention (Risk and Protective Factors)  
                       Cliff Akiyama, MPH, MA

5:00 p.m. - 5:30 p.m.  Questions and Answers  
                       Cliff Akiyama, MPH, MA; Janet B. Duval, MSN
Pre-Registration Required

#23 Hands-On Evaluation of the Thanatomicrobiome and Epinecrotic Communities

Tuesday, February 17 9:00 a.m. - 5:00 p.m. 6.0 CE Hours

Educational Objectives: After attending this presentation, attendees will be able to: (1) describe the process by which crime scene investigators approach human remains for the collection of microbial and entomological evidence; (2) collect genomic DNA evidence from human cadaver-associated soil using readily available DNA extraction kits to isolate and assess the quality of genomic DNA to be used in downstream molecular applications; (3) describe and critically evaluate the benefits and challenges of the thanatomicrobiome and epinecrotic communities for use in forensic research and potential use during investigations for estimating the Postmortem Interval (PMI); (4) discuss the bioinformatics of specific sequencing platforms and the use of multivariate statistical procedures and modeling that are increasingly being used in metagenomic analyses or postmortem microbial communities; and, (5) understand and appreciate the benefits of outdoor decomposition facilities for more realistic studies of postmortem microbial communities.

Additionally, attendees will participate in a hands-on experience learning techniques to extract DNA from: (1) cadaver-soil samples; (2) eggs, larvae, pupae, and adult insects; and, (3) cadaver postmortem microbial communities.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing an introduction to the principles behind the potential use of postmortem microbial communities in death scene investigations and the methods to use in extracting microbial DNA from a variety of sources. Emphasis will be placed on introducing new forensic scientists to practical aspects of DNA extraction techniques and the use of thanatomicrobiome and epinecrotic communities in the estimation of the PMI.

Chair: Gulnaz T. Javan, PhD
Alabama State University
Forensic Science Program
Montgomery, AL

Co-Chair: M. Eric Benbow, PhD
Michigan State University
Departments of Entomology & Medical Specialties
East Lansing, MI

Faculty:
Ismail Can
Montgomery, AL

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

Sheree J. Finley, MS
Alabama State University
Montgomery, AL

Daniel J. Wescott, PhD
Texas State University
Dept of Anthropology
San Marcos, TX

Jennifer L. Pechal, PhD
Michigan State University
East Lansing, MI

Program Description: Accurate estimation of Postmortem Interval (PMI) is a major challenge for forensic examiners. Advances in DNA sequencing technology have created new possibilities and approaches to PMI estimation. Use of these techniques has generated new areas of research for scientists. This presentation is intended to provide attendees with an introduction to this emerging approach to PMI estimation.

Program:

9:00 a.m. - 9:10 a.m. Welcoming Remarks
Gulnaz T. Javan, PhD
**WORKSHOPS**

**O RLANDO 2015**

*Pre-Registration Required*

#23  **Hands-On Evaluation of the Thanatombiome and Epinecrotic Communities (continued)**

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**Program cont.**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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</table>
| 9:10 a.m. - 9:25 a.m. | Significance of Thanatombiome for Forensic Scientists  
  *Gulnaz T. Javan, PhD* |
| 9:25 a.m. - 9:45 a.m. | Crime Scene Uses of Thanatombiome and the Epinecrotic Communities  
  *Sharon L. Plotkin, MS* |
| 9:45 a.m. - 10:05 a.m. | Demonstration of Extraction Method for Genomic DNA From Cadaver Soil-Samples:  
  A Hands-On Approach  
  *Sheree J. Finley, MS* |
| 10:05 a.m. - 10:25 a.m. | The Importance of Thanatombiome and Epinecrotic Communities for  
  Forensic Entomology  
  *M. Eric Benbow, PhD* |
| 10:25 a.m. - 10:40 a.m. | Break |
| 10:40 a.m. - 11:00 a.m. | Using Human Decomposition Facilities to Study Thanatombiome and Epinecrotic Communities:  
  Forensic Anthropology Center at Texas State  
  *Daniel J. Wescott, PhD* |
| 11:00 a.m. - 11:30 a.m. | Overview of DNA Extraction, PCR (Polymerase Chain Reaction), and NGS (Next Generation Sequencing)  
  *Gulnaz T. Javan, PhD; Ismail Can* |
| 11:30 a.m. - 12:00 p.m. | Bioinformatic Data Analysis and Multivariate Statistical Interpretation  
  *Jennifer L. Pechal, PhD; M. Eric Benbow, PhD* |
| 12:00 p.m. - 1:30 p.m. | Lunch |
| 1:30 p.m. - 2:30 p.m. | DNA Extraction From Cadaver Soil Samples (Hands-On)  
  *Gulnaz T. Javan, PhD; Sheree J. Finley, MS; Ismail Can; Jennifer L. Pechal, PhD* |
| 2:30 p.m. - 3:30 p.m. | DNA Extraction From Eggs, Larvae, Pupae and Adult Insects (Hands-On)  
  *Gulnaz T. Javan, PhD; Sheree J. Finley, MS; Ismail Can* |
| 3:30 p.m. - 4:30 p.m. | DNA Extraction From Microbial Communities (Hands-On)  
  *Gulnaz T. Javan, PhD; Sheree J. Finley, MS; Ismail Can* |
| 4:30 p.m. - 5:00 p.m. | Discussion |
#24 Scientific Neutrality in Expert Witness Testimony

Tuesday, February 17 1:00 p.m. - 5:00 p.m. 3.5 CE Hours

Educational Objectives: After attending this presentation, attendees will better understand: (1) how to achieve neutrality in the preparation for and presentation of both direct and cross-examination in court; (2) how to testify within the limits of his/her expertise; (3) the role and responsibilities of the expert witness in and out of the courtroom and how the expert testimony relates to the roles and responsibilities of the judge and the prosecuting and defense attorneys; and, (4) the importance of being a neutral expert witness.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by elucidating the importance and value to our justice system of an expert witness who maintains neutrality during expert witness testimony in depositions and in the courtroom. This presentation will provide all current and future expert witnesses in all areas of forensic sciences an opportunity to learn from an experienced expert witness and other knowledgeable members of the courtroom, including a judge, a defense attorney, and a prosecuting attorney.

Chair: Charlotte J. Word, PhD  Gaithersburg, MD
Co-Chair: Christopher J. Plourd, JD  Superior Court of California  El Centro, CA

Faculty: Lewis H. Buzzell III, JD  Private Criminal Defense Attorney  Jacksonville, FL
Ronald Reinstein, JD  AZ Supreme Court  Phoenix, AZ

Tammy Spurgeon, JD  Orange County District Attorney  Santa Ana, CA

Program Description: Attendees may be inclined to believe that they play the role of an advocate since they are called by either the prosecution or defense. However, it is the forensic scientist’s role to ensure that expert testimony is factual, truthful, and unbiased. Valuable tools for effective presentation of scientific evidence while maintaining neutrality will be provided from the perspective of an experienced prosecuting attorney, defense attorney, judge, and expert witness. The respective roles of the judge, the attorneys, and the forensic science expert witness in the courtroom and how the roles impact the testimony of the expert witness will be discussed. Relevant issues and questions will be discussed with practical advice and applications of the information provided.

Program:

1:00 p.m. - 1:10 p.m. Introduction
Charlotte J. Word, PhD; Tammy Spurgeon, JD

1:10 p.m. - 1:30 p.m. Role and Responsibilities of the Prosecuting Attorney
Christopher J. Plourd, JD; Tammy Spurgeon, JD

1:30 p.m. - 1:50 p.m. Role and Responsibilities of the Defense Attorney
Lewis H. Buzzell III, JD

1:50 p.m. - 2:25 p.m. Role and Responsibilities of the Judge
Ronald Reinstein, JD; Christopher J. Plourd, JD
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<tr>
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<th>Speakers</th>
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<tbody>
<tr>
<td>2:25 p.m.</td>
<td>Role and Responsibilities of the Forensic Science Expert Witness</td>
<td><em>Charlotte J. Word, PhD</em></td>
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<tr>
<td>2:45 p.m.</td>
<td></td>
<td><em>Break</em></td>
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<tr>
<td>3:05 p.m.</td>
<td>Qualifying as an Expert Witness, Preparing for Court Testimony &amp; Pre-Trial Preparation</td>
<td><em>Charlotte J. Word, PhD; Lewis H. Buzzell III, JD; Ronald Reinstein, JD; Christopher J. Plourd, JD; Tammy Spurgeon, JD</em></td>
</tr>
<tr>
<td>3:45 p.m.</td>
<td>Panel Discussion — Pre-Planned Relevant Questions/Scenarios &amp; Questions From the Audience</td>
<td><em>Charlotte J. Word, PhD; Lewis H. Buzzell III, JD; Ronald Reinstein, JD; Christopher J. Plourd, JD; Tammy Spurgeon, JD</em></td>
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American Society of Forensic Odontology

45th Annual Scientific Session
Hyatt Regency Orlando

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

Bitemarks: Past, Present, and Future

Tuesday

February 17 — 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  
Richard A. Weems, DMD, MS  
President, American Society of Forensic Odontology

8:10 a.m. - 8:30 a.m.  Program Introduction & Doyle Case — Texas  
Roger D. Metcalf, DDS, JD  
President-Elect, American Society of Forensic Odontology

8:30 a.m. - 8:45 a.m.  National Institute of Standards and Technology (NIST)/Organization for Scientific Area Committees (OSAC) — Where Research Fits In  
Robert E. Barsley, DDS, JD

8:45 a.m. - 9:30 a.m.  ASFO/ABFO History and Bitemark Analysis  
Norman D. Sperber, DDS

9:30 a.m. - 10:15 a.m.  Marx Case — California  
Gregory S. Golden, DDS

10:15 a.m. - 10:30 a.m.  Break

10:30 a.m. - 11:15 a.m.  Bundy Case — Florida  
Richard R. Souviron, DDS

11:15 a.m. - 12:00 p.m.  Current State of Bitemark Research  
Franklin D. Wright, DMD

12:00 p.m. - 2:00 p.m.  Luncheon and Annual Business Meeting

2:00 p.m. - 2:30 p.m.  Future Research Directions in Forensic Odontology  
Robert B.J. Dorion, DDS

2:30 p.m. - 3:00 p.m.  Future Research Directions in Forensic Odontology  
Iain A. Pretty, DDS, PhD
American Society of Forensic Odontology

Bitemarks: Past, Present, and Future (continued)

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<td>3:00 p.m.</td>
<td>Future Research Directions in Forensic Odontology</td>
<td>Emilio Nuzzolese, PhD</td>
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<tr>
<td>3:30 p.m.</td>
<td>Break</td>
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<tr>
<td>3:45 p.m.</td>
<td>Current/Ongoing Research: Bitemark Videos – High Speed Videography</td>
<td>Mark T. Eilers, DMD</td>
</tr>
<tr>
<td>4:15 p.m.</td>
<td>Current/Ongoing Research and PhotoDoc® Software</td>
<td>John Melville, MD</td>
</tr>
<tr>
<td>4:45 p.m.</td>
<td>Navigating the AFBO Certification Requirements</td>
<td>James M. Lewis, DMD</td>
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Legal Issues in Forensic Pathology and Death Investigation

Tuesday

February 17 — 12:55 p.m. - 5:00 p.m.

This program will include discussion of: (1) forensic science legislation; (2) forensic pathology and malpractice; and, (3) legal issues in forensic pathology and death investigations. The program will be constructed to allow for CME and SAMs credits.

12:55 p.m. - 1:00 p.m.  Welcome  
Marcus B. Nashelsky, MD

1:00 p.m. - 1:20 p.m.  What’s Happening in Forensic Science Legislation/Initiatives  
Victor W. Weedn, MD, JD

1:20 p.m. - 1:35 p.m.  HIPPA: What the Medical Examiner Needs to Know  
Karin M. Zaner, JD

1:35 p.m. - 1:55 p.m.  Courts 101 the International Experience — Comparative Law  
Chris Milroy, MD, LLB

1:55 p.m. - 2:15 p.m.  Courts and the Confrontation Clause Case Series  
John C. Hunsaker III, JD, MD

2:15 p.m. - 2:30 p.m.  6th Amendment, Surrogate Testimony, and the Fellowship Experience  
Donald R. Jason, MD, JD

2:30 p.m. - 2:45 p.m.  Questions & Answers

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

3:15 p.m. - 3:35 p.m.  The Investigation of Torture — What Happens When There is No Legal System?  
Alejandro Moreno, MD, JD

3:35 p.m. - 3:50 p.m.  Forensic Pathology and Malpractice: Do You Need Private Insurance?  
Ronald K. Wright, MD, JD

3:50 p.m. - 4:15 p.m.  The Expert Witness — Defense/Prosecutor Relationship Boundaries  
Jeffery L. Ashton, JD
Legal Issues in Forensic Pathology and Death Investigation (continued)

Program cont.

4:15 p.m. - 4:40 p.m.  Panel Discussion — Being the “Expert Witness”  
Ronald K. Wright, MD, JD; Kris L. Sperry, MD; Judy Melinek, MD; Lee Ann Grossberg, MD

4:40 p.m. - 5:00 p.m.  Questions & 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™. 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 qualify 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
There is a registration fee of $100 pre-registration and $150 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.
The journal is devoted to the publication of original investigations, observations, scholarly inquiries, and reviews in the various branches of the forensic sciences. These include Pathology/Biology, Toxicology, Psychiatry & Behavioral Science, General, Odontology, Anthropology, Jurisprudence, Criminalistics, Questioned Documents, Engineering Sciences, and Digital & Multimedia Sciences. Other forensic-oriented aspects of the social science are also published.

All papers are peer-reviewed. As papers clear the peer review and editorial processes, they will be included in this electronic version of the journal. The printed version of the journal will be distributed the first week of the month that the publication is issued. The official publication of this journal for citation purposes is the online version.
BRING YOUR OWN SLIDES (PowerPoint) BYOS.ppt
Wednesday Evening: 8-10 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 2015 AAFS Annual Meeting in Orlando, FL:

- To present at BYOS.ppt presentations must be in PowerPoint format. 35mm slides are not accepted.
- Proposals must be submitted on this form accompanied by a “6-slides per page” printout of the presentation and an electronic copy on CD or “flash” drive.
- BYOS is not intended as a forum to present scientific papers. It is designed as a means to present interesting information and/or unusual case(s) that may be educational and blended with humor.
- Speakers should plan on ten minutes in which to present their material.
- Material being presented in other parts of the AAFS scientific program will not be accepted at BYOS.ppt.
- Tables, charts, and graphs should be avoided, making every effort to use slides of scenes, bodily findings, and evidence.

This complete 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 18, 2015. Presentations will be selected and scheduled based on perceived interest to the audience and in the order in which the completed submissions are received. This form and required printout are needed to organize the BYOS.ppt program and to allow appropriate allocation of continuing education credit. A BYOS.ppt Program Form also will be placed in each registrant’s meeting packet.

BYOS PROGRAM FORM

Name (include academic 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 present ____________________________________________

What are the major points to be emphasized? __________________________________________

How will the attendees benefit from this presentation? _________________________________

Is there financial interest in the material being discussed? ☐ No ☐ Yes (If yes, please describe)

How much presentation time is required? ______ minutes How many PowerPoint slides will be shown? ______

Presenter’s local hotel __________________________________ Room # ______ Phone # ______

The BYOS agenda, scheduled presentation times, and continuing education credit hours will be posted near the BYOS meeting room. If you have any questions, contact Salena Medina at (719) 636-1100, or at the on-site AAFS Staff Office.

AAFS STAFF USE ONLY: Date Received: ___________________________ Time: ___________________________
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 Temporal Patterns of Mexican Migrant Ancestry: Implications for Identification
Cris E. Hughes, PhD*; Bridget F. B. Algee-Hewitt, PhD; Elizabeth S. Clausing; Bruce E. Anderson, PhD

11:30 a.m. - 1:00 p.m.  A2 “I Learned About My Death From the Newspapers” — Misidentification Following Cutbacks After a Spending Review
Ilaria De Vitis; Liliana Innamorato, MD; Vittoria Del Vecchio, MD; Leonardo Traversa, MD; Valentina Ronco, MD; Valeria Viterbo, MD; Francesco Introna, MD*

11:30 a.m. - 1:00 p.m.  A3 The Relevance of a Multidisciplinary Approach in the Identification of Skeletal Remains: A Case Report
Monica Pedretti, MD; Stefania Fornaro, MD; Laura Roas, MD*; Valentina Bugelli, MD; Isabella Spinetti, PhD; Claudia Giaconi, MD; Davide Caramella, MD; Simona Minozzi; Marco Caccianiga, PhD; Luigi Papi; Ranieri Domenici, MD

11:30 a.m. - 1:00 p.m.  A4 Estimation of Age From the Adult Pelvis: A Comparison Across Different Pelvic Sites and Statistical Methods
Molly Miranker, BA*

11:30 a.m. - 1:00 p.m.  A5 Plaque and Projections: Assessing the Utility of Morphological Variants of the Sternal Fourth Rib for the Estimation of Sex and Age-at-Death
Andrew C. Seidel, MA*; Laura C. Fulginiti, PhD; Kristen Hartnett, PhD
(FSF Emerging Forensic Scientist Award Paper Presentation)

11:30 a.m. - 1:00 p.m.  A6 Sex Determination Using the Distal Articular Surface of the Fibula
Michelle U. Tabencki, MA*

11:30 a.m. - 1:00 p.m.  A7 WITHDRAWN

11:30 a.m. - 1:00 p.m.  A8 A Qualitative Assessment of Bilateral Pubic Symphyseal Face Asymmetry Using the Suchey-Brooks Method for Adult Age-at-Death Estimation
Amy C. Beresheim, MA*
(FSF Emerging Forensic Scientist Award Paper Presentation)

11:30 a.m. - 1:00 p.m.  A9 Visual Analysis of Maxillary Sinus Variability for Identification of Unknown Decedents
Kelsey Collins, BA*

11:30 a.m. - 1:00 p.m.  A10 Success Rates of Sex Estimation by Forensic Anthropologists Using Real-Life Forensic Casework Data
Richard M. Thomas, PhD*; Connie L. Parks, MA; Adam H. Richard, MA

11:30 a.m. - 1:00 p.m.  A11 Quantifying Bias in Applying the Asian Equations of Trotter and Gleser to Korean Samples
Yangseung Jeong, MA*; Lee Meadows Jantz, PhD; Eun Jin Woo, PhD; Yu Ryang Jang, PhD

11:30 a.m. - 1:00 p.m.  A12 A Pilot Study Investigating 3D Variation in the Frontal Sinuses
Sarah M. Richer, MA*

*Presenting Author
ANTHROPOLOGY

11:30 a.m. - 1:00 p.m. A13 Use of Measurements Derived From Computed Tomography (CT) Head Scans of Modern Americans for Comparison to the Forensic Data Bank of FORDISC® 3.0
Terrie Simmons-Ehrhardt, MA*; Christopher J. Ehrhardt, PhD; Keith L. Monson, PhD

11:30 a.m. - 1:00 p.m. A14 The Effects of Household Bleach on Bone in the Processing of Forensic Remains
Bobbie J. Leeper, MS*; Michael I. Siegel, PhD; Margaret A. Judd, PhD; Sarah E. Henderson, PhD; Alejandro J. Almarza, PhD

11:30 a.m. - 1:00 p.m. A15 The Influence of Alkaline or Acid Liquids on Cut Marks and on the Structure of Bone: An Experimental Study on Porcine Ribs
Alberto Amadasi*; Arianna Camici, BA; Debora Mazzarelli, BS; Davide Porta, BS; Luca Sironi, PhD; Cristina Cattaneo, PhD

11:30 a.m. - 1:00 p.m. A16 Thermal Analyses of Property Changes and Weight Loss in Incinerated Bone and Their Implications for Forensic Anthropology
Sarah Ellingham, MSc*

11:30 a.m. - 1:00 p.m. A17 Effects of Soil Environment on Bone Mass: A Human Prospective Taphonomic Study
Yann Delannoy, MD*; Thomas Colard, DDS, PhD; Cindy Aubernon, MS; Julien Boulay, MSc; Valéry C. Hedouin, MD, PhD; Didier Gosset, MD, PhD

11:30 a.m. - 1:00 p.m. A18 The Identification of Undocumented Border Crossers Along the United States-Mexico Border: A Case for Bone Histology
Sophia Mavroudas, MA*; Kate Spradley, PhD; James P. Fancher, DDS; Hailey A. Duecker, BA; Nicole M. Crowe
(FSF Emerging Forensic Scientist Award Paper Presentation)

11:30 a.m. - 1:00 p.m. A19 The Influence of Taphonomic Changes and Microstructure Varieties on Histomorphological Analysis in Species Determination
Katrin Koel-Abt, PhD*; Miranda M. Jans, PhD

11:30 a.m. - 1:00 p.m. A20 Stable and Heavy Isotope Analysis: The Successful Use of Chemical Research in the Tampa Bay Cold Case Initiative
Liotta N. Dowdy, BS*; Erin H. Kimmerle, PhD; George D. Kamenov, PhD

11:30 a.m. - 1:00 p.m. A21 A Preliminary Study for Estimating Postmortem Interval of Fabric Degradation in Central Florida
Patrisha L. Meyers, BA*; Lorraine Humbert, BA; John J. Schultz, PhD; Lana Williams, PhD

11:30 a.m. - 1:00 p.m. A22 Decomposition in Concrete: Los Angeles Style
Elizabeth A. Miller, PhD*; Margaret A. Kalevati, MS

11:30 a.m. - 1:00 p.m. A23 A Test of Wright and Vasquez on an American Population
Carrie B. LeGarde, MA*

11:30 a.m. - 1:00 p.m. A24 Bilateral Asymmetry in Age-Related Trait Expression of the Pubic Symphysis and Auricular Surface of the Ilium
Kyle A. McCormick, MA*; Michael W. Kenyhercz, MS

11:30 a.m. - 1:00 p.m. A25 A Validation Study of Sex Estimation From the Scapula and Clavicle in a Modern United States Population
Danna N. Bran, BA*
11:30 a.m. - 1:00 p.m.  A26 Classification of a Sample of Chinese Males From Cuba Using FORDISC® 3.1
Kaleigh C. Best, BA*; Stephen D. Ousley, PhD; Curtis W. Wienker, PhD
(FSF Emerging Forensic Scientist Award Paper Presentation)

11:30 a.m. - 1:00 p.m.  A27 Multi-Method Resolution of Small-Scale Commingling
Janet E. Finlayson, MA*; Eric J. Bartelink, PhD; Alexandra Perrone, MA;
Kevin Dalton, MA
(FSF Emerging Forensic Scientist Award Paper Presentation)

11:30 a.m. - 1:00 p.m.  A28 The Optimized Summed Scored Attributes Method for the Classification of American
Blacks and Whites: A Validation Study
Michael W. Kehnercz, MS; Alexandra R. Klales, PhD; Christopher W. Rainwater, MS;
Sara M. Fredette, BS*

11:30 a.m. - 1:00 p.m.  A29 Vertebral Maturation in Age Estimation: Further Testing the Revised Method of
Scoring the Timing and Progress of Epiphyseal Ring Union
A. Midori Albert, PhD; Kate D. Sherwood*

11:30 a.m. - 1:00 p.m.  A30 Reliability of Cranio metric Measurements Using a Variety of Imaging Technologies
Adam H. Richardson, MA*; Connie L. Parks, MA; Keith L. Monson, PhD

11:30 a.m. - 1:00 p.m.  A31 Living Body Mass Estimation From Skeletal Elements in Forensic Contexts
Tyler E. Dunn*

11:30 a.m. - 1:00 p.m.  A32 Skeletal Indicators of Shark Feeding on Human Remains: A Case Study From the
Eastern Coast of Florida
Michala K.S. Schaye*; Allysha P. Winburn, MA; George H. Burgess, MS

11:30 a.m. - 1:00 p.m.  A33 A Protocol for the Collection and Culture of Microbes From the External Surfaces of
Human Bone
Ashlee R. Griffin, BS*

11:30 a.m. - 1:00 p.m.  A34 A Comparative Analysis of Macroscopic, Microscopic, and Chemical Alterations in
Modern and Ancient Bones: A Preliminary Study
Valentina Caruso, BSc; Giorgio Caudullo, MA; Valentina Scarpulla, BSc;
Emanuela Maderna, BSc; Annalisa Cappella, BS; Emanuela Sguazza, BSc;
Debora Mazzarelli, BS; Alberto Amadasi*; Luca Trombino; Cristina Cattaneo, PhD

Thursday - Session I

Past, Present, and Future (New) Research in Forensic Taphonomy

Moderator:  Franklin E. Damann, PhD
NMHM
Silver Spring, MD

Co-Moderator:  Beatrix Dudzik, MA
Knoxville, TN

8:30 a.m. - 8:45 a.m.  A35 A Comparative Study of Human Decomposition Research Facilities in the
United States: The Role of “Body Farms” in Forensic Applications
Nicole S. Klein, BA*
A Look Into the Past, Present, and Future of Decomposition Research and the Estimation of the Postmortem Interval  
Nicholas V. Passalacqua, PhD*; Mary S. Megyesi, PhD

Inter-Observer Reliability of the Total Body Score System for Quantifying Human Decomposition  
Gretchen R. Dabbs, PhD*; Melissa A. Connor, PhD; Joan A. Bytheway, PhD

An Innovative Analysis of the Postmortem Interval and Its Role in Juvenile Decomposition  
Amanda R. Hale, MA*; Ann H. Ross, PhD

Human Identification From Burnt Remains  
Joe Adserias, DDS, PhD*; Anna Hospital, MD; Luis L. Cabo, MS; Steven A. Symes, PhD; Dennis C. Dirkmnaat, PhD

Does Aluminum Transfer to Bone When Used as a Packaging Medium? A Test Using X-Ray Fluorescence Spectrometry  
Lyniece Lewis, BS*; Angi M. Christensen, PhD  
(FSF Emerging Forensic Scientist Award Paper Presentation)

Fluorescence in Heat-Altered Bone Under Ultraviolet Light  
Traci L. Van Deest, PhD*  
(FSF Emerging Forensic Scientist Award Paper Presentation)

Effects of Hydrated Lime and Quicklime on the Decay of Human Remains Using Pig Cadavers as Human Body Analogues: Field and Laboratory Experiments  
Eline M.J. Schotsmans, PhD*

Assessing How Repetitive Carrion Placement Affects Vulture Scavenging Behavior  
Lauren R. Pharr, MA*; Michael Leitner, PhD; Mary H. Manhein, MA

Burning Models: Human vs. Pig in Taphonomic Fatal Fire Modeling  
Elayne J. Pope, PhD*; Mike Whitney

Angela M. Dautartas, MA*; Lee Meadows Jantz, PhD; Giovanna M. Vidoli, PhD; Dawnie W. Steadman, PhD  
(FSF Emerging Forensic Scientist Award Paper Presentation)

Lunch
<table>
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<tr>
<th>Time</th>
<th>Presentation</th>
<th>Title</th>
<th>Presenters</th>
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<tr>
<td>11:30 a.m. - 1:00 p.m.</td>
<td>A46</td>
<td>Identification of Osteological Remains From the Ironclad U.S.S. Monitor</td>
<td>David R. Hunt, PhD*; David Krop, MA; Kathleen Sullivan, MAC; Jeremy Jacobs, MS; John Ososky, MS; Charley Potter, BS</td>
</tr>
<tr>
<td>11:30 a.m. - 1:00 p.m.</td>
<td>A47</td>
<td>The Afghan Forensic Science Organization: A Model for Local Capacity Building for Mass Grave Documentation and Preservation in Afghanistan</td>
<td>Zabi Mazoori*; Gillian M. Fowler, MSc*; Dallas Mazoori, JD*; Stefan Schmitt, MS*</td>
</tr>
<tr>
<td>11:30 a.m. - 1:00 p.m.</td>
<td>A48</td>
<td>Skeletal Markers of Gender Reassignment</td>
<td>Michael W. Warren, PhD; Caley Roberts, BA; Kristina B. Altes, MA*</td>
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<tr>
<td>11:30 a.m. - 1:00 p.m.</td>
<td>A49</td>
<td>Ritualistic Use of Human Skeletal Remains: Is It Forensically Significant?</td>
<td>Ashley Green*; John J. Schultz, PhD; Jan C. Garavaglia, MD</td>
</tr>
<tr>
<td>11:30 a.m. - 1:00 p.m.</td>
<td>A50</td>
<td>Regression Analysis for Estimation of Stature From Foot Lengths in a North Indian Population</td>
<td>Kewal Krishan, PhD*; Tanuj Kanchan, MD</td>
</tr>
<tr>
<td>11:30 a.m. - 1:00 p.m.</td>
<td>A51</td>
<td>Sexual Dimorphism of the Zygomatic Bone in a Southeast Asian Sample</td>
<td>Rebecca J. Wilson-Taylor, PhD*</td>
</tr>
<tr>
<td>11:30 a.m. - 1:00 p.m.</td>
<td>A52</td>
<td>Age Estimation in Modern Individuals Between Birth and Fourteen Years of Age Using Measurements of the Knee Joint</td>
<td>Melanie E. Boeyer, BS*; Stephen D. Ousley, PhD</td>
</tr>
<tr>
<td>11:30 a.m. - 1:00 p.m.</td>
<td>A53</td>
<td>Femoral Midshaft Shape: An Indicator of Adult Age-at-Death?</td>
<td>Megan E. Ingvoldstad, PhD*; Pierre M.M. Guyomar-’, PhD</td>
</tr>
<tr>
<td>11:30 a.m. - 1:00 p.m.</td>
<td>A54</td>
<td>Body Height Estimation From Femur Measurements in Postmortem Computer Tomography</td>
<td>Sandra Lásch, PhD*; Simon Kramis, MA; Maya Náf, MA; Frank Siegmund, PhD; Fabian Kanz, PhD; Wolf-Dieter Zech, MD</td>
</tr>
<tr>
<td>11:30 a.m. - 1:00 p.m.</td>
<td>A55</td>
<td>Comparative Performances of Sacral Osteometrical and Geometric Morphometrical Studies Based on Multi-Slice Computed Tomography Explorations to Assess Sexual Dimorphism</td>
<td>Marion Vergnault*; Frederic Savall; Fabrice F. Dedouit; Hervé Rousseau, PhD; Daniel Rouge, MD; Norbert Témon, PhD, MD</td>
</tr>
<tr>
<td>11:30 a.m. - 1:00 p.m.</td>
<td>A56</td>
<td>Sex Estimation Using Discriminate Function Analysis of Non-Metric Cranial Traits: An Inter-Observer Error Study</td>
<td>Janna M. Andronowski, MSc*; Kyle A. McCormick, MA; Michael W. Kenyhercz, MS</td>
</tr>
<tr>
<td>11:30 a.m. - 1:00 p.m.</td>
<td>A57</td>
<td>Comparing Cranial Morphology in Asian and Hispanic Populations: Exploring Why Misclassification Can Occur When Using Discriminant Function Analysis</td>
<td>Beatrix Dudzik, MA*</td>
</tr>
<tr>
<td>11:30 a.m. - 1:00 p.m.</td>
<td>A58</td>
<td>Quantification of Frontal Sinus Morphology From Radiographs for Positive Identification</td>
<td>Priyanka Atit, BA*; Carlos J. Zambrano, MS; James D. Pampush, MS</td>
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*Presenting Author
11:30 a.m. - 1:00 p.m.  A59  An Outline Analysis of Ancestry and Sex Differences in Cranial Shape  
Rachel E. Murphy, BA*; Heather M. Garvin, PhD

11:30 a.m. - 1:00 p.m.  A60  Stature Estimation Using the Mandible in a Caucasian Italian Population  
Chantal Milani, DMD, MS*; Andrea Evangelista, MS; Gian Luigi Panattoni, MD

11:30 a.m. - 1:00 p.m.  A61  Testing Inter-Observer Reliability of the Transition Analysis Aging Method on the William M. Bass Forensic Skeletal Collection  
Christina L. Fojas, MS*; Jieun Kim, MA*; Jocelyn D. Minsky-Rowland, MA*; Bridget F.B. Algee-Hewitt, PhD

11:30 a.m. - 1:00 p.m.  A62  Obliteration of Sharp Force Trauma Artifact by High Particulate Water Wash  
Avery J. Appleton*; R. Christopher O’Brien, PhD  
(FSF Emerging Forensic Scientist Award Paper Presentation)

11:30 a.m. - 1:00 p.m.  A63  Estimating the Postmortem Interval: A Validation Study of the Total Body Scoring Method Using Medicolegal Cases From Southeast Texas  
Derek A. Boyd, BA*

11:30 a.m. - 1:00 p.m.  A64  Bioreactors as a Method for Examining Environmental Effects of Changes in Bone Biochemistry Over Time  
Melissa Dunphy, BS*; Katherine E. Weisensee, PhD; Elena Mikhailova, PhD; Melinda Harman, PhD

11:30 a.m. - 1:00 p.m.  A65  The Effects of Decomposition Upon the Efficacy of Biometrics for Positive Identification  
Kelly Sauerwein*; Tiffany B. Saul, MS*; Dawnie W. Steadman, PhD; Chris Boehnen, PhD  
(FSF Emerging Forensic Scientist Award Paper Presentation)

11:30 a.m. - 1:00 p.m.  A66  The Extraction of Handedness and Amount of Experience From Sawing Imprints in Bone  
David T. Walta, MSc*

11:30 a.m. - 1:00 p.m.  A67  Standardized Descriptive Method for the Anthropological Evaluation of Fractures of the Adult Neurocranium  
Jason M. Wiersema, PhD*; Jennifer C. Love, PhD; Sharon M. Derrick, PhD; Deborrah C. Pinto, PhD; Derek A. Boyd, BA

11:30 a.m. - 1:00 p.m.  A68  Identifying Undocumented Border Crossers From the Texas-Mexico Border: A Collaborative Effort  
Hailey A. Duecker, BA*; Kate Spradley, PhD

11:30 a.m. - 1:00 p.m.  A69  Surveying a Titan: An Argument for the Presence of Human Remains on the Wreck of the R.M.S. Titanic  
Lucas N. Rolleri*; Cheryl A. Johnston, PhD

11:30 a.m. - 1:00 p.m.  A70  Utilizing Geographic Information Systems (GIS) to Analyze Geographic and Demographic Patterns Related to Forensic Case Recovery Locations in Florida  
Katharine E. Kolpan, MA*

11:30 a.m. - 1:00 p.m.  A71  The Application of the Sub-Pubic Concavity/Contour for Sexing Subadult Human Innominates  
Alexandra R. Klales, PhD*; Tesa L. Burns*

*Presenting Author
**ANTHROPOLOGY**

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<th>Time</th>
<th>Author (Presenting Author)</th>
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<tr>
<td>11:30 a.m. - 1:00 p.m.</td>
<td>Valda Black, MA*</td>
<td>A72 Sex Estimation of the Modern Human Pubic Bone Using a 3D Geometric Morphometric Approach</td>
<td>Orlando 2015, Anthropology, Michigan State University, East Lansing, MI</td>
</tr>
<tr>
<td>11:30 a.m. - 1:00 p.m.</td>
<td>Sarah Baumgarten, BA*; Stephen D. Ousley, PhD</td>
<td>A73 Estimating Sex From the Innominate Utilizing New Measurements</td>
<td>Orlando 2015, Anthropology, University of California, Los Angeles, CA</td>
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<tr>
<td>11:30 a.m. - 1:00 p.m.</td>
<td>Megan Chapin, BA*</td>
<td>A74 Sex Estimation Using Metric Measurements of the Sternum</td>
<td>Orlando 2015, Anthropology, North Carolina State University, Raleigh, NC</td>
</tr>
<tr>
<td>11:30 a.m. - 1:00 p.m.</td>
<td>Sean Y. Carlson-Greer, BA*</td>
<td>A75 Skeletal Sex Assessment Utilizing the Fifth Lumbar Vertebra</td>
<td>Orlando 2015, Anthropology, University of Michigan, Ann Arbor, MI</td>
</tr>
<tr>
<td>11:30 a.m. - 1:00 p.m.</td>
<td>Cristina L. Kelbaugh, BS*; Meredith L. Tise, PhD*; John W. Powell III, BS; Erin H. Kimmerle, PhD; Leszek Chrostowski, MD</td>
<td>A76 Sexual Dimorphism of the Manubrium in a Modern Forensic Sample</td>
<td>Orlando 2015, Anthropology, University of California, Berkeley, CA</td>
</tr>
<tr>
<td>11:30 a.m. - 1:00 p.m.</td>
<td>Julia D. Chmaj, BA*; Kristen Hartnett, PhD</td>
<td>A77 Feature Analysis of the Pubic Bone for Estimation of Age-at-Death</td>
<td>Orlando 2015, Anthropology, University of Texas, Austin, TX</td>
</tr>
<tr>
<td>11:30 a.m. - 1:00 p.m.</td>
<td>Janamarie Truesdell, MS*</td>
<td>A78 Assessing the Effects of Pregnancy on Aging From the Pubic Symphysis: Incorporating Living People Into Biological Profile Research by Combining Medical Imaging and Participant Interviews</td>
<td>Orlando 2015, Anthropology, University of Oklahoma, Norman, OK</td>
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</table>

**Reevaluation of the Known, Unknown, and Misunderstood**

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<tr>
<td>1:15 p.m. - 1:30 p.m.</td>
<td>Alexander F. Christensen, PhD*</td>
<td>A79 McKern’s and Stewart’s “Unknowns”: A Reappraisal of the Individuals Omitted From the “Skeletal Age Changes in Young American Males” Sample</td>
</tr>
<tr>
<td>1:30 p.m. - 1:45 p.m.</td>
<td>Joan E. Baker, PhD*; Alexander F. Christensen, PhD</td>
<td>A80 A Reassessment of McKern’s and Stewart’s Pubic Symphysis Aging Method</td>
</tr>
<tr>
<td>1:45 p.m. - 2:00 p.m.</td>
<td>Ani N. Hatza, MS*; Stephen D. Ousley, PhD; Luis L. Cabo, MS</td>
<td>A81 Estimating Stature When Ancestry is Unknown: What Statistical Methods Work Best?</td>
</tr>
<tr>
<td>2:00 p.m. - 2:15 p.m.</td>
<td>Annalisa Cappella, BS*; Marco Cummaudo, MA; Elena Arrigoni; Daniele M. Gibelli, PhD; Davide Porta, BS; Cristina Cattaneo, PhD</td>
<td>A82 The Issue of Age Estimation in a Modern Skeletal Population: Are Current Aging Methods Satisfactory for the Elderly?</td>
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<td>2:15 p.m. - 2:30 p.m.</td>
<td>Stephen D. Ousley, PhD*; Natalie R. Shirley, PhD; Richard Jantz, PhD</td>
<td>A83 One Hundred Years Since Martin’s Lehrbuch: Measurement Confusion and DCP 2.0</td>
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*Presenting Author
2:30 p.m. - 2:45 p.m.  A84  Evaluation and Reformation of Osteometric Data in Forensic Anthropology: The Foundations of DCP 2.0
Lee Meadows Jantz, PhD; Natalie R. Shirley, PhD*; Shauna McNulty, MA; Heli M.K. Maijanen, MA; Stephen D. Ousley, PhD; Richard Jantz, PhD

2:45 p.m. - 3:00 p.m.  Break

Innovations in Age, Sex, and Ancestry Estimation

Moderator: John J. Schultz, PhD
University of Central Florida
Dept of Anthropology
Orlando, FL

Co-Moderator: Jennifer M. Vollner, MS
East Lansing, MI

3:00 p.m. - 3:15 p.m.  A85  Investigations Into Age-Related Changes in the Human Mandible
Nicolette Parr, PhD*; Nicholas V. Passalacqua, PhD; Katherine Skorpinski, MA

3:15 p.m. - 3:30 p.m.  A86  Accuracy of Estimating Age From Cervical Vertebrae and Mandibular Molar Maturation
Helen M. Liversidge, PhD; Scheila Manica*

3:30 p.m. - 3:45 p.m.  A87  Mitochondrial DNA (mtDNA) Mutations as a New Approach for Age-at-Death Estimation
Sara C. Zapico, PhD*; Douglas H. Ubelaker, PhD
(FSF Emerging Forensic Scientist Award Paper Presentation)

3:45 p.m. - 4:00 p.m.  A88  A Test of the Passalacqua Sacral Age-Estimation Method in a Japanese Sample
Carrie A. Brown, MA*

4:00 p.m. - 4:15 p.m.  A89  The Effects of Parturition on Pelvic Age Indicators
Rosanne Bongiovanni, PhD*

4:15 p.m. - 4:30 p.m.  A90  Sex Estimation From the Vertebral Foramen of the Seven Cervical Vertebrae: An Analysis of Greek and Portuguese Skeletal Populations
Andrew S. Rozendaal, HBSc*; Tanya R. Peckmann, PhD

4:30 p.m. - 4:45 p.m.  A91  The Use of Femoral Neck Axis Length to Estimate Sex and Ancestry
Rebecca Meeusen*; Angi M. Christensen, PhD; Joseph T. Hefner, PhD
(FSF Emerging Forensic Scientist Award Paper Presentation)

4:45 p.m. - 5:00 p.m.  A92  Morphoscopic Trait Expression Within and Among Hispanic Populations
Joseph T. Hefner, PhD*; Marin A. Pilloud, PhD; Cullen J. Black, MSc; Bruce E. Anderson, PhD

5:00 p.m. - 5:15 p.m.  A93  Estimating Ancestry From the Postcrania of Modern South Africans
Leandi Liebenberg, BSc*; Ericka N. L’Abbe, PhD; Kyra E. Stull, PhD

5:15 p.m. - 5:30 p.m.  A94  Postcraniometric Assessment of Sexual Dimorphism Among Modern South Africans
Gabriele C. Kruger, BSc*; Ericka N. L’Abbe, PhD; Kyra E. Stull, PhD

*Presenting Author
### Thursday - Session II

**Multidisciplinary Session: Anthropology II/Criminalistics II — Part I: The Boatwright Sisters Present**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
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</thead>
<tbody>
<tr>
<td>8:30 a.m. - 9:00 a.m.</td>
<td>B101</td>
<td>Contributions of Physical Evidence in Human Identifications</td>
<td>Sandra Koch, MS*</td>
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<tr>
<td>9:00 a.m. - 9:30 a.m.</td>
<td>B102</td>
<td>Pollen Evidence of Diet and Environment From a Nebraska Mummy</td>
<td>Marina Milanello do Amaral, MS; Nicole A. Wall, MFS; Karl J. Reinhard, PhD*</td>
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<tr>
<td>9:30 a.m. - 10:00 a.m.</td>
<td>B103</td>
<td>Recent Applications of Stable Isotope Forensics for Tracking Region-of-Origin and Residence Patterns of Unidentified Individuals</td>
<td>Eric J. Bartelink, PhD*; Lesley A. Chesson, MS; Brett J. Tipple, PhD; Gregory E. Berg, PhD</td>
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<tr>
<td>10:00 a.m. - 10:15 a.m.</td>
<td>Break</td>
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**Multidisciplinary Session: Anthropology II/Criminalistics II — Part II: Hallie and Annie Translate**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<th>Authors</th>
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<tr>
<td>10:15 a.m. - 10:45 a.m.</td>
<td>B104</td>
<td>Lessons Learned From the DNA Analysis of More Than 11,000 Skeletal Samples: More Than 20 Years of Process Improvements</td>
<td>Suni M. Edson, MS*; Stephanie R. Ah Sam, MS</td>
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<tr>
<td>10:45 a.m. - 11:15 a.m.</td>
<td>B105</td>
<td>Modeling 3D Facial Appearance in Relation to Sex, Genetic Ancestry, and Individual Genes Enables Facial Prediction From DNA</td>
<td>Arslan Zaidi, MS*; Peter Claes, PhD; Mark D. Shriver, PhD</td>
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<tr>
<td>11:15 a.m. - 12:00 p.m.</td>
<td>B106</td>
<td>The Identification Process Involving American Citizen (AMCIT) and Undocumented Border Crossers (UBCs): The Pima County Office of the Medical Examiner (PCOME) Experience</td>
<td>Bruce E. Anderson, PhD*</td>
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<td>12:00 p.m. - 1:00 p.m.</td>
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*Presenting Author*
Friday

Trauma and Healing

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

Co-Moderator: Amanda N. Friend, BA
Gainesville, FL

8:30 a.m. - 8:45 a.m.  A95 An Analysis of Butterfly Fracture Propagation
Angela Khalil, BA*; David Raymond, PhD; Elizabeth A. Miller, PhD

8:45 a.m. - 9:00 a.m.  A96 Fracture Characteristics of Fresh Human Femora Under Controlled
Three-Point Bending
Mariyam I. Isa, BS*; Todd W. Fenton, PhD; Trevor S. DeLand, BS; Roger C. Haut, PhD

9:00 a.m. - 9:15 a.m.  A97 Atypical Skull Injuries and the Biomechanical Continuum
Brian F. Spatola, MA*

9:15 a.m. - 9:30 a.m.  A98 A Comparison of Radiographic and Osteological Findings in Suspected Infant
Abuse Cases
Heather M. Garvin, PhD*; Steven A. Symes, PhD

9:30 a.m. - 9:45 a.m.  A99 A Forensic Pathology Tool to Predict Pediatric Skull Fracture Patterns: Part V —
Controlled Head Drops Onto Shaped Impact Surfaces
Caitlin C.M. Vogelsberg, MS*; Patrick E. Vaughan, BS; Todd W. Fenton, PhD;
Roger C. Haut, PhD

9:45 a.m. - 10:00 a.m.  A100 Experimental and Computational Validations of the Initiation and Propagation of
Cranial Fractures in the Adult Skull
Todd W. Fenton, PhD*; Mariyam I. Isa, BS; Patrick E. Vaughan, BS; Roger C. Haut, PhD

10:00 a.m. - 10:15 a.m.  A101 The Fracture Printing Interface: Development of an Automatic Classification System
for Cranial Fracture Patterns
Jennifer M. Vollner, MS*; Serhat Selcuk Bucak, PhD; Todd W. Fenton, PhD;
Roger C. Haut, PhD; Anil Jain, PhD

10:15 a.m. - 10:30 a.m.  A102 Healing Rates of Antemortem Injuries to Bone
Lara E. McCormick, PhD*; Jennifer C. Love, PhD

10:30 a.m. - 10:45 a.m.  A103 Sex Differences in Measures of Bone Remodeling
Victoria M. Dominguez, MA*; Christian Crowder, PhD
(FSF Emerging Forensic Scientist Award Paper Presentation)

10:45 a.m. - 11:00 a.m.  Break
New Research and Methods for the Advancement of Human Identification

Moderator: Ashley H. McKeown, PhD
University of Montana
Dept of Anthropology
Missoula, MT

Co-Moderator: David Z.C. Hines, MA
Greensboro, NC

11:00 a.m. - 11:15 a.m. A104 The Utility of Radiographs of the Proximal Femur in Positive Identifications: Establishing a Standard and Minimum Number of Concordant Points
Ashley B. Maxwell, MA*; Ann H. Ross, PhD; Alicia K. Lanfear, PhD

11:15 a.m. - 11:30 a.m. A105 Dental Cementum Increment Analysis Can Determine Four Seasons at Death
Vicki Wedel, PhD*; Kenneth P. Hermsen, DDS

11:30 a.m. - 11:45 a.m. A106 An Updated Validation Test of a Computer-Automated Short-Listing Tool for the Radiographic Identification of Human Remains
Susan Steele D’Alonzo, MA*; Pierre M.M. Guyomarc’h, PhD; John E. Byrd, PhD; Carl N. Stephan, PhD

11:45 a.m. - 12:00 p.m. A107 Unidentified Border Crosser Deaths in Arizona: Expanding Intra-State Collaborative Efforts in Documentation and Representation
Ashley E. Kendell, MA*; Julie M. Fleischman, MS; Christen C. Eggers, MS; Laura C. Fulginiti, PhD

12:00 p.m. - 12:15 p.m. A108 Odontometric Differentiation Between Southwest Hispanics, Native Americans, and European Americans
Donovan Adams, BS*; James Pokines, PhD; Jonathan D. Bethard, PhD (FSF Emerging Forensic Scientist Award Paper Presentation)

12:15 p.m. - 12:30 p.m. A109 The Joint Prisoners of War/Missing In Action (POW/MIA) Accounting Command Solvability and Resolvability Rating Project
Ivett Kovari, PhD*

12:30 p.m. - 1:45 p.m. Lunch

Application of Theory to Forensic Anthropology

Moderator: Donna C. Boyd, PhD
Radford University
Forensic Science Institute
Radford, VA

Co-Moderator: Charles C. Boyd, PhD
Radford University
Dept of Anthropological Science
Radford, VA

1:45 p.m. - 2:00 p.m. A110 Theory in Forensic Anthropology: A Retrospective and Look Forward
Donna C. Boyd, PhD*; Charles C. Boyd, PhD

2:00 p.m. - 2:15 p.m. A111 Subjective With a Capital “S”? Issues of Objectivity in Forensic Anthropology
Allysha P. Winburn, MA*

2:15 p.m. - 2:30 p.m. A112 Context and Cognitive Bias: Informed Applied Science vs. Working in the Blind
Michael W. Warren, PhD*
ANTHROPOLOGY

2:30 p.m. - 2:45 p.m.  A113  From Blumenbach to Howells: The Slow, Painful Emergence of Theory in Forensic Race Estimation
Richard Jantz, PhD; Stephen D. Ousley, PhD*; Joseph T. Hefner, PhD

2:45 p.m. - 3:00 p.m.  A114  Forensic Applications of Isotope Landscapes (“Isoscapes”): A Tool for Predicting Region-of-Origin in Forensic Anthropology Cases
Lesley A. Chesson, MS*; Brett J. Tipple, PhD; James Ehleringer; Eric J. Bartelink, PhD

3:00 p.m. - 3:15 p.m.  A115  The Anatomy of Age Estimation
Natalie R. Shirley, PhD*; Beatrix Dudzik, MA

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

3:30 p.m. - 3:45 p.m.  A116  Theory and Histological Methods
Christian Crowder, PhD*; Victoria M. Dominguez, MA

3:45 p.m. - 4:00 p.m.  A117  Theoretical Foundation of Child Abuse Recognition
Jennifer C. Love, PhD*; Miriam E. Soto Martinez, MA

4:00 p.m. - 4:15 p.m.  A118  Thinking Outside the Box: Theory and Innovation in Sharp Trauma Analysis
John A. Williams, PhD*

4:15 p.m. - 4:30 p.m.  A119  Non-Linear Systems Theory and Its Application to the Assessment of Postmortem Interval
Charles C. Boyd, PhD*; William W. Baden, PhD; Donna C. Boyd, PhD

4:30 p.m. - 4:45 p.m.  A119  The Forensic Anthropologist as Broker for Interdisciplinary Taphonomic Theory
Daniel J. Wescott, PhD*

4:45 p.m. - 5:00 p.m.  A120  Arrows of Influence: The Return Flow of Theory and Method to the Parent Disciplines of Modern Forensic Anthropology
Cheryl A. Johnston, PhD*; John F. Schweikart, MA

5:00 p.m. - 5:30 p.m.  Discussion
Douglas H. Ubelaker, PhD

Saturday

New Methods for the Field and the Laboratory — and Lessons Learned Through Time

Moderator: Michael W. Warren, PhD
C.A. Pound Human ID Laboratory
Cancer & Genetics Research Complex
Gainesville, FL

Co-Moderator: Cristina Figueroa-Soto, MA
Knoxville, TN

8:30 a.m. - 8:45 a.m.  A122  Strontium Isotope Ratios of Hair for Human Provenancing
Brett J. Tipple, PhD*; Thuan H. Chau, MST; Lesley A. Chesson, MS; James Ehleringer; Christy J. Mancuso, MS; Luciano O. Valenzuela, PhD
8:45 a.m. - 9:00 a.m. A123  Refining Hydrogen and Oxygen Isoscapes for the Identification of Human Remains in Mississippi
Monica M. Warner*; Amber M. Plemons, BS; Nicholas P. Herrmann, PhD; Kate L. Henderson, MS

9:00 a.m. - 9:15 a.m. A124  Finding the Graves of the Missing: A Study of Geo-Anthropological Techniques in Bosnia-Herzegovina
Derek Congram, PhD*; Arthur G. Green, MA; Hugh H. Tuller, MA

9:15 a.m. - 9:30 a.m. A125  Multi-Temporal Remote Sensing of Mass Graves in Temperate Environments
Emily A. Norton, MSc*; Andrew Ford, MSc; Paul Cheetham, MSc
(FSF Emerging Forensic Scientist Award Paper Presentation)

9:30 a.m. - 9:45 a.m. A126  Twenty-Eight Years of Forensic Anthropological Casework in the Northeastern United States: Trends, Patterns, and Lessons Learned
Alexandra R. Klales, PhD*; Sara M. Fredette, BS; Katie Cline, BS; Dennis C. Dirkmaat, PhD

9:45 a.m. - 10:00 a.m. A127  Building Sustainable Programs of Recovery and Identification of Human Remains — A Comparative Analysis of Forensic Programs: The Examples of Kosovo and Cyprus
Maria Mikellide, MA*

10:00 a.m. - 10:15 a.m. A128  The Impact of Daubert on the Admissibility of Forensic Anthropology Expert Testimony
Kate M. Lesciotto, JD*
(FSF Emerging Forensic Scientist Award Paper Presentation)

10:15 a.m. - 10:30 a.m. A129  Getting the Record Straight: Forensic Evidence of the Lurigancho Prison Massacre in 1986
Jose P. Baraybar, MSc*; Franco Mora, BA; Valeska Martinez, BA; Oscar Loyola, BA

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

New Approaches to Age Estimation and Reconstructing Traumatic Events

Moderator: Derek C. Benedix, PhD
Offutt AFB, NE

Co-Moderator: Kristina B. Altes, MA
Gainesville, FL

10:45 a.m. - 11:00 a.m. A130  Need a New Headspace? A Semi-Automated Volumetric Approach for Subadult Age Estimation Using the Spheno-Occipital Synchondrosis
Nicolene Lottering, BS*; Mark D. Barry, MASC; Donna M. MacGregor, MSc; Clair L. Alston, PhD; Laura S. Gregory, PhD

11:00 a.m. - 11:15 a.m. A131  Radiographic Age Estimation of the Knee in Young Children
Maureen Schaefer, PhD*; Lucina Hackman, PhD

11:15 a.m. - 11:30 a.m. A132  Interpersonal Violence in Undocumented Border Crossers From Southern Arizona Between 2006 and 2013
Cate E. Bird, PhD*; Angela Soler, PhD

11:30 a.m. - 11:45 a.m. A133  Differentiating Peri-Mortem From Postmortem Blunt Force Trauma by Evaluating Fracture Tension Surface Topography Using Geographic Information Systems
Kelsee Hentschel, MA*; Daniel J. Wescott, PhD

*Presenting Author
### Estimating Skeletal Differences Between Contact and Non-Contact Gunshot Wounds to the Head: The Role of Forensic Anthropologists in Understanding Circumstances of Death

*Maria A. Lopez, BA*; *Dawnie W. Steadman, PhD*

### Identification of Peri-Mortem Cranial Trauma After Cremation: How Easy Is It?

*Federica Collini*; *Francesca Magli, MA; Alessandra Mazzucchi, BSc; Emanuela Sguazza, BSc; Michela Zana, BSc; Alberto Amadasi; Cristina Cattaneo, PhD*

### Computerized Reconstruction of Fragmentary Skeletal Remains

*Mohamed Mahfouz, PhD; Emam E. Abdel Fatah, PhD*; *Natalie R. Shirley, PhD; Nicholas P. Herrmann, PhD; Ali Mustafa, BS*
Wednesday

Poster Session — A Little Bit of This and a Little Bit of That

11:30 a.m. - 1:00 p.m. B1 Screening and Confirmation of Nitramine, Nitroaromatic, and Nitrate Ester Explosives in Soil
    Harun Sener, MSc; Beril Anilanmert, PhD; Salih Cengiz, PhD*

11:30 a.m. - 1:00 p.m. B2 Raman Microspectroscopy of Body Fluid Traces: Intrinsic Method Selectivity
    Igor K. Lednev, PhD*

11:30 a.m. - 1:00 p.m. B3 Individual Identification for Bones More Than 60 Years Old Using Autosomal SNPs on an Affymetrix® Chip
    Sohee Cho; Soong Deok Lee, PhD*; Jihyun Lee

11:30 a.m. - 1:00 p.m. B4 Development of Multiplexed Autosomal STR, Y-STR, and mtDNA Systems for Forensic Identification Using Next Generation Sequencing
    Lotte Downey, MSc, MBA*; Jaynish Patel, PhD; Spencer Hermanson, BS; Leta Steffen, PhD; Cynthia J. Sprecher, BS; Robert McLaren, PhD; Douglas R. Storts, PhD

11:30 a.m. - 1:00 p.m. B5 Efficiency of Human DNA Isolation and Short Tandem Repeat (STR) Profiling From Burnt Teeth
    Sara C. Zapico, PhD*; Joe Adserias, DDS, PhD*; Douglas H. Ubelaker, PhD

11:30 a.m. - 1:00 p.m. B6 Age Estimation in Living Individuals Based on Photographs: Relevance in Cases of Pedopornography
    Sindia Alves; Duarte N. Vieira, PhD, MD*; Francisco Corte-Real, PhD; Ricardo Vicente, MD; Eugenia Cunha, PhD

11:30 a.m. - 1:00 p.m. B7 Maximize Information From Your Mixture Samples Using a Combined Autosomal STR and Y-STR Multiplex System
    Rohaizah James, PhD*; Martin Ensenberger, PhD; Patricia Fulmer, PhD; Kristy Lenz, MS; Dawn Rabbach, PhD; Cynthia J. Sprecher, BS; Douglas R. Storts, PhD

11:30 a.m. - 1:00 p.m. B8 Self-Generating Robot Worklists and Complete Sample Traceability Through Laboratory Information Management Systems (LIMS) Integration and Barcodes
    Jennifer Duncan, BS; Jenna Dunton, MS; Kathleen M. McKinney, MS; Alexis Meeker, MFS*; Andrea R. Smith, BS; Andrew P. McWhorter, MFS; Tanya Dean, BS; Kristi Wimsatt; Keith Gibson, BS

11:30 a.m. - 1:00 p.m. B9 Obtaining DNA-Short Tandem Repeat (STR) Profiles From Evidentiary Samples With Extremely Limited Amounts of DNA
    Alexander Sinelnikov, PhD; Pravatchai W. Boonlayangoor, PhD; Karl Reich, PhD*

11:30 a.m. - 1:00 p.m. B10 Validation and Incorporation of RapidHIT™ Technology Into Routine Forensic DNA Casework
    Gray Amick, PhD*

11:30 a.m. - 1:00 p.m. B11 A “Whodunit” Solved Utilizing Mixture Interpretation Software With Quantitative Genotyping
    Melissa M. Chila, MS*; Tim Kalafut

*Presenting Author
11:30 a.m. - 1:00 p.m.  B12  Database Samples Warranting a Closer Look and Examination of the D8S1179 Locus
Amanda J. Hoffman, MS*; Jason Chute, MSFS

11:30 a.m. - 1:00 p.m.  B13  Separation of Epithelial Cell Mixtures Using Fluorescently Labeled Antibodies and Flow Cytometry
Cristina E. Stanciu, BS*; Ye Jin Kwon, BS*; Sarah R. Ingram, BS; Eduardo E. Bustamante, BS; Jamie L. Sturgill, PhD; Sarah J. Seashols, PhD; Tracey Dawson Cruz, PhD; Christopher J. Ehrhardt, PhD

11:30 a.m. - 1:00 p.m.  B14  Additional Criteria for Identification of Gasoline in Fire Debris Samples
Jeanet Hendriks, MSc*

11:30 a.m. - 1:00 p.m.  B15  A New Headspace-Mass Spectrometry Method for the Identification of Ignitable Liquids in Fire Debris Analysis
Marta Ferreiro-Gonzalez*; Gerardo Fernandez-Barbero; Jose Angel Alvarez, PhD; Jesus Ayuso, PhD; Miguel Palma, PhD; Carmelo G. Barroso, PhD

11:30 a.m. - 1:00 p.m.  B16  The Use of Isotope Dilution Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) for Precise and Accurate Determination of Elemental Concentration of Trace Elements in Float Glass Standards (FGS1 and FGS2)
Stefan Becker, PhD*; Marc Duecking; Peter Watzke; Peter Weis

11:30 a.m. - 1:00 p.m.  B17  Rapid Identification of Designer Drugs With Nuclear Magnetic Resonance (NMR) Spectroscopy
Faith Fowler*; Ling Huang, PhD

11:30 a.m. - 1:00 p.m.  B18  Differentiation of Cosmetic Foundations Using Liquid Chromatography/Tandem Mass Spectrometry
Thomas A. Brettell, PhD; Thomas H. Pritchett, MS; Emily A. Myers, BS*

11:30 a.m. - 1:00 p.m.  B19  Latent Fingermarks Revelation on Human Skin With the Lumicyano™ One-Step Fluorescent Revelation Process
Maxime Lemoine*; Thomas Colard, DDS, PhD; Yann Delannoy, MD; Cosimo Prete, MSc; Valéry C. Hedouin, MD, PhD

11:30 a.m. - 1:00 p.m.  B20  Characterization of Electrical Tapes by Laser Ablation-Inductively Coupled Plasma/Mass Spectrometry (LA-ICP/MS) and Scanning Electron Microscopy With Energy-Dispersive Spectroscopy (SEM/EDS)
Claudia Martinez, BSc*; Tatiana Trejos, PhD; Yu Cheung, BSc; Melanie Perez; Andria H. Mehltretter, MSFS; Jose R. Almirall, PhD

11:30 a.m. - 1:00 p.m.  B21  Body Fluid Identification by Mass Spectrometry From Sexual Assault Evidence
Kevin M. Legg*; Heather E. Mazzanti, MSFS; Christian G. Westring, PhD; Phillip Danielson, PhD

1:30 a.m. - 1:00 p.m.  B22  The Occurrence of Forcibly Removed Hairs in Combs and Hair Brushes
Kimberly Sutton, BS; Anne Kisler-Rao, MS*; Melissa L. Quartarone, BS

11:30 a.m. - 1:00 p.m.  B23  Utilization of Commercial Portable Instruments for Screening Hand Swabs for the Presence of Firearms Discharge Residue (FDR): Validation of Commercial IMS and XRF Instruments to Screen for FDR
James Stewart, BS*; Katelyn Bustin, BS; Ryan Dross, BS; Brittany Yeager, BS; Suzanne Bell, PhD

*Presenting Author
11:30 a.m. - 1:00 p.m.  B24  The Development of Paper Microfluidic Devices for the Presumptive Determination of Seized Drugs
Jashaun Bottoms; Bruce R. McCord, PhD; Ling Wang*

11:30 a.m. - 1:00 p.m.  B25  Utilization of Commercial Portable Instruments for Screening Hand Swabs for the Presence of Firearms Discharge Residue (FDR): Collection Efficiency Using Commercial and In-House Media
James Stewart, BS; Katelyn Bustin, BS; Brittany Yeager, BS; Suzanne Bell, PhD; Ryan Dross, BS*

11:30 a.m. - 1:00 p.m.  B26  High-Resolution MS/MS Spectral Library for Synthetic Cannabinoids by Direct Analysis in Real-Time Quadrupole Time-of-Flight Mass Spectrometry
Tyler Torbet*; Jose R. Almirall, PhD

11:30 a.m. - 1:00 p.m.  B27  Nanoparticle-Assisted Laser Desorption Ionization of Drugs
Rachel West, BSc*; Stewart Walker, PhD; Paul Kirkbride, PhD

11:30 a.m. - 1:00 p.m.  B28  Exploration of the Electrochemical Enhancement of Latent Fingerprints
David Cunningham, PhD*; Connor T. Smith; Courtney N. Miller; Taylor R. Baldwin

11:30 a.m. - 1:00 p.m.  B29  Effect of Reusing Swipe Materials for Particle Collection
Jessica L. Staymates, MFS*; Matthew E. Staymates, MS

11:30 a.m. - 1:00 p.m.  B30  Development of Paper Microfluidic Devices for the Detection of Organic and Inorganic Gunshot Residue
Kathryn R. Chabaud, BS*; Bruce R. McCord, PhD

11:30 a.m. - 1:00 p.m.  B31  New Psychoactive Substances Abused in South Korea: Drug Monitoring on the Seized Materials by National Forensic Service From 2009 to April 2014
Jaesin Lee, DPharm*; Meejung Park; Sanggil Choe; Eunmi Kim, PhD

11:30 a.m. - 1:00 p.m.  B32  Gunshot Residue on Evidence Packaging
Mustapha Zein*; Kristina M. McNerney, BS; Jason L. Schroeder, MS, MBA; William M. Davis, PhD; Roger Kahn, PhD

11:30 a.m. - 1:00 p.m.  B33  Fourier-Transform Infrared Spectroscopy Investigations of Smokeless Powders
Quashanna Price*; Mary R. Williams, MS; Michael E. Sigman, PhD

11:30 a.m. - 1:00 p.m.  B34  Creating a Bayesian Network Using Normalized IBIS Scores of .357 Magnum® and .38 Special Cartridge Cases
Roger Jefferys*; Emily B. Fabyanic*; Eric Law*; Keith B. Morris, PhD*

11:30 a.m. - 1:00 p.m.  B35  Weathering and Microbial Degradation of Ignitable Liquids
Jessica H. Kindell, BS*; Mary R. Williams, MS; Michael E. Sigman, PhD

11:30 a.m. - 1:00 p.m.  B36  Analysis of Anthraquinone Dyes by Electrospray Ionization Quadrupole-Time-of-Flight Tandem Mass Spectrometry (ESI-QTOF-MS/MS)
Nelson R. Vinueza, PhD*
Thursday — Session I

Hoss and Little Joe Ponder Some Current Criminalistics Issues

Moderator: Dennis J. DeLuca, PhD
Ada, OH

Co-Moderator: Janine Kishbaugh, MS
Cedar Crest College
Forensic Science Program
Allentown, PA

8:25 a.m. - 8:40 a.m.  B37 Expert Witness Testimony and DNA Evidence in South Africa
Antonel Ockers, PhD*

8:40 a.m. - 9:00 a.m.  B38 Forensic DNA Collection at Death Scenes
Balvina Z. Phillips, MS*; Christy Smejkal, MS; Rhonda C. Williams, PhD; Roger Kahn, PhD

9:00 a.m. - 9:20 a.m.  B39 The Making of the Criminalistics Maestro — On the Skills, Knowledge, and Abilities to Work Proficiently on Non-Routine and Complex Cases
Peter R. De Forest, DCrim*; Patrick Buzzini, PhD; Rebecca E. Bucht, PhD; Carol L. Hunter, BS; Douglas M. Lucas, DSc

9:20 a.m. - 9:35 a.m.  B40 The Failure of Forensic Science Academia to Address Perceived Scientific Shortcomings
Victor W. Weedn, MD, JD*

9:35 a.m. - 9:50 a.m.  B41 Implementing Independent Research Projects in a Graduate Forensic Science Degree Program
Walter F. Rowe, PhD*

9:50 a.m. - 10:20 a.m.  B42 Strengthening Forensic Science in the United States: An Update on National Efforts in Research and Development
Gerald M. LaPorte, MSFS*

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

The Trasks and Hamiltons Consider More Criminalistics Topics

Moderator: Peter de B. Harrington, PhD
OHIO University
Chemistry & Biochemistry
Athens, OH

Co-Moderator: John Ballantyne, PhD
University of Central Florida
Dept of Chemistry
Orlando, FL

10:35 a.m. - 10:50 a.m.  B43 Mentorship to Colleague Inspired by Service: An Evolution to a Brother- and Sister-in-Law Forensic Family Relationship
Desiree A. Reid, BS*; Lawrence Quarino, PhD*

10:50 a.m. - 11:05 a.m.  B44 Scientific and Technical Support of Dangerous Mail Investigations
Stephanie L. Smith, BS*; David G. Bowers, BS

*Presenting Author
11:05 a.m. - 11:30 a.m.  **B45**  Use of Lean Six Sigma Methodology to Improve Laboratory Productivity and Reduce Backlog
*Stefany E. Harman, MS*; *Maureen McCabe, MS*; *Lynn A. Schneeweis, MS*;
*Kristen Sullivan*; *Heather Jamieson, MS*; *Craig Nolde, BS*

11:30 a.m. - 11:45 a.m.  **B46**  Demystifying the American Board of Criminalistics Examination
*David C. Stockwell, BS*; *Marie Samples, MS*

11:45 a.m. - 12:00 p.m.  **B47**  A Forensic Odyssey: When Doing the Right Thing Doesn’t Always Lead to the Desired Result or Good Deeds Can Be Punished!
*Barry A.J. Fisher, MS, MBA*

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

**Poster Session — Forensic Biology Focus**

11:30 a.m. - 1:00 p.m.  **B48**  Deconvolution: An Automated Means of Unknown Identification in the Criminalistics Lab
*Sarah A. Keeling, MS*

11:30 a.m. - 1:00 p.m.  **B49**  Chemometrics Applied to Spectral Comparison in 2D Raman Mapping
*Gary H. Naisbitt, PhD*; *Marcyne Blythe*; *Benjamin Little*; *Joshua B. Harris*

11:30 a.m. - 1:00 p.m.  **B50**  Effectiveness of Zar-Pro™ Fluorescent Blood Lifting Strips
*Corinne E. Martin, BS*; *Peter Massey, MS*

11:30 a.m. - 1:00 p.m.  **B51**  An Analytical Profile of 2-[(2,6-dichlorophenyl)-amino]phenylacetoxyacetic Acid (Aceclofenac)
*Michael White, BS*

11:30 a.m. - 1:00 p.m.  **B52**  Rapid Loop-Mediated Isothermal Amplification (LAMP) of RNA Biomarkers for Forensic Identification of Semen and Saliva
*Erin K. Hanson, PhD*; *Kelsey Neary, BS*; *John R. Waldeisen, PhD*; *Debkshore Mitra, PhD*;
*Ivan K. Dimov, PhD*; *Martin R. Buoncristiani, MSc*; *Eva M. Steinberger, PhD*;
*Cristian J. Orrego, PhD*; *John Baillantyne, PhD*

11:30 a.m. - 1:00 p.m.  **B53**  Determination of Gunshot Residue (GSR) in Vehicle Head Liners Using Scanning Electron Microscope (SEM)
*Heather M. Hammond*
*(FSF Emerging Forensic Scientist Award Paper Presentation)*

11:30 a.m. - 1:00 p.m.  **B54**  Forensic Examination of Oriented Polymer Films: Polarized Light Examinations of Packaging and Shipping Tapes
*Walter F. Rowe, PhD*; *Karen Brensinger, BS*

11:30 a.m. - 1:00 p.m.  **B55**  Weight Measurements in the Forensic Chemistry Laboratory: A Surrogate Weight Study
*Sandra E. Rodriguez-Cruz, PhD*

11:30 a.m. - 1:00 p.m.  **B56**  Infrared Microspectroscopy for the Analysis of Nail Polish
*Ashley K. Jackson, BS*; *Monica Joshi-Kumar, PhD*
B57 Mathematical Modeling of Evaporated Petroleum Distillate Standards
Rebecca J. Brehe, BS*; John W. McIlroy, BS; Ruth Waddell Smith, PhD; Victoria L. McGuffin, PhD
(FSF Emerging Forensic Scientist Award Paper Presentation)

B58 Use and Detection of Ribosomal Inactivating Proteins (RIPs) as Surrogates for Active Toxins Via Immuno-Precipitation and Matrix-Assisted Laser Desorption-Ionization Time-of-Flight Mass Spectrometry (MALDI-TOF MS)
Jessica M. Goss, MS*; James M. Robertson, PhD; Jason D. Bannan, PhD

B59 A Static Collection Approach for Target Explosive Analog Odors
Claudia L. Sanchez, BA*; Adhly M. Huertas, BSc; Paola A. Prada, PhD; Kenneth G. Furton, PhD

B60 Illicit Substance Volatile Organic Compounds (VOCs) Analysis for Canine Detection
Adhly M. Huertas, BSc*; Kenneth G. Furton, PhD

B61 Using Likelihood Ratios for Source Attribution of Glock® Model 21 Fired Cartridge Cases
Keith B. Morris, PhD*; Catherine L. Hefner

B62 Gas Chromatography/Mass Spectrometry (GC/MS) Measurement of Gasoline Vapor Absorption on Clothing in a Confined Space
Sara C. Karp, BS; Raymond G. Lenz, BS; Ruth M. Henk, BS; Charles R. Cornett, PhD*

B63 Trace Chemical Signatures of Calcium Hypochlorite: Implications for the Attribution of Hypergolic Mixtures
Stephanie A. Yocca, BS*; Alicia M. Zimmermann, BS; Stephanie R. Harrold; Monique Jones; Joseph B. McGee Turner, PhD; Sarah C. Rutan, PhD; Christopher J. Ehrhardt, PhD

B64 Enantiomeric Identification of Pregabalin Via Methylation and Chiral Derivatization, Utilizing Gas Chromatography/Mass Spectrometry (GC/MS)
Mike Hitchcock, MS*; Ioan Marginean, PhD; Peter Nemes, PhD

B65 Analysis of Cannabinoids Found in Seized Marijuana Using Automated Headspace Solid-Phase Microextraction Coupled With Gas Chromatography/Mass Spectrometry
Jessica Winborn*; Margaret A. Hanson; Luis E. Figueroa; Ashley R. Konarik, MS; Dustin M. James, MBA; Kevin K. Chen, BS; Terra M. Dassau, PhD; James D. Sweet, PhD; Jorn Chi-Chung Yu, PhD

B66 Identifying Emerging Drugs of Abuse
Elizabeth A. Gardner, PhD*

B67 The Development of New Enzymes for 20-Minute Rapid Direct Amplification of Crime Scene Samples and Its Application in Presumptive DNA Screening
Steven B. Lee, PhD*; George T. Duncan, PhD; Bruce R. McCord, PhD

B68 Examination of Factors That Affect the Recovery and Analysis of DNA From Spent Cartridge Casings
Rebecca Ray, BS*; Ashley M. Mottar, BS; David R. Foran, PhD
(FSF Emerging Forensic Scientist Award Paper Presentation)
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<th>Time</th>
<th>Session</th>
<th>Presentation Title</th>
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<tr>
<td>11:30 a.m.</td>
<td>B69</td>
<td>Maximizing DNA Recovery and Short Tandem Repeat (STR) Data From Spent Cartridge Casings</td>
<td>Ashley M. Mottar, BS*; David R. Foran, PhD</td>
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<td>11:30 a.m.</td>
<td>B70</td>
<td>Internal Validation and Comparative Analysis of the Promega® PowerPlex® Fusion and the Applied Biosystems® GlobalFiler™ Express Amplification Kits for Direct Amplification</td>
<td>Betzaida L. Maldonado, BS*; Jessica Skillman, BS; Jennifer L. Zeffer, MS; Laura Kuyper, MSFS; Pamela J. Staton, PhD</td>
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<td>11:30 a.m.</td>
<td>B71</td>
<td>High-Throughput Spermatozoa Detection Using the Proximity Ligation Real-Time PCR (PLiRT-PCR) Method</td>
<td>Chin Hong Shek, BS*; Valerie Clermont Beaudoin, BS; Jaclyn Benjamin, BS; Daniele S. Podini, PhD</td>
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<td>(FSF Emerging Forensic Scientist Award Paper Presentation)</td>
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<td>11:30 a.m.</td>
<td>B72</td>
<td>Developing a Dynamic Model of the DNA Laboratory Process to Characterize the Sources of Uncertainty in DNA Signal: Applications to Forensic DNA Education, Training, and Validation</td>
<td>Genevieve Wellner, MS; Kayleigh E. Rowan, BS; Cheng-Tsung Hu, BS; Catherine M. Grigicak, PhD*</td>
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<td>11:30 a.m.</td>
<td>B73</td>
<td>Room Temperature DNA Preservation and Rapid Purification of Decomposing Human Tissue Samples: An Alternative DVI Approach</td>
<td>Amy E. Sorensen*, Elizabeth Rahman, BS; Cassandra Schield, BS; James L. White, BS; David A. Gangitano, PhD; Sheree R. Hughes-Stamm, PhD</td>
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<td>11:30 a.m.</td>
<td>B74</td>
<td>Further Development of a Short Tandem Repeat (STR) Multiplex Reaction for Teaching and Research Purposes</td>
<td>Charmaine L. Williams, BS*; Sarah A. Lusk, MSFS; Jason G. Linville, PhD*</td>
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<td>11:30 a.m.</td>
<td>B75</td>
<td>Whole Genome Amplification as a Potential Means for Sample Immortalization</td>
<td>Valerie Clermont Beaudoin, BS*; Katherine B. Gettings, PhD; Daniele S. Podini, PhD</td>
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<td>11:30 a.m.</td>
<td>B76</td>
<td>Highly Multiplexed Analysis of STRs and SNPs Using Massively Parallel Sequencing: Concordance With Current Methodologies</td>
<td>Whitney A. Simpson, BS*; Carey P. Davis, MS; Cydne L. Holt, PhD; Tracey Dawson Cruz, PhD; Kathryn Stephens</td>
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<td></td>
<td>(FSF Emerging Forensic Scientist Award Paper Presentation)</td>
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<td>11:30 a.m.</td>
<td>B77</td>
<td>Evaluation of a Novel Material, Diomics X-Swab™, for Collection of DNA</td>
<td>Pamela L. Marshall, PhD*</td>
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<td>11:30 a.m.</td>
<td>B78</td>
<td>Assessing the Forensic Potential of Small Arms Propellant Micromorphometry as an Aid in the Investigation of Improvised Explosive Devices (IEDs): A Pilot Study</td>
<td>Jack Hietpas, PhD*; Peter J. Diaczuk, BS</td>
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<td>11:30 a.m.</td>
<td>B79</td>
<td>Integration of the QIAcube® Into the Laboratory Workflow for Efficient Processing of Sexual Assault Casework</td>
<td>Michelle L. Collins Gaines, MSFS*; Cheryl M. Duda, MS</td>
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11:30 a.m. - 1:00 p.m.  B80  The Evaluation of the Qubit® 2.0 Fluorometer Quantitation System and Comparison to Real-Time Quantitative PCR
Lisa Burgee, MSFS*; Miles W. Fisher, HS; Kazufusa C. Okamoto, PhD; Karen Olson, PhD; Roman Aranda, IV, PhD

11:30 a.m. - 1:00 p.m.  B81  White-Light Versus Shortwave-Ultraviolet Illumination for Visualizing Fingerprints Developed With Columnar Thin Films of Alq3
Stephanie Plazibat, BA*; Stephen Swiontek; Akhlesh Lakhtakia, PhD, DSc; Reena Roy, PhD

11:30 a.m. - 1:00 p.m.  B82  The Effect of Walking on the Evidentiary Value of Soil Taken From Footwear
Heather T. Moody*; Lawrence Quarino, PhD
(FSF Emerging Forensic Scientist Award Paper Presentation)

11:30 a.m. - 1:00 p.m.  B83  Characterization of Solder by Trace Metals Using Atomic Absorption Spectroscopy (AAS)
Sean T. Block, BS*; Lindsey A. Welch, PhD
(FSF Emerging Forensic Scientist Award Paper Presentation)

11:30 a.m. - 1:00 p.m.  B84  Surface-Enhanced Raman Spectroscopy for Forensic Analysis of Human Semen
Jessica Irvine, BS*; Jennifer Fore, PhD; Ranjith Premasiri, PhD; Lawrence Ziegler; Amy N. Brodeur, MFS
(FSF Emerging Forensic Scientist Award Paper Presentation)

11:30 a.m. - 1:00 p.m.  B85  An Improved Method for Extraction of DNA From Envelopes
Quentin T. Gauthier, BS*; Odile M. Loreille, PhD; Pamela J. Staton, PhD; Charla Marshall, PhD

11:30 a.m. - 1:00 p.m.  B86  Pairwise Comparisons as a Means of Validating Iraqi Muslim and Christian Allele Frequency Databases
Nathaniel D. Adams, BS*; Salwa J. Al-awadi, PhD; Majeed A. Sabbah, PhD; Ashley E. Marshall; Carrie Rowland, MSc; Dan Krane, PhD

11:30 a.m. - 1:00 p.m.  B87  Evaluation of a Modified DNA Extraction Approach for Improved Short Tandem Repeat (STR) Recovery From Severely Degraded Skeletal Elements
Harrison Redd*; Charla Marshall, PhD; Pamela J. Staton, PhD; Odile M. Loreille, PhD

Flopsy, Mopsy, Cottontail, and Peter Explore Trace and Biology

Moderator: Julie A. Demarest, MSFS
AFMEO/AFDIL
Dover AFB, DE

Co-Moderator: William Schneck, MS
Washington State Patrol
Crime Laboratory
Cheney, WA

1:00 p.m. - 1:20 p.m.  B88  What Do You Get When You Mix a Double Helix With a Becke Line?
A Forensic Family
Ann Marie Gross, MS*; Susan Gross, MSFS*

1:20 p.m. - 1:35 p.m.  B89  A Study of the Formation, Collection, and Microscopic Trace Material and Genetic Makeup of Household Dust Specimens
Nicholas Petraco, MS*; John Ballantyne, PhD; Erin K. Hanson, PhD; Katherine Farash, BS
1:35 p.m. - 1:50 p.m.  **B90**  Combined Genetic and Micro-Chemical Analysis of Household Dust as a Definitive Trace Identifier of a Room and Its Occupants  
Katherine Farash, BS; Hayley O’Brien, BS; Erin K. Hanson, PhD; Nicholas Petraco, MS; John Ballantyne, PhD*

1:50 p.m. - 2:05 p.m.  **B91**  The Influence of Distance, Depth, and Time on Forensic DNA Profiling of Soil Bacteria  
James Hopkins, BA; Ellen M. Jesmok, BS*; David R. Foran, PhD

2:05 p.m. - 2:20 p.m.  **B92**  Bacterial Profiling of Soil Evidentiary Items Using Next Generation Sequencing  
Ellen M. Jesmok, BS*; David R. Foran, PhD  
(FSF Emerging Forensic Scientist Award Paper Presentation)

2:20 p.m. - 2:35 p.m.  **B93**  Quantitative Analysis of Botanical DNA by Real-Time PCR for Forensic Discrimination and Identification  
Hitomi S. Kikkawa, PhD*; Kouichiro Tsuge, PhD; Riitsu Sugita, PhD

2:35 p.m. - 2:50 p.m.  Break

The Bradys Weigh in on Mixtures

**Moderator:** Eric S. Sahota, BA  
Las Vegas Metropolitan Police Forensic Lab  
Las Vegas, NV  
**Co-Moderator:** Gary J. Molina, BA  
Texas DPS Crime Laboratory  
Austin, TX

2:50 p.m. - 3:10 p.m.  **B94**  Variation in DNA Mixture Interpretation: Observations From NIST Interlaboratory Study Results  
Michael D. Coble, PhD*; John M. Butler, PhD

3:10 p.m. - 3:30 p.m.  **B95**  A Large-Scale DNA Mixture Interpretation Study of DNA Examiners: Inter- and Intra-Laboratory Variability  
Roman Aranda, IV, PhD; Ivy Onyechi, MS*; Brenda Held; Karen Olson, PhD; Jason J. LeBlanc, PhD; Henry P. Maynard, III, MSFS; Blake Rowe, MS; Richard Tontarski, Jr., MFS

3:30 p.m. - 3:50 p.m.  **B96**  Exploring the Impact of DNA Template Mass on the Ability to Infer the Number of Contributors Using Three Interpretation Methods  
Lauren E. Alfonse, BS; Harish Swaminathan; Desmond S. Lun, PhD; Muriel Medard, ScD; Catherine M. Grgicak, PhD*

3:50 p.m. - 4:05 p.m.  **B97**  Identification of Contributors in Complex DNA Mixtures Utilizing High-Density SNP Arrays: Influence of Sample Ancestry, Ancestry SNPs, and Reference Population  
Brittin McMahon, MS; Thomas J. Cavanagh, MS; Mary L. Clair, BS; Jodi R. Bailey, MS; Lucy A. Davis, BHS; Christiana H. Shoopman, BA; Sandra L. Close, PhD*

4:05 p.m. - 4:20 p.m.  **B98**  The Validation of a Statistical Tool for the Analysis of DNA Mixtures  
Dustin Foley, MS*; Michael A. Donley, MS; Mark Powell, MS; Rebecca S. Mikulasovich, MS; Katherine Welch, MSFS; Roger Kahn, PhD

*Presenting Author
CRIMINALISTICS

Presenting Author

Development of a Pre-Screening qPCR Mixture Detection Assay Using High-Resolution Melting Curve Analysis of the Short Tandem Repeat (STR) Loci D5S818 and D18S51

Kristiana M. Kuehnert, BS*; Nooli Hong; Sarah J. Seashols, PhD; Todd W. Bille, MS; Steven Weitz, MS; Tracey Dawson Cruz, PhD

(FSF Emerging Forensic Scientist Award Paper Presentation)

Defining the Limits of Forensic DNA Profile Interpretation: An Assessment of the Information Content Inherent in Complex Mixtures

Clare Marsden, PhD; Norah Rudin, PhD; Keith Inman, MS*; Kirk Lohmueller, PhD

Thursday — Session II

Multidisciplinary Session: Anthropology II/Criminalistics II — Part I: The Boatwright Sisters Present

Moderator: Vincent J. Desiderio, Jr., MS
Lovettsville, VA

Co-Moderator: Gregory E. Berg, PhD
JPAC-Central ID Laboratory
Joint Base Pearl Harbor-Hickam, HI

Contributions of Physical Evidence in Human Identifications

Sandra Koch, MS*

Pollen Evidence of Diet and Environment From a Nebraska Mummy

Marina Milanello do Amaral, MS; Nicole A. Wall, MFS; Karl J. Reinhard, PhD*

Recent Applications of Stable Isotope Forensics for Tracking Region-of-Origin and Residence Patterns of Unidentified Individuals

Eric J. Bartelink, PhD*; Lesley A. Chesson, MS; Brett J. Tipple, PhD; Gregory E. Berg, PhD

Break

Multidisciplinary Session: Anthropology II/Criminalistics II — Part II: Hallie and Annie Translate

Moderator: Gregory E. Berg, PhD
JPAC-Central ID Laboratory
Joint Base Pearl Harbor-Hickam, HI

Co-Moderator: Vincent J. Desiderio, Jr., MS
Lovettsville, VA

Lessons Learned From the DNA Analysis of More Than 11,000 Skeletal Samples: More Than 20 Years of Process Improvements

Suni M. Edson, MS*; Stephanie R. Ah Sam, MS

Modeling 3D Facial Appearance in Relation to Sex, Genetic Ancestry, and Individual Genes Enables Facial Prediction From DNA

Arslan Zaidi, MS*; Peter Claes, PhD; Mark D. Shriver, PhD

The Identification Process Involving American Citizen (AMCIT) and Undocumented Border Crossers (UBCs): The Pima County Office of the Medical Examiner (PCOME) Experience

Bruce E. Anderson, PhD*
12:00 p.m. - 1:00 p.m.  Lunch

Pugsley and Thing Consider Crime Scenes and Latent Prints

**Moderator:**  Jarrad R. Wagner, PhD  
Oklahoma State University-CHS  
Dept of Forensic Science  
Tulsa, OK

**Co-Moderator:**  Dennis C. Hilliard, MS  
RI State Crime Laboratory  
Kingston, RI

1:00 p.m. - 1:30 p.m.  **B107 A Novel Software-Based Toolset for Latent Print Examination**  
Donald T. Gantz, PhD*; Daniel Gantz*; Mark A. Walch, MA, MPH; Maria A. Roberts;  
JoAnn Buscaglia, PhD

1:30 p.m. - 1:45 p.m.  **B108 Fingerprint Identification and Error-Rate Estimation Based on the Congruent Matching Cell (CMC) Method**  
Wei Chu*; Junfeng J. Song, MS; Melissa K. Taylor, BA; Robert M. Thompson, BS;  
Johannes A. Soons, PhD

1:45 p.m. - 2:00 p.m.  **B109 Development of Fingerprints From Items Submerged in Fresh Water Over Time**  
Pamela Class*; Kimberlee S. Moran, MSc; Heather E. Mazzanti, MSFS;  
Elana Quinones, MS  
(FSF Emerging Forensic Scientist Award Paper Presentation)

2:00 p.m. - 2:15 p.m.  **B110 DNA Profile From a Fingerprint Developed With a Columnar Thin Film**  
Stephanie Plazibat, BA*; Zachary C. Goecker, BS; Stephen Swiontek;  
Akhlesh Lakhtakia, PhD, DSc; Reena Roy, PhD  
(FSF Emerging Forensic Scientist Award Paper Presentation)

2:15 p.m. - 2:30 p.m.  **B111 Mobility Empowered and Sustainable AFIS (MESA)**  
Mark A. Walch, MA, MPH*; Donald T. Gantz, PhD; Daniel Gantz

2:30 p.m. - 2:45 p.m.  **B112 Bloodstain Patterns Associated With Gunshot Wounds — Misconceptions**  
Peter R. De Forest, DCrim*; Peter A. Pizzola, PhD; Ralph R. Ristenbatt III, MS;  
Peter J. Diaczuk, BS

2:45 p.m. - 3:00 p.m.  **B113 The Hunt for Aaron Bassler: A Multidisciplinary Criminalistics Case Study Incorporating Proper Crime Scene Evidence Collection, DNA, Officer-Involved Shooting, and Firearms Comparison**  
Deborah R. Stonebarger, BS*

3:00 p.m. - 3:15 p.m.  Break

*Presenting Author
Jax Explains Firearms, Tool Marks, and GSR to Gemma and Clay

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| 3:15 p.m. - 3:30 p.m. | **B114** Polymer Replication of Reference Bullets Using Advanced Casting and Metal-Coating Techniques  
Thomas B. Renegar, BS*; Xiaoyu A. Zheng, MS; Robert M. Thompson, BS;  
Theodore V. Vorburger, PhD; Junfeng J. Song, MS; Johannes A. Soons, PhD;  
James H. Yen, PhD |
| 3:30 p.m. - 3:45 p.m. | **B115** Reporting Error Rate for Firearm and Tool Mark Identifications in Forensic Science  
Junfeng J. Song, MS*; Theodore V. Vorburger, PhD; Wei Chu*; James H. Yen, PhD;  
Johannes A. Soons, PhD; Mingsi Tong, PhD*; Xiaoyu A. Zheng, MS; Thomas B. Renegar, BS;  
Robert M. Thompson, BS*; Rick M. Silver, PhD |
| 3:45 p.m. - 4:00 p.m. | **B116** NIST Reference Ballistic Tool Mark Database for Research and Development of Identification Systems and Confidence Limits  
Xiaoyu A. Zheng, MS*; Johannes A. Soons, PhD; Robert M. Thompson, BS;  
Mingsi Tong, PhD |
| 4:00 p.m. - 4:15 p.m. | **B117** Improved Congruent Matching Cells (CMC) Method for Optical Images Identification of Cartridge Cases  
Mingsi Tong, PhD*; Junfeng J. Song, MS; Wei Chu; Robert M. Thompson, BS |
| 4:15 p.m. - 4:30 p.m. | **B118** Toward a Novel, Fast, and Accurate 3D-Topography Imaging and Analysis System for Firearm Forensics  
Ryan Lilien, PhD*; Todd J. Weller, MS; Marcus Brubaker, PhD; Pierre Duez, MS |
| 4:30 p.m. - 4:45 p.m. | **B119** Evaluating the Gray Scale Response Difference Associated With Bullet Comparisons Using Optical Microscopy  
Victoria J. Richards, MS*; David G. Howitt, PhD; Frederic A. Tulleners, MA;  
Robert B. Kimsey, PhD  
(*FSF Emerging Forensic Scientist Award Paper Presentation*) |
| 4:45 p.m. - 5:00 p.m. | **B120** Critical Angles for 9mm Parabellum Bullets  
Peter J. Diaczuk, BS*; Thomas Kubic, JD, PhD |
| 5:00 p.m. - 5:15 p.m. | **B121** A Study of the Presence of Gunshot Residue in Pittsburgh Police Stations Using SEM/EDX and LC-MS/MS  
Leah Ali, BS*; Kyle Brown; Stephanie J. Wetzel, PhD |
| 5:15 p.m. - 5:30 p.m. | **B122** Detection of Organic Components of Gunshot Residue (GSR) of Carbon SEM Stubs by Raman Spectroscopy  
Karyn Crawford*; Lawrence E. Wayne, BS; Jacobus Swanepoel;  
Lauren L. Richards-Waugh, PhD |
Friday — Session I

Lucy and Ricky Go Around and Around About Biological Screening

Moderator: Maranda L. Michael, MA
Indianapolis, IN

Co-Moderator: Christie T. Davis, PhD
Helix Analytical, Inc
San Francisco, CA

8:25 a.m. - 8:40 a.m. B123 Development of a Spectral Camera for Estimating the Age of Bloodstains in Casework
Gerda Edelman*; Maurice Aalders, MD

8:40 a.m. - 8:55 a.m. B124 DNA Methylation Patterns as Markers in Forensic Investigation
Deborah Silva, MS*; Joana Antunes; Kappareddi Balanurugan, PhD; George T. Duncan, PhD; Clarice Alho, PhD; Bruce R. Mc Cord, PhD
(FSF Emerging Forensic Scientist Award Paper Presentation)

8:55 a.m. - 9:10 a.m. B125 Effects of Decomposition on the Recoverability of Biological Fluid Evidence
Elena A. Bemelmans, BS*; Donald F. Siwek, PhD; Robin W. Cotton, PhD; Amy N. Brodeur, MFS

9:10 a.m. - 9:25 a.m. B126 Transfer of Sperm Cells During the Laundering Process
Alicia Swartz, MS*; Lisa Burgee, MSFS; Elizabeth Richards, PhD

9:25 a.m. - 9:40 a.m. B127 High-Resolution Melt Analysis of DNA Methylation Status as a Novel Method for Human Semen Identification
Caitlyn Deppen*; K. Joy Karnas, PhD

9:40 a.m. - 9:55 a.m. B128 Persistence of Sperm: What the Literature Really Says
James M. DiFrancesco, MFS*; Elizabeth Richards, PhD; Deborah K. Haller, BS

9:55 a.m. - 10:15 a.m. B129 Persistence of DNA: A Case File Review
Deborah K. Haller, BS*; Diana Fleming, MFS*; Elizabeth Richards, PhD; James M. DiFrancesco, MFS; Molly Hall, BS

10:15 a.m. - 10:30 a.m. Break

Fred, Wilma, and Pebbles Study Skeletal Remains and mtDNA

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

Co-Moderator: Suni M. Edson, MS
Armed Forces DNA ID Lab
Dover AFB, DE

10:30 a.m. - 10:45 a.m. B130 Intra-Bone Variation of Recoverable Nuclear and Mitochondrial DNA in Femora
Timothy C. Antinick, BA*; David R. Foran, PhD
(FSF Emerging Forensic Scientist Award Paper Presentation)

10:45 a.m. - 11:05 a.m. B131 Effect of Skeletal Sampling Technique on DNA and Elemental Analysis Results
Laura G. Combs, MA*; Vivian Huynh, BS; Teresa D. Golden, PhD; Joseph E. Warren, PhD; Rhonda K. Roby, PhD

*Presenting Author
11:05 a.m. - 11:25 a.m.  B132 Development of a Multiplex Quantitative PCR (qPCR) Assay for Simultaneous Quantification of Human Nuclear and Mitochondrial DNA From Forensically Relevant Samples  
Brittania J. Bintz, MSc*; Mark R. Wilson, PhD

11:25 a.m. - 11:40 a.m.  B133 Utility of a Novel and Sensitive DNA Multiplex for Highly Degraded Missing Persons Samples  
Dixie Peters, MS*; Hiromi Brown, PhD; Gina M. Pineda, MS; Anne H. Montgomery, MS; Sudhir K. Sinha, PhD; Arthur J. Eisenberg, PhD

11:40 a.m. - 12:00 p.m.  B134 Hair and Calcified Tissue DNA Extracts: qPCR-Based Guidelines/Strategies for Streamlined Mitochondrial DNA (mtDNA) Amplification and Improved mtDNA Sequence Recovery  
Michael D. Brandhagen, PhD*; Jodi A. Irwin, PhD

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

Michael Drills Fredo About Low-Template DNA and Getting More Information From Samples

Moderator: Kristy Kadash, PhD  
Jefferson County Regional Crime Lab  
Golden, CO

Co-Moderator: Laura D. Silva, MS  
Oakland Police Department  
Criminalistics Division  
Oakland, CA

1:00 p.m. - 1:15 p.m.  B135 Recovering Touch DNA From Cartridge Casings Using a Method of Tape Lifting  
Ting Chi Rebecca Wan, BS; Lauren MacDonald*; Yoelia Perez, BS; Todd W. Bille, MS; Daniele S. Podini, PhD  
(FSF Emerging Forensic Scientist Award Paper Presentation)

1:15 p.m. - 1:30 p.m.  B136 Evaluation and Optimization of DNA Recovery From Bullet Cartridge Cases  
Meghan Troy, MSFS*; Christian G. Westring, PhD; Phillip Danielson, PhD; Heather E. Mazzanti, MSFS

1:30 p.m. - 1:45 p.m.  B137 Evaluation of a Vacuum-Swab Protocol for Recovering Epithelial Cells From Handled Evidentiary Samples  
Kevin J. Piccirilli, BS*; Britton L.F. Morin, MSFS; Jillian C. Fesolovich, MSFS; Heather E. Mazzanti, MSFS  
(FSF Emerging Forensic Scientist Award Paper Presentation)

1:45 p.m. - 2:00 p.m.  B138 Evaluation of a Novel Approach to Low-Copy Number (LCN) DNA Methodologies for Generation of Short Tandem Repeat (STR) Profiles  
Chandra Bagley, BS*; Britton L.F. Morin, MSFS; Christian G. Westring, PhD; Phillip Danielson, PhD; Heather E. Mazzanti, MSFS  
(FSF Emerging Forensic Scientist Award Paper Presentation)

2:00 p.m. - 2:15 p.m.  B139 Use of the Ion PGM™ System for Typing Human Identity Marker Systems  
Jennifer D. Churchill, PhD*; Joseph P. Chang, BS; Jianye Ge, PhD; Narasimhan Rajagopalan, MS; Robert Lagacé, BS; Wenchi Liao; Jonathan King, MS; Bruce Budowle, PhD  
(FSF Emerging Forensic Scientist Award Paper Presentation)
2:15 p.m. - 2:30 p.m. B140 Increased Ancestry Prediction of the United States Population Using Short Tandem Repeat (STR) Data in Addition to 32 Ancestry-Informative SNPs
Valerie Clermont Beaudoin, BS*; Katherine B. Gettings, PhD; Moses S. Schanfield, PhD; Daniele S. Podini, PhD
(FSF Emerging Forensic Scientist Award Paper Presentation)

2:30 p.m. - 2:45 p.m. Break

Dale, Sr. and Jr. Race to Reflect on Rapid DNA and Efficiency Improvement

Moderator: Joan M. Bienvenue, PhD
University of Virginia
Charlottesville, VA

Co-Moderator: Mary J. Dukes, MS
QIAGEN Inc.
Germantown, MD

2:45 p.m. - 3:00 p.m. B141 Simulating the United Arab Emirates Crime Scene Samples and Generating DNA Profiles From Them Using the RapidHIT™ System
Aamer Alshehhi, BS*; Reena Roy, PhD

3:00 p.m. - 3:20 p.m. B142 Development of a Portable, Laminated Dynamic Solid-Phase DNA Extraction Method on a Rotationally-Driven Platform
Kimberly Jackson*; Juliane C. Borba, MS; Brian L. Poe, PhD; Emanuel Carrilho, PhD; Roman Aranda IV, PhD; Karen Olson, PhD; Doris Haverstick, PhD; James P. Landers, PhD

3:20 p.m. - 3:35 p.m. B143 Use of Rapid DNA Systems in Disaster Victim Identification
Sheila E. Dennis, MS; Yvette Rada, MS*; Desarae L. Harmon, BS; Zoran M. Budimlija, MD, PhD; Grace L. Axler-DiPerte, PhD

3:35 p.m. - 4:00 p.m. B144 Human Identification in Less Than 45 Minutes: A Rapid and Fully Portable DNA Solution
Nani M. Grimmer, BS*; Michael N. Parsons, MS; Abigail S. Bathrick, MFS; Katie Kennedy, BS; Donia Slack

4:00 p.m. - 4:20 p.m. B145 Validated and Straightforward Multiplex PCR Method for High-Quality Analysis of the Expanded CODIS STR Loci Set
Daniel Müller*; Melanie Breitbach; Stefan Cornelius; Sarah Pakulla-Dickel; Margaretha Koenig; Anke Prochnow, MD; Lars Bochmann, MD; Mario Scherer, PhD; Ralf Peist, MD

4:20 p.m. - 4:40 p.m. B146 Improving Processing Efficiency for Forensic DNA Samples
Catherine C. Connon, MS*; Aaron K. LeFebvre, PhD; Robert C. Benjamin, PhD

4:40 p.m. - 5:00 p.m. Discussion

*Presenting Author
## Friday — Session II

**Wally and the Beav Are Lectured About Getting Stuck on Trace**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>8:15 a.m.</td>
<td>B147</td>
<td>Microtrace to Nanotrace: Extracting Information at Increasingly Smaller Length Scales</td>
<td>Christopher S. Palenik, PhD*; Skip Palenik, BS*</td>
</tr>
<tr>
<td>8:45 a.m.</td>
<td>B148</td>
<td>The Investigation of Potential Mechanisms for the Formation of Postmortem Hair Root Bands: A Detailed Microscopical and Ultrastructural Analysis</td>
<td>Jack Hietpas, PhD*; JoAnn Buscaglia, PhD; Adam H. Richard, MA; Hilda S. Castillo, PhD; Stephen D. Shaw, MS; Ernest J. Drummond, MS; Joseph Donfack, PhD</td>
</tr>
<tr>
<td>9:00 a.m.</td>
<td>B149</td>
<td>Analysis and Discrimination of Colored Pressure-Sensitive Tape Backing by Microspectrophotometry</td>
<td>Susan Gross, MSFS*; Josh Jorstad, BA</td>
</tr>
<tr>
<td>9:15 a.m.</td>
<td>B150</td>
<td>Quantitative Algorithm for Digital Comparison of Torn and Cut Duct Tape</td>
<td>Alicia Alfter, BS*; William Ristenpart, PhD; Frederic A. Tulleners, MA</td>
</tr>
<tr>
<td>9:30 a.m.</td>
<td>B151</td>
<td>Comparisons of Multivariate Preprocessing for Forensic Discrimination of Fibers by UV/Visible Microspectrophotometry</td>
<td>Stephen L. Morgan, PhD*; Nathan Fuenffinger, MS</td>
</tr>
<tr>
<td>9:45 a.m.</td>
<td>B152</td>
<td>Development of a Microspectrophotometric Spectrum Database for Comparison of Casework Textile Fiber Samples to Motor Vehicle Interior Fabrics</td>
<td>Rees A. Powell, BSc*; Colin R. Friddis, BS; Peter A. Collins, BSc; John Coumbaros, PhD</td>
</tr>
<tr>
<td>10:00 a.m.</td>
<td>B153</td>
<td>Examination of Statistical Methods for Forensic Analysis of Highly Similar Absorbance Spectra From Textile Fibers</td>
<td>Alejandra Flores*; Michael E. Sigman, PhD; Andres D. Campiglia, PhD</td>
</tr>
<tr>
<td>10:15 a.m.</td>
<td></td>
<td>Break</td>
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**Will and Carlton Talk About Living in a Materials Analysis World**

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<tbody>
<tr>
<td>10:30 a.m.</td>
<td>B154</td>
<td>Identification of Artificially Aged Silk at the Molecular Level</td>
<td>McKenzie Floyd, BA*; Christopher M. Rollman, BS; Mehdi Moini, PhD</td>
</tr>
<tr>
<td>10:45 a.m.</td>
<td>B155</td>
<td>Frequency of Occurrence of Original Equipment Manufacturer (OEM) Automotive Refinishes Using the Paint Data Query Database</td>
<td>Diana M. Wright, PhD*; Andria H. Mehlrettew, MSFS</td>
</tr>
</tbody>
</table>
11:00 a.m. - 11:15 a.m. **B156** Forensic Analysis of Hoax Powders Using Morphologically Directed Raman Spectroscopy
*Andrew C. Koutrakos, MS*; *Brooke W. Kammrath, PhD*

11:15 a.m. - 11:30 a.m. **B157** Quantitative Mapping of Post-Blast Nitroglycerin Residues on Pipe Bomb Fragments Using Total Vaporization-Solid Phase Microextraction-Gas Chromatography-Mass Spectrometry (TV-SPME-GC/MS)
*Dana Bors*, BS*; *Darren A. Dixon; John V. Goodpaster, PhD*

11:30 a.m. - 11:45 a.m. **B158** Assessing the Forensic Utility of Particle Morphometry for the Characterization of Aluminum Powders in Explosives
*Jack Hietpas, PhD*; *Joshua Dettman, PhD; Raleigh Parrott II; JoAnn Buscaglia, PhD*

11:45 a.m. - 12:00 p.m. **B159** Classifying Aged Explosives to Determine Source
*John A. Reffner, PhD*; *Pauline E. Leary, PhD*

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

**J.R. and Bobby Explore Explosives and Fire Debris Season After Season**

*Moderator: Laurel V. Mason, BS*  
*Analytical Forensic Associates*  
*Lilburn, GA*

1:00 p.m. - 1:15 p.m. **B160** Smokeless Powders Database at the National Center for Forensic Science
*Dana-Marie K. Dennis, BS*; *Jessica L. Frisch-Daiello, PhD; Mary R. Williams, MS; Michael E. Sigman, PhD*

1:15 p.m. - 1:30 p.m. **B161** Odorant Measurements and New Materials for Canine Training
*William A. MacCrehan, PhD*; *Matthew E. Staymates, MS; Stephanie Moore, MFS; Michele Schantz, PhD*

1:30 p.m. - 1:45 p.m. **B162** Modern Challenges in Fire Debris Analysis
*Jamie M. Baerncopf, MS*; *Katherine D. Hutches, PhD*

1:45 p.m. - 2:00 p.m. **B163** The Effects of Burning and Mold Growth on the Analysis of Fire Logs
*Kelsey R. Winters, BS*; *Michelle Evans, MSFS*

2:00 p.m. - 2:15 p.m. **B164** Investigation of Body Products on Worn Clothing Found at a Fire Scene Conflicting With Ignitable Liquid Residue Identification by Gas Chromatography/Mass Spectrometry (GC/MS)
*Gina Guerrera, BS*; *Erika Chen, MS; Michael Valetutti, MS; Brooke W. Kammrath, PhD*  
*(FSF Emerging Forensic Scientist Award Paper Presentation)*

2:15 p.m. - 2:30 p.m. **B165** Identification of Triglycerides in Pristine and Degraded Vegetable Oils and Fats in Fire Debris Extracts by Liquid Chromatography/Mass Spectrometry
*Craig M. Bryant, MSc*; *Josie Warnica, MSc*

2:30 p.m. - 2:45 p.m. **B166** Analysis of Arson Fire Debris by Low Temperature Dynamic Headspace Adsorption Porous Layer Open Tubular (PLOT) Columns
*Thomas J. Bruno, PhD*; *Tara M. Lovestead, PhD; Jessica Nichols, BS; Megan Harries, BS*
2:45 p.m. - 3:00 p.m.  **B167 Application of Likelihood Ratios in Fire Debris Analysis**  
Michael E. Signman, PhD*; Mary R. Williams, MS

3:00 p.m. - 3:15 p.m. **B168 Detection and Quantitation of Polydimethyl Siloxane Using Liquid Chromatography/Mass Spectrometry**  
Katherine A. S. Fahnestock, BS*; Derek Dorrien, MS; Anna L. Deakin, MS; Danielle Green, BS  
(FSF Emerging Forensic Scientist Award Paper Presentation)

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

**Walter and Skyler Hash Over Drug Chemistry**

**Moderator:** Theresa B. Browning, MFS  
Miami, FL  
**Co-Moderator:** Deborah R. Stonebarger, BS  
Department of Justice  
Redding Laboratory  
Redding, CA

3:30 p.m. - 3:45 p.m.  **B169 2015 Update From the Scientific Working Group for the Analysis of Seized Drugs (SWGDRUG)**  
Sandra E. Rodriguez-Cruz, PhD*

3:45 p.m. - 4:00 p.m.  **B170 Synthetic Drug Trends in the United States**  
Emily Dye*

4:00 p.m. - 4:15 p.m. **B171 Collection and Analysis of Fire Debris Evidence to Detect Methamphetamine, Pseudoephedrine, and Ignitable Liquids in Fire Scenes at Suspected Clandestine Laboratories**  
Matthew K. Green*; Raymond Kuk, MS; Jarrad R. Wagner, PhD

4:15 p.m. - 4:30 p.m.  **B172 TLC-SERS of Controlled Substances: Colloid Optimization and Drug Expansion**  
Marisia A. Fikiet, BS*; Kasey R. Cargill; Brooke W. Kammrath, PhD  
(FSF Emerging Forensic Scientist Award Paper Presentation)

4:30 p.m. - 4:45 p.m. **B173 Detection of Drugs in Pharmaceutical Preparations Where Diversion Can Occur by Direct Analysis in Real-Time AccuTOF™-Mass Spectrometry (DART®-MS)**  
Amanda J. Mohs, BA*; Justin L. Poklis, BS; Carl E. Wolf II, PhD; Michelle R. Peace, PhD; Alphonse Poklis, PhD

4:45 p.m. - 5:00 p.m.  **B174 Quantification of Controlled Substances in Simulated Samples Using Attenuated Total Reflectance-Fourier Transform Infrared Spectroscopy (ATR-FTIR) and Principal Components Regression**  
Fanny Chu, BS*; Ruth Waddell Smith, PhD  
(FSF Emerging Forensic Scientist Award Paper Presentation)

5:00 p.m. - 5:15 p.m. **B175 Solid State Nuclear Magnetic Resonance (NMR) of Street Drugs — The New Presumptive Drug Test**  
Alexander Valente, BS*; Frank Dorman, PhD; John Frost, PhD; Roscoe Bennett

5:15 p.m. - 5:30 p.m. **B176 Elemental Analysis of Presumptive Clandestine Laboratory Evidence Using Laser-Induced Breakdown Spectroscopy (LIBS)**  
Amnessa L. Burnett, BS*; Douglas DeGaetano, MS; Rebecca Wagner, PhD  
(FSF Emerging Forensic Scientist Award Paper Presentation)
CRIMINALISTICS

Criminalistics Section Evening Program
Jonathan and Charlotte Present: You Got DNA From WHAT?

Moderator: Karolyn L. Tontarski, MS
DC Department of Forensic Sciences
Forensic Science Laboratory
Washington, DC

Co-Moderator: Richard Tontarski, MFS
Defense Forensics & Biometrics Agency
Forest Park, GA

7:00 p.m. - 9:00 p.m.  B177  You Got DNA From What?
Karolyn L. Tontarski, MS*

Friday — Session III

Multidisciplinary Session Part I: Criminalistics Session III/General/Questioned Documents

Moderator: F.L. Jim Lee, Jr., MS
Eden, UT

Co-Moderator: Gulnaz T. Javan, PhD
Alabama State University
Forensic Science Program
Montgomery, AL

1:00 p.m. - 1:20 p.m.  E67  Organization of Scientific Area Committees (OSAC) Forensic Science Standards Activities: Helping Each Other and Stimulating the Future
John Paul Jones II, MBA*

1:20 p.m. - 1:45 p.m.  E68  A Step Toward Likelihood Ratios in Pattern Recognition Disciplines
Simone Gittelson*

1:45 p.m. - 2:15 p.m.  E69  Reliability, Validity, Accuracy, and Bias in Forensic Document Examination: An Interdisciplinary Approach to Understanding Forensic Decision-Making Processes and Outcomes
Mara L. Merlino, PhD*; Tierra M. Freeman, PhD*; Veronica B. Dahir, PhD; Victoria Springer, PhD; Derek L. Hammond, BA; Adrian G. Dyer, PhD; Bryan Found, PhD

2:15 p.m. - 2:30 p.m.  Break

Multidisciplinary Session Part II: Criminalistics Session III/General/Questioned Documents

Moderator: Jean M. Snider
Hope Mills, NC

Co-Moderator: Parris Ward, JD
Biodynamics Engineering, Inc
Pacific Palisades, CA

2:30 p.m. - 2:45 p.m.  E70  Scientific Area Committee for Physics and Pattern Evidence
R. Austin Hicklin, MS*

2:45 p.m. - 3:15 p.m.  E71  Objective and Quantifiable Metrics for the Determination of Latent Print “Suitability”
Henry J. Swafford, MSFS*; Anthony Koertner, BS; Michael J. Salyards, PhD

*Presenting Author
CRIMINALISTICS

3:15 p.m. - 3:45 p.m.  E72  Cognitive Profiling of Latent Fingerprint Examiners
Itiel Dror, PhD; Melissa K. Taylor, BA*

3:45 p.m. - 4:30 p.m.  E73  Tips for the Courtroom: How to Get the Most Out of the Expert Witness
Stephanie Domitrovich, JD, PhD*; Jeffrey M. Jentzen, MD*

4:30 p.m. - 5:00 p.m.  Discussion

Saturday - Session I

Michael, Jermaine, and Tito Handle Low-Template DNA and a New Technology

Moderator:  Kelly L. Knight, MS
Fairfax, VA

Co-Moderator: Linda Razzano, MS
OCME
Dept of Forensic Biology
New York, NY

8:30 a.m. - 8:45 a.m.  B178  Improving Methods for the Recovery and Analysis of Touch DNA From Fingerprints at Crime Scenes
Jennifer E. Templeton, MSc*; Adrian Linacre, PhD

8:45 a.m. - 9:00 a.m.  B179  Assessment of Fingerprints for Forensic Short Tandem Repeat (STR) Analysis
Lana Ostojic, MS*

9:00 a.m. - 9:20 a.m.  B180  Obtaining STR-Quality Touch DNA From Archived Latent Fingerprints
Aryn M. McClain, BS; Marilyn T. Miller, EdD; Tracey Dawson Cruz, PhD*

9:20 a.m. - 9:40 a.m.  B181  Non-Destructive Biological Evidence Detection and Collection Using the ESDA®-Lite
Dane T. Plaza*; Jamia J. Mealy, MS; Jack N. Lane, BS; Michael N. Parsons, MS; Abigail S. Bathrick, MFS; Donia Slack

9:40 a.m. - 10:00 a.m.  B182  Examination of Rapidly Mutating Y-STR Loci for Increased Resolution of Common Haplotypes Using a Large Multiplex Kit
Michael D. Coble, PhD*; Katherine B. Gettings, PhD; Peter M. Vallone, PhD

10:00 a.m. - 10:15 a.m.  Break

Jon and Jordan Block Out Time to Discuss New Technologies and Approaches

Moderator:  Amy E. Winters, MSP
Mississippi Crime Laboratory
Gulf Coast Regional Laboratory
Gulfport, MS

Co-Moderator: Christie W. Smith, MS
Tennessee Bureau of Investigation
Memphis, TN

10:15 a.m. - 10:30 a.m.  B183  Inferring Bloodstain Age With a Mobile Spectrometer for Forensic Crime Scene Investigation
Nichole Sutton, BS*; Michael Harradon, BS; Paul C. D’Angio, PhD; Michele R. Mendonca, MFS; Kristen L. O’Connor, PhD; Zigurts K. Majumdar, PhD; Daniele S. Podini, PhD*
## CRIMINALISTICS

10:30 a.m. - 10:50 a.m.  **B184**  
**Increasing Discrimination of Degraded DNA Using Quantifiler® Trio With the Ion Personal Genome Machine® Sequencer**  
Joseph P. Chang, BS*; Allison Holt, PhD; Narasimhan Rajagopalan, MS; Robert Lagace, BS; Sharon Wootton, PhD; Robert G. Wright, MS; Sheri Olson, MS; Nnamdi Ihuegbu, PhD; Reina Langit, MS; Chien-Wei Chang, PhD

10:50 a.m. - 11:10 a.m.  **B185**  
**Single-Step Photobleaching: A PCR-Free Alternative to Typing Low-Copy Number Templates**  
Tanya M. Simms, PhD*; Matthew Antonik

11:10 a.m. - 11:30 a.m.  **B186**  
**Development of a Novel DNA Phenotyping System Using Genome-Wide SNP Data**  
Ellen M. Gretyak, PhD*

11:30 a.m. - 11:45 a.m.  **B187**  
**Use of Likelihood Ratios to Unlock Information in Various Short Tandem Repeat (STR) Kits’ Threshold Validation Data Sets With the Use of LabRetriever**  
Megan M. Boll, MSFS; Britton L.F. Morin, MSFS; Jillian C. Fesolovich, MSFS*

11:45 a.m. - 12:00 p.m.  Discussion

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**Saturday — Session II**

**Walt, Jr. and Holly Continue the Drug Chemistry Discussion**

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<tbody>
<tr>
<td>8:30 a.m.</td>
<td>B188</td>
<td><strong>Fabric Phase Sorptive Extraction Media: A Highly Effective Forensic Sample Collection and Storage Device</strong></td>
<td>Abuzar Kabir, PhD; Rodolfo Mesa*, Kenneth G. Furton, PhD</td>
</tr>
<tr>
<td>8:45 a.m.</td>
<td>B189</td>
<td><strong>Investigating the Use of Illicit Drug Smoke Aerosol Residues as Recoverable Trace Evidence</strong></td>
<td>Julie L. Bitter, PhD*</td>
</tr>
<tr>
<td>9:00 a.m.</td>
<td>B190</td>
<td><strong>Analysis of Phenethylamine Street Drugs for Psychoactive Compounds and Impurities</strong></td>
<td>Maura K. McGonigal*, Philip Smith, PhD; Noelle Elliott, PhD; Frank Dorman, PhD</td>
</tr>
<tr>
<td>9:15 a.m.</td>
<td>B191</td>
<td><strong>Rapid Drug Identification in the Field Using Direct Analysis in Real Time (DART®) and a Portable Ion Trap Mass Spectrometer</strong></td>
<td>Berk Oktem, PhD; Kenyon M. Evans-Nguyen, PhD*; Hilary Brown; Vladimir Doroshenko, PhD</td>
</tr>
<tr>
<td>9:30 a.m.</td>
<td>B192</td>
<td><strong>Forensic Analysis of Dipyrdone in Fentanyl Samples</strong></td>
<td>Yuriy Uvaydov, MS*</td>
</tr>
<tr>
<td>9:45 a.m.</td>
<td>B193</td>
<td><strong>The Utility of Ultra High-Performance Liquid Chromatography With Time-of-Flight Detection for the Identification of Synthetic Cannabinoids: Part I — The Role of the Separation Technique</strong></td>
<td>Ira S. Lurie, PhD*; Ioan Marginean, PhD; Walter F. Rowe, PhD</td>
</tr>
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*Presenting Author
CRIMINALISTICS

10:00 a.m. - 10:15 a.m.  B194  The Utility of Ultra High-Performance Liquid Chromatography With Time-of-Flight Detection for the Identification of Synthetic Cannabinoids: Part II — The Role of the Detection Technique
Ioan Marginean, PhD*; Ira S. Lurie, PhD; Walter F. Rowe, PhD

10:15 a.m. - 10:30 a.m.  Break

Shirley Schools Keith, Laurie, and Danny on Drug Chemistry and Instrumental Analysis

Moderator:  Shirly Berends-Montero, PhD
Den Haag, NETHERLANDS
Co-Moderator:  Micheal A. Villarreal, BA
Forest Park, GA

10:30 a.m. - 10:45 a.m.  B195  High-Sensitivity Drug Analysis With Optical Isomer Resolution Using Mixed Chiral Selectors
Christopher M. Rollman, BS*; Mehdi Moini, PhD

10:45 a.m. - 11:00 a.m.  B196  Determination of the Stoichiometry in the Modified Ferric Hydroxamate Test for Gamma-Hydroxybutyric Acid (GHB)
Thomas A. Brettell, PhD*; Karen Lau

11:00 a.m. - 11:20 a.m.  B197  An Analysis of Elemental Content in Various Brands of Cigarette Ash by Atomic Absorption Spectroscopy
Kaitlin E. Hafer, BS*; Lindsey A. Welch, PhD

11:20 a.m. - 11:40 a.m.  B198  Forensic Source Attribution Using Stable Isotopes: Hairs to Humans and Insects to Carrion
Glen P. Jackson, PhD*; Kateryna Konstantynova; Mayara P.V. De Matos, MS; Rachel M. Mohr, PhD

11:40 a.m. - 12:00 p.m.  B199  From Plants to Projectiles: New Analytical Approaches to the Utility of Direct Analysis in Real Time (DART®) Technology in Forensic Cases
Adam B. Hall, PhD*; William Edison, MS; Crystal N. Hart; Rachel Underwood, MSFS; Peter J. Diauzuk, BS; Joseph H. LaPointe, BSc; Brian Musselman, PhD
Thursday

Multimedia

**Moderator:** Walter T. Hart, MBA
San Francisco, CA

**Co-Moderator:** John E. Sammons, MS
Ona, WV

8:30 a.m. - 8:50 a.m. **C1** Large-Scale, Common-Source Identification of Digital Camera Images
Zeno J. Geradts, PhD*; Floris Gisolf, MSFS

8:50 a.m. - 9:10 a.m. **C2** WITHDRAWN

9:10 a.m. - 9:30 a.m. **C3** Assessing the Relationship Between Individual Differences and Child Pornography Image Preferences in an Internet Sample of Child Pornography Consumers
Kathryn C. Seigfried-Spellar, PhD*

9:30 a.m. - 9:50 a.m. **C4** Forensic Image Comparison of Feet
Zeno J. Geradts, PhD*; Katerina Palla, MFS

9:50 a.m. - 10:10 a.m. **C5** Age Estimation of Adolescents and Adults Using the Dimensions of the Eye and Pupil in “Selfie” Photographs
KariAnna Baber, BS, BA*; Robert J. Boggs; Joshua L. Brunty, MS; Ian Levstein, MS; Terry Fenger, PhD (FSF Emerging Forensic Scientist Award Paper Presentation)

10:10 a.m. - 10:30 a.m. **C6** How Accurate is 3D Facial Morphology for Personal Identification?
Petra Urbanová, PhD*; Igor Chalás; Barbora Kozlikova, PhD

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

**Interdisciplinary I**

**Moderator:** Daniel J. Ryan, JD
Pasadena, MD

**Co-Moderator:** Kathryn C. Seigfried-Spellar, PhD
University of Alabama
Dept of Criminal Justice
Tuscaloosa, AL

11:00 a.m. - 11:20 a.m. **C7** Effects of Latent Print Processing on Evidence Prior to Digital Evidence Examination
Charlotte W. Ware, MSFS*; Angela R. Pratt, MFS; Anna R. Fridley, MSIS, MFS

11:20 a.m. - 11:40 a.m. **C8** Placing the Suspect “Behind the Keyboard” Through the Application of Handwriting Analysis to MS® Office OneNote® File Content
Thomas L. Murray, MS*; Joseph L. White, MS*

11:40 a.m. - 12:00 p.m. **C9** The Role of Fantasy in Investigating Online Predation Cases
Peter R. Stephenson, PhD*; Richard D. Walter, MA

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

*Presenting Author
### Poster Session

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<tr>
<td>11:30 a.m. - 1:00 p.m.</td>
<td>C10</td>
<td><strong>3D Superimposition: A New Technique of Personal Identification</strong></td>
<td>Antonio De Donno, PhD; Sergio Lubelli, PhD*; Valeria Santoro, PhD; Fulvio Lavecchia, PhD; Luigi M. Galantucci, PhD; Francesco Introna, MD</td>
</tr>
<tr>
<td>11:30 a.m. - 1:00 p.m.</td>
<td>C11</td>
<td><strong>Online Anonymity: Forensic Analysis of the The Onion Router (Tor) Browser Bundle</strong></td>
<td>Darcie L. Winkler, BS*; Robert J. Boggs; John E. Sammons, MS; Terry Fenger, PhD</td>
</tr>
<tr>
<td>11:30 a.m. - 1:00 p.m.</td>
<td>C12</td>
<td><strong>Fingerprint Replication Utilizing Latent Fingerprints for Conducting Forensic Analysis on Mobile Devices With Biometric Security</strong></td>
<td>Joshua D. Sablatura*; Robert McDown, BS*; Jorn Chi-Chung Yu, PhD; Lei Chen, PhD</td>
</tr>
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</table>

### Interdisciplinary II

**Moderator:** Kathryn C. Seigfried-Spellar, PhD  
**University of Alabama**  
**Dept of Criminal Justice**  
**Tuscaloosa, AL**

**Co-Moderator:** Daniel J. Ryan, JD  
**Pasadena, MD**

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<th>Time</th>
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<tr>
<td>1:00 p.m. - 1:20 p.m.</td>
<td>C13</td>
<td><strong>Implications for Digital Forensics Investigations of the United States 2nd Circuit Ruling Upholding Deletion of Non-Responsive Computer Files: A United States and European Union/Germany Perspective</strong></td>
<td>Donald J. Horowitz, JD; Barbara E. Endicott-Popovsky, PhD*; Aaron Alva; Hellen Schiling, PhD; Carsten Rudolph, PhD; Nicolai Kuntze</td>
</tr>
<tr>
<td>1:20 p.m. - 1:40 p.m.</td>
<td>C14</td>
<td><strong>Modeling Digital Autopsies on Medical Autopsies</strong></td>
<td>Martin S. Olivier, PhD*</td>
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### Digital

**Moderator:** Joshua L. Brunty, MS  
**Dept of Integrated Science & Technology**  
**Huntington, WV**

**Co-Moderator:** Gary C. Kessler, PhD  
**Embry-Riddle Aeronautical University**  
**Daytona Beach, FL**

**Co-Moderator:** Julie J.C.H. Ryan, DSc  
**Washington, DC**

**Co-Moderator:** Barbara E. Endicott-Popovsky, PhD  
**Seattle, WA**

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<tr>
<td>1:40 p.m. - 2:00 p.m.</td>
<td>C15</td>
<td><strong>Exploring Myths in Digital Forensics</strong></td>
<td>Gary C. Kessler, PhD*; Gregory H. Carlton, PhD</td>
</tr>
<tr>
<td>2:00 p.m. - 2:20 p.m.</td>
<td>C16</td>
<td><strong>Forensic Investigation of Crimes Committed by Unmanned Systems</strong></td>
<td>Victor W. Weedn, MD, JD*; Anthony M. Hallett</td>
</tr>
<tr>
<td>2:20 p.m. - 2:40 p.m.</td>
<td>C17</td>
<td><strong>Cloud Computing Forensic Science Challenges</strong></td>
<td>Josiah Dykstra, PhD; Lon Gowen, PhD; Martin Herman, PhD*; Michaela Iorga, PhD; Robert Jackson, MS; Otto Scot Reemelin, MS; Ernesto F. Rojas, MBA; Keyun Ruan, PhD; A. Michael Salin, MS; Ken E. Stavinosha, PhD; Laura P. Taylor, MS; Kenneth R. Zatyko, MS</td>
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</table>

*Presenting Author
2:40 p.m. - 3:00 p.m.  C18  Federated Testing: Shared Test Materials From the Computer Forensics Tool Testing (CFTT) Program at NIST for Digital Forensics Tool Validation and Shared Test Reports
Benjamin R. Livelsberger, MS*; Richard Ayers, MS; Barbara Guttman, BA

3:00 p.m. - 3:20 p.m.  C19  Implications of Valid Data Length (VDL) Slack and the Facts That It Presents
David G. Ferguson, MS*

3:20 p.m. - 3:50 p.m.  Break

3:50 p.m. - 4:10 p.m.  C20  Steganography Analysis: Efficacy and Response Time of Current Steganalysis Software
Jordan B. Green, BS*; Ian Levstein, MS; Robert J. Boggs; Terry Fenger, PhD
(FSF Emerging Forensic Scientist Award Paper Presentation)

4:10 p.m. - 4:30 p.m.  C21  Generating a Corpus of Mobile Forensic Images for Masquerading User Experimentation
Marc Brooks, MS; Justin Grover, MS; Mark D. Guido, MS*; Eric Katz; Jared Ondricek, MS; Marcus Rogers, PhD; Lauren Sharpe, MS

4:30 p.m. - 4:50 p.m.  C22  The Intersection of Physical and Digital Security and Investigations
Walter T. Hart, MBA*

4:50 p.m. - 5:10 p.m.  C23  Memory Forensics: Reliable In-Memory Code Identification Using Relocatable Pointers
Irfan Ahmed, PhD*; Vassil Roussev, PhD; Aisha Ali-Gombe, MS

5:10 p.m. - 5:30 p.m.  C24  Graphic File Carving Tool Testing
Richard Ayers, MS; James R. Lyle, PhD; Jenise Reyes-Rodriguez, BS*
Thursday — Session I

Crash Testing and Crash Worthiness

Moderator: Kurt D. Weiss, MS
Automotive Safety Research
Santa Barbara, CA

8:30 a.m. - 8:45 a.m. D1 Vehicle Seat-Adjuster Failure in Collisions: Unreliable Safety Devices
Mark C. Pozzi, MS*; Kenneth J. Saczalski, PhD*

8:45 a.m. - 9:15 a.m. D2 Enhanced Injury From Failure of Seats, Seat Belts, and Unsafe Vehicle Interiors
Mark C. Pozzi, MS*; Kenneth J. Saczalski, PhD*; Paul R. Lewis, Jr., MS*; Todd Saczalski, BSMET; Charles Dickerson, BS

9:15 a.m. - 9:35 a.m. D3 Motorcycle Helmet Translational and Rotational Head Injury Risk Measures Using H-III Head Impact Tests
Kenneth J. Saczalski, PhD*; Todd Saczalski, BSMET; Joseph L. Burton, MD

9:35 a.m. - 9:55 a.m. Break

9:55 a.m. - 10:10 a.m. D4 Ejection of Belted Vehicle Occupants Due to Seat and Belt Failure in Rear Impacts
Mark C. Pozzi, MS*; Paul R. Lewis, Jr., MS*; Kenneth J. Saczalski, PhD

10:10 a.m. - 10:40 a.m. D5 Vehicular Rear-Impact Accident Reconstruction: Validation by Crash, Sled, and Static Testing
Todd Saczalski, BSMET*; Mark C. Pozzi, MS*; Charles Dickerson, BS; Kenneth J. Saczalski, PhD

10:40 a.m. - 11:00 a.m. D6 Crash Test Verification of Offset Rear-Impact Accident Reconstruction and Crashworthiness-Design Concepts
Robert L. Anderson, MS*; Kenneth J. Saczalski, PhD*; Todd Saczalski, BSMET; Russell L. Anderson, MS; Mark C. Pozzi, MS; Peter E. Baray

11:00 a.m. - 11:15 a.m. Break

Biomechanics I

Moderator: Matthew A. Ivory, BS
Phoenix, AZ

11:15 a.m. - 11:30 a.m. D7 Biomechanical Evaluation of Pediatric-Inflicted Head Trauma
John D. Lloyd, PhD*; William E. Lee III, PhD

11:30 a.m. - 11:45 a.m. D8 Low-Energy Bone Fractures: Part III
David Pienkowski, PhD*; Hartmut Malluche, MD

11:45 a.m. - 12:00 p.m. D9 Biomechanics of Short Falls in Children
John D. Lloyd, PhD*

12:00 p.m. - 1:15 p.m. Lunch
Poster Session

11:30 a.m. - 1:00 p.m.  **D10**  An Examination of Dynamic Mechanical Properties and the Strain State Evaluation Technique of Soft Tissue  
*Yasumi Ito, PhD; Ryotaro Kishida*; Yoshiyuki Kagiyama, PhD; Shohei Daimaru

**Biomechanics II**

**Moderator:** David Pienkowski, PhD  
*University of Kentucky*  
*Lexington, KY*

1:15 p.m. - 1:35 p.m.  **D11**  Biomechanical, Mechanical, and Epidemiologic Characteristics of Low-Speed Rear-Impact Collisions  
*Michael Freeman, MD, PhD*

1:35 p.m. - 1:50 p.m.  **D12**  Biomechanics of Spinal Injury  
*Harold Franck, MSEE, PE*; Darren Franck, MSME

1:50 p.m. - 2:05 p.m.  **Break**

2:05 p.m. - 2:25 p.m.  **D13**  Biomechanical Evaluation of Head Kinematics During Infant Shaking vs. Pediatric Activities of Daily Living  
*John D. Lloyd, PhD*; William E. Lee III, PhD; Edward Willey, MD

2:25 p.m. - 2:40 p.m.  **D14**  Relationship of Risk Factors and Specific Tissues at Risk in Rear-Impact Collisions  
*Scott D. Rosenquist*; Roger A. Russell, DC; John J. Smith, MSEE, PE; Bradley Boville, BA

2:40 p.m. - 3:00 p.m.  **D15**  Biomechanical Evaluation of Shaking Impact Syndrome  
*John D. Lloyd, PhD*

3:00 p.m. - 3:15 p.m.  **Break**

**Structural, Accessibility, Safety**

**Moderator:**  
*John J. Smith, MSEE, PE*  
*Parker, CO*

3:15 p.m. - 3:30 p.m.  **D16**  Can Barefoot Slip Resistance Be Quantified Using the ASTM F2508 Standard for Tribonometric Testing?  
*Marcus P. Besser, PhD*; Mark I. Marpet, PhD, PE; Howard P. Medoff, PhD

3:30 p.m. - 4:00 p.m.  **D17**  Additions to Accessibility Standards for Nursing Home and Assisted Living Residents in Toileting and Bathing  
*Robert D. Lynch, BA*; Robert N. Mayer, PhD; Jon A. Sanford, MA*; Margaret Calkins, PhD;  
Quinn deMenna, BA*; Ingrid Fraley, BA; Vincent G. Carter, MS; Dennis Hancher, BArch;  
Eric S. McRoberts, BArch; Tracy Morgan, MSc; Craig Berger, BA
Thursday — Session II

Weapons and Firearms

Moderator: Sarah V. Hainsworth, PhD
University of Leicester
Dept of Engineering
Leicester, UNITED KINGDOM

8:30 a.m. - 9:00 a.m. D21 Forensic Investigation of a Premature Mortar Explosion That Resulted in the Death and Maiming of Several United States Marines
John Nixon, MBA*

9:00 a.m. - 9:20 a.m. D22 Catastrophic Failures in Firearms and Ammunition Attributed to Propellant Issues, Metal Fatigue, High Pressure, Incorrect Ammunition, and Other Factors
Ronald R. Scott, MA, MS*

9:20 a.m. - 9:50 a.m. D23 Injuries Arising From Glass Drinking Vessels Used in Stabbing and Slashing Attacks
Sarah V. Hainsworth, PhD*; Ryan Pitchford, BEng; Richard W. Earp; Stuart J. Hamilton, MB; Guy N. Rutty, MD

9:50 a.m. - 10:05 a.m. Break

10:05 a.m. - 10:25 a.m. D24 Investigation of “Inert” Artillery Shell Explosions
John Nixon, MBA*

10:25 a.m. - 10:45 a.m. D25 Killing-Power Ranking of Blunt Instruments — Establishment of a Method to Evaluate Human Injury
Shohei Daimaru*; Yasumi Ito, PhD; Yoshiyuki Kagiyama, PhD; Ryotaro Kishida; Kohei Fujigaya

10:45 a.m. - 11:10 a.m. D26 A Study of Batch-to-Batch Handgun Ammunition Propellant Variables and Their Influence on Muzzle-to-Target Distance Determinations
John Nixon, MBA*

11:10 a.m. - 11:30 a.m. Break
**Errors in Forensics — Prelude**

*Moderator: Darren Franck, MSME*

*Advanced Engineering Associates, Inc*

*Charleston, WV*

11:30 a.m. - 11:55 a.m.  
**D27**  
*Testing of Police Radar*  
*Mark E. Goodson, PE*; *Gary Hartzler, BSME*

11:55 a.m. - 1:00 p.m.  
**Lunch**

**Multidisciplinary Session: Engineering Sciences Session II/Jurisprudence Session II — Error Rates**

*Moderator: Peter Alexander, PhD*  
*Co-Moderator: Donald E. Shelton, JD, PhD*  
*Aurora, CO Saline, MI*

1:00 p.m. - 1:30 p.m.  
**D28**  
*Do I Really Have to Measure Everything Twice in My Forensic Investigation: Isn’t Error Analysis Just Something One Does in Bench Science?*  
*Thomas L. Bohan, PhD, JD*

1:30 p.m. - 2:00 p.m.  
**D29**  
*Error and Uncertainty in Toxicology and Drug Analysis — Terminology Matters*  
*Suzanne Bell, PhD*

2:00 p.m. - 2:30 p.m.  
**F24**  
*Communicating Error and Uncertainty in the Courtroom: The Language, Methods, and Psychology of Doubt and Belief*  
*Ted W. Vosk, JD*

2:30 p.m. - 3:00 p.m.  
**D30**  
*Limitations Associated With the Examination and Presentation of Fingerprint Evidence*  
*Melissa Gische, MFS*

3:00 p.m. - 3:15 p.m.  
**Break**

3:15 p.m. - 3:45 p.m.  
**F25**  
*Errors in DNA Testing: Lessons Learned — A Retrospective Look*  
*Charlotte J. Word, PhD*

3:45 p.m. - 4:15 p.m.  
**D31**  
*Certainties and Uncertainties in Accident Reconstruction — How Correcting the Other Side’s Misstatements Affects Jury Verdicts*  
*Peter Alexander, PhD*

4:15 p.m. - 4:45 p.m.  
**F26**  
*Culture of Infallibility: The Inability of the Criminal Justice System to Concede Scientific Uncertainty*  
*Roderick T. Kennedy, JD*

4:45 p.m. - 5:00 p.m.  
**Discussion**

*Presenting Author*
Friday — Session I

Environmental and Chemical

Moderator: Michael C. Hadka, PhD
Downingtown, PA

8:30 a.m. - 8:50 a.m. D32 Forty Years of Squinting — Environmental Forensic Microscopy: 1974–2014
James Millette, PhD*

8:50 a.m. - 9:10 a.m. D33 Look at the Chemistry
James S. Smith, PhD*; Carol A. Erikson, MSPH

9:10 a.m. - 9:30 a.m. D34 Let’s Leave the Junk in the Junk Yard
Michael C. Hadka, PhD*; James S. Smith, PhD

9:30 a.m. - 9:50 a.m. D35 Using SESOIL to Evaluate Contaminant-Release Time Frames in an Environmental Litigation Context
Mark A. Kauffman, Jr., BS*; Charles F. McLane, PhD

9:50 a.m. - 10:05 a.m. Break

10:05 a.m. - 10:25 a.m. D36 Where Is New Jersey Going?
James S. Smith, PhD*; Carol A. Erikson, MSPH

10:25 a.m. - 10:45 a.m. D37 Federal Court Testimony — Tennessee Valley Authority (TVA) Kingston Slurry Ash Spill
Gary R. Brown, BS*

10:45 a.m. - 11:05 a.m. D38 Environmental Forensics Vanity Journals
James S. Smith, PhD*; Carol A. Erikson, MSPH

11:05 a.m. - 1:00 p.m. Lunch

Explosions, Fires, and Electrical Failures

Moderator: Harold Franck, MSEE, PE
Advanced Engineering Associates, Inc
Charleston, WV

1:00 p.m. - 1:20 p.m. D39 Sometimes Electrical Work Results in Damage, Fire, Injury, or Electrocution
Thomas P. Shefchick, BSEE*

1:20 p.m. - 1:40 p.m. D40 Hot Air Balloon Fires, Power Lines, and Product Liability
Helmut G. Brosz, PEng, BASc*; S.B. Addison Larson

1:40 p.m. - 2:00 p.m. D41 Forensic Engineering Investigation of Burn Injuries in a Defective Spa Pool Light Installation
A.K. Aleksander, PhD*
2:00 p.m. - 2:20 p.m.  **D42**  Sometimes Deficient Electrical Installations Result in a Fire  
*Thomas P. Shefchick, BSEE*  

2:20 p.m. - 2:35 p.m.  **Break**  

2:35 p.m. - 2:55 p.m.  **D43**  Did Radiant Heat From Electric Coils Cause a House Fire?  
*Darren Franck, MSME*;  *Harold Franck, MSEE, PE*  

2:55 p.m. - 3:15 p.m.  **D44**  Forensic Engineering Evaluations of Underground Gas Line Leaks: Residential Explosions Involving Marijuana-Growing Operations in Colorado  
*Michael D. McDowell, MS*  

3:15 p.m. - 3:35 p.m.  **D45**  Electrical Safety Components Sometimes Cause Damage  
*Thomas P. Shefchick, BSEE*  

3:35 p.m. - 4:00 p.m.  **Discussion**  

---**Friday — Session II**---

**Accident Reconstruction**

*Moderator: Mark C. Pozzi, MS  
Sandia Safety Sciences  
Edgewood, NM*

8:30 a.m. - 9:00 a.m.  **D46**  A Multidisciplinary Analysis of a Complex Motorcycle Fatality  
*Matthew A. Ivory, BS*;  *Parris Ward, JD*;  *Michelle R. Hoffman, MS*;  *Carley C. Ward, PhD*  

9:00 a.m. - 9:20 a.m.  **D47**  Forensic Engineering Critical Site Photogrammetry and the Use of GPS in a Ski Collision Case  
*A.K. Aleksander, PhD*  

9:20 a.m. - 9:40 a.m.  **D48**  Reconstruction of a Seven-Car Pileup: A Case Study  
*John J. Smith, MSEE, PE*;  *Bradley Boville, BA*  

9:40 a.m. - 9:55 a.m.  **Break**  

9:55 a.m. - 10:15 a.m.  **D49**  3D Animation Applied to the Analysis of Pre-Impact Visibility Obscurement  
*Kurt D. Weiss, MS*  

10:15 a.m. - 10:35 a.m.  **D50**  Engineering Ethics and an Aircraft Crash  
*William H. Muzzy III, BS*  

10:35 a.m. - 10:55 a.m.  **D51**  Left-of-Center Accident Reconstructions: A Case Study  
*Darren Franck, MSME*;  *Harold Franck, MSEE, PE*  

10:55 a.m. - 11:15 a.m.  **D52**  Sideswipe Evidence for Traffic Accident Reconstruction  
*Russell L. Anderson, MS*  

11:15 a.m. - 1:00 p.m.  **Lunch**  

*Presenting Author*
Linguistics and Biometrics

Moderator: Roy Crawford, PE, BSME
RR Crawford Engineering, Inc
Whitesburg, KY

1:00 p.m. - 1:20 p.m. D53 WISER: Automatically Classifying Written Statements as True or False
Carole E. Chaski, PhD*; Angela Almela, PhD; Gary Holness, PhD; Larry Barksdale, MA

1:20 p.m. - 1:40 p.m. D54 The Scientific and Legal Status of Forensic Speaker Recognition in the United States
James L. Wayman, PhD*; William C. Thompson, PhD, JD; Dorothy J. Glancy, JD

1:40 p.m. - 2:00 p.m. D55 Comparing Statistical and Machine-Learning Techniques in Author Identification and Verification
Carole E. Chaski, PhD*; Gary Holness, PhD; Michael J. Harris, MA

2:00 p.m. - 2:20 p.m. D56 Comparing Literary, Biometric, and Forensic Approaches to Author Identification
Carole E. Chaski, PhD*

2:20 p.m. - 2:45 p.m. Break

Modeling, Mapping, and Image Analysis

Moderator: Robert Dale Lynch, BA
Haymarket, VA

2:45 p.m. - 3:00 p.m. D57 Pathway for Integrating All Hazard Preparedness/Risk Management With Command and Control
Robert Pentz, BS*; Matthew Begert, BS*; Alan M. Foonberg, MS*; Brendan J. Foran, PhD*; Joseph Han, PhD*; Mark Polak, PhD*; Donald J. Rudy, PhD*; Allyson Yarbrough, PhD*

3:00 p.m. - 3:30 p.m. D58 The Next Step: Creating and Using the 3D Working Model From Laser Scan Data to Better Seek and Illustrate the Truth
Craig T. Fries, BA*

3:30 p.m. - 3:45 p.m. Break

3:45 p.m. - 4:00 p.m. D59 You View Your World in 3D — Shouldn’t You View Your Case in the Same Manner? The Use of High-Definition Survey (HDS) Laser Scanning in Forensic Engineering
Steven M. Schorr, PE*

4:00 p.m. - 4:15 p.m. D60 The Assessment of Facial Modifications Due to Mimicry: Possible Influences on Personal Identification From Video Surveillance Systems
Daniele M. Gibelli, PhD*; Danilo De Angelis, DDS; Pasquale Poppa, BS; Federica Collini; Chiarella Sforza, MD; Cristina Cattaneo, PhD

4:15 p.m. - 4:30 p.m. D61 Image Processing Application to Anthropological Automatic Characterization in Forensics
Alberto L. Geraci*; Giovanna A. Fargione, PhD
Wednesday

Poster Session

11:30 a.m. - 1:00 p.m. E1 Use of Earprints as Evidence in Spain
Carlos J. Lopez-Gobernado, PhD*

11:30 a.m. - 1:00 p.m. E2 Differentiation of Human, Animal, and Synthetic Hair by ATR-FTIR Spectroscopy
Jeremy M. Manheim*; Kyle C. Doty, BS; Gregory McLaughlin, MS; Igor K. Lednev, PhD

11:30 a.m. - 1:00 p.m. E3 From 20 to 12 in 42 Years: A Case of Inflated Age Estimation and the Role of Forensic Anthropology in Cold Case Investigations
Katie M. Rubin, MS*; Joshua A. Mott

11:30 a.m. - 1:00 p.m. E4 A Study of Morphological and Metric Variations of the Human Ear — Applications in Personal Identification
Kewal Krishan, PhD*; Tanuj Kanchan, MD; Swati Thakur, MSc

11:30 a.m. - 1:00 p.m. E5 A Pilot Study to Evaluate Baseline Quantities of Recovered Touch DNA From a Pistol and Ammunition
Maher Noureddine, PhD*; James A. Bailey, PhD

11:30 a.m. - 1:00 p.m. E6 Mummified Tattoo Rehydration, Photography, and Reconstruction in Cold Case Investigations
Meredith L. Tise, PhD*; David C. Boyer, MA; Melanie S. Linton-Smith, BA

11:30 a.m. - 1:00 p.m. E7 Carbon Monoxide Poisoning: A Study of Five Cases and Literature Review
Renata S. Razaboni; Ivan D. Miziara, MD, PhD*; Carmen Silvia M. Miziara, MD, PhD; Daniel R. Muñoz, MD, PhD

11:30 a.m. - 1:00 p.m. E8 Does Probing Enhance the Decomposition Odor Released From a Gravesite?
Shari Forbes, PhD*; Amanda Troobnikoff, BSc; Katelynn A. Perrault, BSc; Maiken Ueland, BSc

11:30 a.m. - 1:00 p.m. E9 Hammercide: A Bloody Hammer, a Dead Husband, a Bloody Wife, and a Bloody Live-In Friend, as Well as a False Confession
Steven E. McGibbon, MFS*; Michael Bishop, BS*

11:30 a.m. - 1:00 p.m. E10 Development Process Validation for Kinship Analysis Algorithm
Sharada Vijaychander, MS*

11:30 a.m. - 1:00 p.m. E11 An Assessment of the Volatile Organic Compounds (VOCs) of an Agricultural Biothreat Agent, Raf raelea lauricola, and Training Aids for Canine Detection
Alison Simon*; Julian L. Mendel, MSc; Kenneth G. Furton, PhD; DeEtta Mills, PhD

11:30 a.m. - 1:00 p.m. E12 Breaking Glass: Case Review of an In-Hospital Suicide
Bethany L. Bless, MS*

11:30 a.m. - 1:00 p.m. E13 Mortality Directly Related to Abuse Against the Elderly in Brazil: A Reality That Needs to Be Reported
Carmen Silvia M. Miziara, MD, PhD*; Fabiana I. Carvalho, MD; Thiago Victa Teixeira, MD; Ivan D. Miziara, MD, PhD

*Presenting Author
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<tr>
<td>11:30 a.m.</td>
<td>E14</td>
<td>Forensic Physical Evidence vs. Eyewitness Evidence: A Look at Their Contributions to Wrongful Convictions and Exonerations</td>
<td>Irene A. Estrada, MFS*; Ismail M. Sebetan, MD, PhD*; Paul Stein, PhD*</td>
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<td>Thursday</td>
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<tr>
<td>8:30 a.m.</td>
<td>E15</td>
<td>Effective Use of the Multidisciplinary Approach Is Critical to Solving Contemporary Violent Crime</td>
<td>David J. Zeliff, MFS*; Michael J. Bosse, MFS*</td>
</tr>
<tr>
<td>8:45 a.m.</td>
<td>E16</td>
<td>Multidisciplinary Approach to a Staged Sexual Assault</td>
<td>Steven Geniuk, MS*; Arthur S. Chancellor, MA*</td>
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<tr>
<td>9:00 a.m.</td>
<td>E17</td>
<td>Do We Have the Right Guy? Connecting One Suspect to Two Brutal Attempted Sexual Assaults in Neighboring Police Jurisdictions</td>
<td>Matthew C. Wietbrock, BS*</td>
</tr>
<tr>
<td>9:15 a.m.</td>
<td>E18</td>
<td>Obscene Phone Calls: How to Consider This Hands-Off Offense</td>
<td>Ingrid Bertsch, MA; Sebastien Prat, MD*</td>
</tr>
<tr>
<td>9:30 a.m.</td>
<td>E19</td>
<td>A Ten-Year Study of Suicides From a Rural/Suburban County</td>
<td>Robert J. Bready, MS*; Jennifer C. Bready, PhD*; Dennis J. Chute, MD</td>
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<tr>
<td>9:45 a.m.</td>
<td>E20</td>
<td>Investigating Elder Deaths</td>
<td>Julie A. Howe, MBA*; Kim A. Collins, MD*; Patricia King, RN*</td>
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<td>10:15 a.m.</td>
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<td>Break</td>
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<tr>
<td>10:30 a.m.</td>
<td>E21</td>
<td>Bleeding Out: A Case of Mistaken Homicide</td>
<td>Bethany L. Bless, MS*</td>
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<tr>
<td>10:45 a.m.</td>
<td>E22</td>
<td>The “Spaghetti Bullet”: Difficulties Inherent in the Medicolegal Investigation of Deaths Caused by Non-Standard Ammunition</td>
<td>Lindsey A. Bayer, MS*; Brett E. Harding, MBA; Wendy A. Lavezzi, MD; Barbara C. Wolf, MD</td>
</tr>
<tr>
<td>11:00 a.m.</td>
<td>E23</td>
<td>Blunt Force and Fire — Four Victims and the One Who Got Away: Case Study of a Serial Murderer</td>
<td>Dayle L. Hinman, BS*</td>
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</table>
E24 Case Study: How the Murder of a 4-Year-Old Girl Changed the System
Carrie Costello, BA*

E25 Homicide Investigation and Cold Cases: Why Aren’t We Clearing More Cases?
James M. Adcock, PhD*

E26 Hyperspectral Remote Sensing: Detection of an Experimental Mass Grave Over Time and at Different Scales in a Temperate Environment
Gabriela Ifimov, BA*; George Leblanc, PhD; Margaret Kalacska, PhD; Tim Moore, PhD

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

Poster Session

E27 Debunking Three Myths About Rape Victims’ Responses to Their Attacks
Mary Carr, MD*

E28 Murder or Accidental Drowning in a Bathtub? Case Studies of Drowning and Non-Aquatic Homicides Staged as Bathtub Drowning Accidents and Suicides
Andrea Zaferes, BA*; Mary E.S. Case, MD*

E29 Conservation Genetics of Bioko Monkeys
Cynthia R. Zmich, BS*; Heather E. Mazzanti, MSFS; Susan M. Gurney, PhD; Naomi Phillips, PhD
(FSF Emerging Forensic Scientist Award Paper Presentation)

E30 Evaluating Methods for Removing Radioactive Contamination From Traditional Forensic Evidence: Moths
Kelly Daniel*; Rachel Lindvall, BA; Lauren L. Richards-Waugh, PhD; Jason Chute, MSFS; Michael Kristo, PhD

E31 Discrimination of Human and Animal Blood Traces Via Raman Spectroscopy
Kyle C. Doty, BS*; Gregory McLaughlin, MS; Igor K. Lednev, PhD*

E32 The Optimization of Spermatozoa Extraction and the Study of the Retention of Spermatozoa on Machine-Washed Clothing
Nicole Gallo, BA*

E33 Adding Value to Your Learning Event
Shirly Berends-Montero, PhD*

E34 Comparing Resolution of Analog vs. Digital Imaging Systems in Postmortem Applications
Tania Grgrurich, MS; Gerald J. Conlogue, MHS*; Natalie A. Pelletier, MHS; Robert Lombardo, BS

E35 Forensic Discrimination of Ballpoint Pen Inks on Documents Using LA-ICP/MS
Jisook Min*
11:30 a.m. - 1:00 p.m.  **E36** Comparing 6,000 Consecutively Fired .40 Smith & Wesson® Bullets and Cartridge Cases From a Sig Sauer® P320 Pistol Utilizing 3D Imaging and Objective Comparative Analysis  
*Jennifer L. Stephenson, MSFS*; *Erich D. Smith, MS*  
11:30 a.m. - 1:00 p.m.  **E37** Accidental Trauma Mimicking Homicidal Violence  
*Samuel Prahlow*; *Alexander Arendt, BS*; *Thomas J. Cameron*; *Joseph A. Prahlow, MD*  
11:30 a.m. - 1:00 p.m.  **E38** Theoretical Evaluation of the Use of the Bloodstain Pooling Method as a Screening Technique  
*Khudooma S. Al Na’imi, MSc*; *Zaina Alhattali, MSc*; *Anwar M. Siddiqi, MSc*; *Mahmoud B. Al Sharairi, BS*  
11:30 a.m. - 1:00 p.m.  **E39** A Bloodstain Pattern Analysis (BPA) Approach to the Shroud of Turin: A Step Forward  
*Luigi Garlaschelli*; *Matteo Borrini, PhD*  

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**Moderator:** Heather E. Mazzanti, MSFS  
*Glenside, PA*  
**Co-Moderator:** Phillip M. Curran, MFS  
*Fort Hood, TX*  

1:00 p.m. - 1:15 p.m.  **E40** The Flipped Classroom — Turning Your Forensic Education Program Upside-Down  
*Thomas P. Mauriello, MFS*  
1:15 p.m. - 1:30 p.m.  **E41** Asylum Seekers Alleging Torture in Their Countries: Evaluation of a French Center  
*Renaud Clément, MD*  
1:30 p.m. - 1:45 p.m.  **E42** Forensic Podiatry — Pedal Evidence in Forensic Casework  
*Kewal Krishan, PhD*; *Tanuj Kanchan, MD*; *John A. DiMaggio, DPM*  
1:45 p.m. - 2:00 p.m.  **E43** Analyzing Law Enforcement Officer Reaction Time in Shooting Events Using 3D Computer Animation  
*Parris Ward, JD*; *William J. Lewinski, PhD*  
2:00 p.m. - 2:15 p.m.  **E44** Death During Restraint: Excited Delirium vs. Positional Asphyxia  
*Werner U. Spitz, MD*  
2:15 p.m. - 2:30 p.m.  Break
GENERAL

Moderator: Elizabeth Toomer, MFS
NCIS Washington Field Office
Anacostia Annex, DC
Co-Moderator: Kevin J. Parmelee, MPA
Somerset County Prosecutor’s Office
Forensic Lab
Somerville, NJ

2:30 p.m. - 2:45 p.m.  E45  Spatters Matter: How Bloodstain Evidence Influenced the Police at the Scene and the Prosecutor and Jury in the Courtroom
Daniel V. Christman, MS*

2:45 p.m. - 3:00 p.m.  E46  Are We There Yet? The Testing of Unsubmitted Sexual Assault Kits and the Development of New Research Partnerships
Heather E. Waltke, MS*; Gerald M. LaPorte, MSFS

3:00 p.m. - 3:15 p.m.  E47  Estimation of Human Age Using N-Glycan Profiles From Bloodstains
Dragan Primorac, MD, PhD*

3:15 p.m. - 3:30 p.m.  E48  Ambient Ionization Mass Spectrometric Detection of Homemade Explosives in the Presence of Precursors
Edward Sisco, MS*; Thomas P. Forbes, PhD

3:30 p.m. - 3:45 p.m.  E49  Casework Analysis When Reference Data Aren’t Available for the Observed Insect Species
Neal H. Haskell, PhD*

3:45 p.m. - 4:00 p.m.  Break

Moderator: Sandra R. Enslow, BA
Monterey Park, CA
Co-Moderator: Ivan M. Kaminsky, MEd, MS
Chandler Police Department
Chandler, AZ

4:00 p.m. - 4:15 p.m.  E50  The Impact of 3D Digitizations and Printed Models of Osteological Trauma When Presented to the Jury as Demonstrative Evidence
David A. Errickson, MSc*; Tim Thompson, PhD; Brian W.J. Rankin, MSc

4:15 p.m. - 4:30 p.m.  E51  Multidimensional Model for Assessing Student Achievement
Catherine G. Rushton, MSFS*; Ronald B. Childress, EdD

4:30 p.m. - 4:45 p.m.  E52  Creating a Positive Connection for Your Forensic Science Discipline
Sandra R. Enslow, BA*; Catyana R. Skory Falsetti, MFS

4:45 p.m. - 5:00 p.m.  E53  National Institute of Justice (NIJ) Programs to Support the Forensic Community: Strategies for Stronger Proposals in a Competitive Environment
Danielle L. McLeod-Henning, MFS*; Alan C. Spanbauer, MBA*; Charles M. Heurich, MFS*
Friday

Moderator: Mark E. Reynolds, PhD
Perth, AUSTRALIA

Co-Moderator: Tanya L. Marlow, BS
US Army Criminal Investigation Command
Fort Myer, VA

8:30 a.m. - 8:45 a.m. E54 Collaborative Retrospective Research Study Exploring STR and Y-STR DNA on 1,000 Rape Victims: Implications on Practice
Julie L. Valentine, MS*

8:45 a.m. - 9:00 a.m. E55 Analysis of Suicide Locations in Harris County, Texas
Gavin M. Schmidt, BS*

9:00 a.m. - 9:15 a.m. E56 Multiple Self-Inflicted Gunshot Wounds: Case Series With a Review of Literature
Avneesh Gupta, MD*; Puneet Setia, MD*; Vera Mendes-Kramer, MA;
Andrea M. Jackson, BA; Kilak Kesha, MD; Francisco J. Diaz, MD*

9:15 a.m. - 9:30 a.m. E57 Determining the Flow Rate Required to Move Submerged Human Remains
Jacqueline E. Bleakley, BA*; Kimberlee S. Moran, MSc; Andrea Zaferes, BA;
Heather E. Mazzanti, MSFS

9:30 a.m. - 9:45 a.m. E58 A Model for Recovery: Predicting the Location of Human Remains on WWII Bombardment Aircraft Crash Sites
Owen L. O’Leary, MA*

9:45 a.m. - 10:00 a.m. E59 From the RFK Assassination in Los Angeles to the Wuornos Serial Killings in Florida: A Preliminary Examination of .22 Fired Casings
Young Wang*

10:00 a.m. - 10:15 a.m. E60 A Prospective Analysis of the Outcomes of Violent Prone Restraint Incidents in Policing
Darrell L. Ross, PhD*

10:15 a.m. - 10:30 a.m. Break

Moderator: Rae H. Wooten, BSN, RN
North Charleston, SC

Co-Moderator: Martha Cusak, MS
Annapolis, MD

10:30 a.m. - 10:45 a.m. E61 Biometric Research Database Catalog: Improving Access to Publicly Available Biometric Data Sets
Melissa K. Taylor, BA*; Shannan Williams, MA*

10:45 a.m. - 11:00 a.m. E62 Increasing the Precision of Human Geolocation: A City Scale Investigation of Stable Isotopes in Tap Water
Momoko Ueda*; Lynne S. Bell, PhD

*Presenting Author
### GENERAL

**E63 11:00 a.m. - 11:15 a.m.**
**It’s Not Over at the Death**
*Tanya L. Marlow, BS*; *T.L. Williams, MFS*

**E64 11:15 a.m. - 11:30 a.m.**
**Detection of Residual Metal on Bone From Bullet Hole Periphery Using Digital Radiography**
*Brandon Nichols, MD*; *James A. Bailey, PhD*

**E65 11:30 a.m. - 11:45 a.m.**
**Natural Causes of Death in Young Adults in an Urban Medical Examiner’s Office**
*Alaa Alsadi, MD*; *Matthew F. Fox, MD*; *Steven M. White, MD, PhD*

**E66 11:45 a.m. - 12:00 p.m.**
**Body-Found-in-Bathtub Death Investigation**
*Andrea Zaferes, BA*; *Dennis J. Chute, MD*; *Ani N. Hatza, MS*; *Kelly A. Moon*

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

### Multidisciplinary Session Part I: Criminalistics Session III/General/Questioned Documents

**Moderator:** *F.L. Jim Lee, Jr., MS*
*Eden, UT*

**Co-Moderator:** *Gulnaz T. Javan, PhD*
*Alabama State University*
*Forensic Science Program*
*Montgomery, AL*

**1:00 p.m. - 1:20 p.m.**
**E67 1:00 p.m. - 1:20 p.m.**
**Organization of Scientific Area Committees (OSAC) Forensic Science Standards Activities: Helping Each Other and Stimulating the Future**
*John Paul Jones II, MBA*

**1:20 p.m. - 1:45 p.m.**
**E68 1:20 p.m. - 1:45 p.m.**
**A Step Toward Likelihood Ratios in Pattern Recognition Disciplines**
*Simone Gittelson*

**1:45 p.m. - 2:15 p.m.**
**E69 1:45 p.m. - 2:15 p.m.**
**Reliability, Validity, Accuracy, and Bias in Forensic Document Examination: An Interdisciplinary Approach to Understanding Forensic Decision-Making Processes and Outcomes**
*Mara L. Merlino, PhD*; *Tierra M. Freeman, PhD*; *Veronica B. Dahir, PhD*; *Victoria Springer, PhD*; *Derek L. Hammonds, BA*; *Adrian G. Dyer, PhD*; *Bryan Found, PhD*

**2:15 p.m. - 2:30 p.m.**
**Break**

### Multidisciplinary Session Part II: Criminalistics Session III/General/Questioned Documents

**Moderator:** *Jean M. Snider*
*Hope Mills, NC*

**Co-Moderator:** *Parris Ward, JD*
*Biodynamics Engineering, Inc*
*Pacific Palisades, CA*

**2:30 p.m. - 2:45 p.m.**
**E70 2:30 p.m. - 2:45 p.m.**
**Scientific Area Committee for Physics and Pattern Evidence**
*R. Austin Hicklin, MS*

**2:45 p.m. - 3:15 p.m.**
**E71 2:45 p.m. - 3:15 p.m.**
**Objective and Quantifiable Metrics for the Determination of Latent Print “Suitability”**
*Henry J. Swofford, MSFS*; *Anthony Koertner, BS*; *Michael J. Salyards, PhD*
<table>
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<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
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<tbody>
<tr>
<td>3:15 p.m.</td>
<td>E72</td>
<td>Cognitive Profiling of Latent Fingerprint Examiners</td>
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<td><em>Itiel Dror, PhD; Melissa K. Taylor, BA</em></td>
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<tr>
<td>3:45 p.m.</td>
<td>E73</td>
<td>Tips for the Courtroom: How to Get the Most Out of the Expert Witness</td>
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<td><em>Stephanie Domitrovich, JD, PhD; Jeffrey M. Jentzen, MD</em></td>
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<tr>
<td>4:30 p.m.</td>
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<td>Discussion</td>
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Wednesday

Poster Session

11:30 a.m. - 1:00 p.m.  F1  A Study of More Than 400 Case Reports Between 2009 and 2014, Completed in the Venice Surveillance Court to Understand, Evaluate, and Investigate the Social Hazards on the Judicial Level of Subjects Convicted of a Crime  
Vincenzo Lusa, JD*; Patrizia Trapella, JD*; Luca Massaro, MD*; Sara Raponi*

11:30 a.m. - 1:00 p.m.  F2  An Evaluation of a Crime During a Trial in View of Cesare Lombroso’s Scientific Insights on the 180th Anniversary of His Birth: The Scientist’s Ideas Representing the Scientific Roots of the Evaluation of a Criminal’s Personality Contained in the Italian Penal Code  
Vincenzo Lusa, JD*; Annarita Franza, PhD

11:30 a.m. - 1:00 p.m.  F3  Can Parents Inherit the Sperm of the Deceased Son? Presentation of an Italian Case and Review of the European Legislation in the Field of Postmortem Fecundation  
Simona Napoletano, MD*; Mariantonia Di Sanzo; Francesco P. Busardo, MD; Enrico Marinelli, PhD; Simona Zaami, PhD

11:30 a.m. - 1:00 p.m.  F4  Moderate Force Blunt Trauma to the Head Leading to Coma: The Role of the Medicolegal Expert in the Assessment of Attempted Murder Charges  
Sara Hemied, MD; Alessandro di Luca, MD*; Giorgia Ciancolini; Irene Catarinozzi, MD; Natale Mario di Luca, MD

Thursday — Session I

Moderator:  Gail C. Groy, JD  
Rizzo & Diersen, SC  
Verona, WI  
Co-Moderator:  Alan J. Black, JD  
Northampton, MA

8:30 a.m. - 9:10 a.m.  F5  The Long Road to Exoneration for Han Tak Lee  
John J. Lentini, BA*

9:10 a.m. - 9:30 a.m.  F6  Misinterpretation of Common Fire Behaviors and Its Effect on Criminal and Civil Litigation  
Steven W. Carman, MS *

9:30 a.m. - 9:50 a.m.  F7  A Perfect Storm Brewing for Fire Investigators in Court  
Terry-Dawn Hewitt, LLM*; Wayne J. McKenna, LLB

9:50 a.m. - 10:10 a.m.  F8  Next-Gen Is Now: Legal Implications and Strategic Preparation for Massively Parallel DNA Sequencing in Forensic Science  
Ted R. Hunt, JD*

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

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<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Speakers</th>
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<tr>
<td>10:30 a.m.</td>
<td>F9</td>
<td>The National Commission on Forensic Science: Status Update</td>
<td>Nelson Santos, MPA*; John M. Butler, PhD*</td>
</tr>
<tr>
<td>10:50 a.m.</td>
<td>F10</td>
<td>Leading a Horse to Water and Trying to Make Him Think: The Impact of the 2009 National Academy of Sciences (NAS) Report, Strengthening Forensic Sciences in the United States—A Path Forward on America’s Courts</td>
<td>Pamela A.W. King, JD*; Christine Funk, JD</td>
</tr>
<tr>
<td>11:10 a.m.</td>
<td>F11</td>
<td>Forensic Science Leaders on the Path Forward</td>
<td>Sarah Chu, MS*</td>
</tr>
<tr>
<td>11:30 a.m.</td>
<td>F12</td>
<td>Got Forensic Science Standards? — How the Organization of Scientific Area Committees (OSAC) Activities COULD Impact the Courtroom…</td>
<td>Mark D. Stolorow, MS, MBA*</td>
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<tr>
<td>12:00 p.m.</td>
<td></td>
<td>Lunch</td>
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<tr>
<td>1:00 p.m.</td>
<td>F13</td>
<td>Strawberry Fields Forever: How a 73-Year-Old Birdwatcher Helped Nab a Sexual Predator in Central Park</td>
<td>Melissa Mourges, JD*; Martha Bashford, JD*</td>
</tr>
<tr>
<td>1:20 p.m.</td>
<td>F14</td>
<td>Mental Maps: Why You Should Worry</td>
<td>Katherine Ramsland, PhD*</td>
</tr>
<tr>
<td>1:40 p.m.</td>
<td>F15</td>
<td>Three Shots to the Head: A Case Study of a Murder Prosecution in Indiana</td>
<td>Christine Haskell, JD*</td>
</tr>
<tr>
<td>2:00 p.m.</td>
<td>F16</td>
<td>How an Innocent Person’s DNA Turned Up at a Murder Scene: Case Study of Lukis Anderson</td>
<td>Kelley Kulick, JD*</td>
</tr>
<tr>
<td>2:20 p.m.</td>
<td>F17</td>
<td>Crime Scene Investigator: Assessment of Expert Credentials</td>
<td>Kevin J. Parmelee, MPA*</td>
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<tr>
<td>2:40 p.m.</td>
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<td>Break</td>
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**Thursday — Session II**

Multidisciplinary Session: Engineering Sciences Session II/Jurisprudence Session II — Error Rates

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<tbody>
<tr>
<td>1:00 p.m.</td>
<td>D28</td>
<td>Do I Really Have to Measure Everything Twice in My Forensic Investigation: Isn’t Error Analysis Just Something One Does in Bench Science?</td>
<td>Thomas L. Bohan, PhD, JD*</td>
</tr>
<tr>
<td>1:30 p.m.</td>
<td>D29</td>
<td>Error and Uncertainty in Toxicology and Drug Analysis — Terminology Matters</td>
<td>Suzanne Bell, PhD*</td>
</tr>
<tr>
<td>2:00 p.m.</td>
<td>F24</td>
<td>Communicating Error and Uncertainty in the Courtroom: The Language, Methods, and Psychology of Doubt and Belief</td>
<td>Ted W. Vosk, JD*</td>
</tr>
<tr>
<td>2:30 p.m.</td>
<td>D30</td>
<td>Limitations Associated With the Examination and Presentation of Fingerprint Evidence</td>
<td>Melissa Gische, MFS*</td>
</tr>
<tr>
<td>3:00 p.m.</td>
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<td>Break</td>
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<tr>
<td>3:15 p.m.</td>
<td>F25</td>
<td>Errors in DNA Testing: Lessons Learned — A Retrospective Look</td>
<td>Charlotte J. Word, PhD*</td>
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<tbody>
<tr>
<td>3:45 p.m. - 4:15 p.m.</td>
<td>D31</td>
<td>Certainties and Uncertainties in Accident Reconstruction — How Correcting the Other Side’s Misstatements Affects Jury Verdicts</td>
<td>Peter Alexander, PhD*</td>
</tr>
<tr>
<td>4:15 p.m. - 4:45 p.m.</td>
<td>F26</td>
<td>Culture of Infallibility: The Inability of the Criminal Justice System to Concede Scientific Uncertainty</td>
<td>Roderick T. Kennedy, JD*</td>
</tr>
<tr>
<td>4:45 p.m. - 5:00 p.m.</td>
<td>F27</td>
<td>To Err or Not to Err: How Judges and Jurors Apply “Margin of Error” and “Coefficient of Variation” to Their Determinations of Blood Alcohol Content in Criminal Cases Involving Blood Testing</td>
<td>Stephanie Domitrovich, JD, PhD*</td>
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**Friday**

**Moderator:** Maxwell C. Fabricant, JD  
The Innocence Project  
New York, NY

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<tbody>
<tr>
<td>8:30 a.m. - 9:10 a.m.</td>
<td>F28</td>
<td>Lost and Gone Forever — Jeopardized Prosecutions and Denial of Due Process</td>
<td>Peter R. De Forest, D.Crim*; James M. Doyle, LLM; Gregory B. Matheson, BS; Rebecca E. Bucht, PhD; John J. Lentini, BA</td>
</tr>
<tr>
<td>9:10 a.m. - 9:30 a.m.</td>
<td>F29</td>
<td>Legal Update: Recent Court Decisions Declaring Testimony About Case Reviews Performed by Non-Testifying Experts to Be Inadmissible</td>
<td>Andrew Sulner, MSFS, JD*</td>
</tr>
<tr>
<td>9:30 a.m. - 9:45 a.m.</td>
<td>F30</td>
<td>Reliability, Validity, Accuracy, and Bias in Forensic Document Examination: Results From an Interdisciplinary Study of Questioned/Known Signature-Comparison Tasks</td>
<td>Mara L. Merlino, PhD*; Tierra M. Freeman, PhD*; Veronica B. Dahir, PhD; Victoria Springer, PhD; Derek L. Hammond, BA; Adrian G. Dyer, PhD; Bryan Found, PhD</td>
</tr>
<tr>
<td>9:45 a.m. - 10:00 a.m.</td>
<td>F31</td>
<td>Prosecutorial Misconduct and Breaches in the Brady Doctrine</td>
<td>David M. Benjamin, PhD*</td>
</tr>
<tr>
<td>10:00 a.m. - 10:15 a.m.</td>
<td>F32</td>
<td>Ethics in the Study of Forensic Science: Can Ethics Be Taught?</td>
<td>Linda L. Chezem, JD*</td>
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<tr>
<td>10:15 a.m. - 10:30 a.m.</td>
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<td>Break</td>
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**Moderator:** Justin J. McShane, JD  
Harrisburg, PA

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<tr>
<td>10:30 a.m. - 10:45 a.m.</td>
<td>F33</td>
<td>Shaken Baby Syndrome: Current Evidence of a Pathological Entity</td>
<td>Jeffrey M. Jentzen, MD*; Carl J. Schmidt, MD</td>
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<tr>
<td>10:45 a.m. - 11:00 a.m.</td>
<td>F34</td>
<td>Depraved Indifference — Murder of a Child in New York: Are Moms Getting Away With Murder?</td>
<td>Kerry J. O’Connell, JD*</td>
</tr>
<tr>
<td>11:00 a.m. - 11:45 a.m.</td>
<td>F35</td>
<td>Child Psychological Abuse: Legal and Clinical Implications</td>
<td>Stephanie Domitrovich, JD, PhD*; William Bernet, MD*</td>
</tr>
<tr>
<td>11:45 a.m. - 12:00 p.m.</td>
<td>F36</td>
<td>Hoarding Disorder: Whose Problem Is It Anyway?</td>
<td>James P. Cho, MD*; Scott Bresler, PhD*</td>
</tr>
<tr>
<td>12:00 p.m. - 1:00 p.m.</td>
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<td>Lunch</td>
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**Moderator:** Winona J. Agbabiaka, JD  
Law Office of the Cook County Public Defender  
Chicago, IL

**Co-Moderator:** Carly S. Vosacek, JD  
Brainerd, MN

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<tbody>
<tr>
<td>1:00 p.m. - 1:20 p.m.</td>
<td>F37</td>
<td>Why DNA Interpretation Has Become More Challenging in Recent Years</td>
<td>John M. Butler, PhD*</td>
</tr>
<tr>
<td>1:20 p.m. - 1:40 p.m.</td>
<td>F38</td>
<td>Who and What: Providing Context to a DNA Profile</td>
<td>John Ballantyne, PhD*; Erin K. Hanson, PhD</td>
</tr>
<tr>
<td>1:40 p.m. - 2:00 p.m.</td>
<td>F39</td>
<td>Biological Evidence Storage and Disposition: A Discussion of Legal Implications, Trends, and Policy Recommendations</td>
<td>Shannan Williams, MA*</td>
</tr>
<tr>
<td>2:00 p.m. - 2:20 p.m.</td>
<td>F40</td>
<td>DNA Typing: Controls and Validation Updates to Support Current Testing</td>
<td>Christie T. Davis, PhD*</td>
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<td>2:20 p.m. - 2:30 p.m.</td>
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<td>Break</td>
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**Moderator:** Linda L. Chezem, JD  
Mooresville, IN

**Co-Moderator:** Richard C. Litman, JD, LLM  
Manassas, VA

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<td>2:30 p.m. - 3:00 p.m.</td>
<td>F41</td>
<td>The Discovery Motion for “Scientific Stuff”: Don’t Expect to Get It, Find It, or Recognize It (Even if You Do Get It) if You Have No Idea What You’re Looking For!</td>
<td>Joseph P. Bono, MA*; Ken Williams, MS, JD</td>
</tr>
<tr>
<td>3:00 p.m. - 3:20 p.m.</td>
<td>F42</td>
<td>It’s My Toy and You Can’t Play With It: Defense Counsel Problems With Access to CODIS</td>
<td>Alissa L. Bjerkhoel, JD*</td>
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</table>

*Presenting Author
3:20 p.m. - 3:40 p.m.  F43  “In God We Trust, All Others We Cross-Examine”: Cross-Examination in DNA Mixture Cases  
Nicole Kubista, JD*; Rebecca A. Waxse, JD

3:40 p.m. - 4:00 p.m.  F44  Interpreting Gobbledygook — What Lawyers and Forensic Scientists Can Do to Communicate Clearly About Scientific Evidence to a Jury  
Nicole Kubista, JD; Rebecca A. Waxse, JD*

4:00 p.m. - 4:20 p.m.  F45  Development of Small-Group Forensic Counsel in Greater Minnesota: Forensic Case Review in the Boonies  
Gregory B. Davis, JD*; Carly S. Vosacek, JD*

4:20 p.m. - 4:40 p.m.  F46  In or Out? What is the Threshold for Admissibility?  
Julie Maxwell, JD*

4:40 p.m. - 5:00 p.m.  F47  WITHDRAWN

Saturday

Moderator:  Anne C. Petty, JD  
Chicago, IL

Co-Moderator:  Cynthia L. Evenson, JD  
Duluth, MN

8:30 a.m. - 8:50 a.m.  F48  The Validity of Enzymatic Assay for Blood Alcohol Content (BAC) Determinations  
Josh D. Lee, JD*; Justin J. McShane, JD*

8:50 a.m. - 9:10 a.m.  F49  Driving Under the Influence of Drugs in Florida  
Nicholas B. Tiscione, MS*; Xiaoqin Shan, PhD; Dustin Tate Yeatman, MS

9:10 a.m. - 9:30 a.m.  F50  Evaluating Forensic Evidence in Drug Impairment Cases: Pitfalls and Complexities of Testimony by Non-Medical Witnesses  
Jeremy C. Brehmer, JD*; Josh D. Lee, JD*

9:30 a.m. - 9:50 a.m.  F51  Forensic Sciences as a Contributor to Miscarriages of Justice in Western Europe  
Joelle V. Vuille, PhD*

9:50 a.m. - 10:10 a.m.  F52  Defending Veterans: Teaching Juries the True Costs of War, Post-Traumatic Stress Disorder (PTSD), Adrenaline Addiction, and Deadly Drug Cocktails  
Jose A. Baez, JD*; Donald E. Shelton, JD, PhD

10:10 a.m. - 10:25 a.m.  Break
Moderator: Jeremy C. Brehmer, JD
Middlebrook & Brehmer, LLP
Bakersfield, CA

10:25 a.m. - 10:45 a.m.  F53  Full-Scale Intelligence Quotient Test Scores and the Impropriety of “Ethnic (or Socio-Economic) Adjustment” in Atkins Cases
Robert M. Sanger, JD*

10:45 a.m. - 11:25 a.m.  F54  WITHDRAWN

11:25 a.m. - 11:45 a.m.  F55  Sexual Abuse Case Study — Forensic Science and the Age of Social Media
Brian C. Zubel, JD*

11:45 a.m. - 12:00 p.m.  F56  Digital Evidence 101 — The Evidentiary Value of Digital Evidence: The Impact of Digital Evidence on the Investigation and Brief of Evidence
Paul Reedy, BS*
Wednesday

Poster Session

11:30 a.m. - 1:00 p.m.  **G1**  Non-Traditional Positive Dental Identification  
Laura P. Moses Smalley, DMD*; Michael P. Tabor, DDS; Richard A. Weems, DMD, MS; Lee Wilson, DMD; Darinka Mileusnic-Polchan, MD, PhD; Murray K. Marks, PhD

11:30 a.m. - 1:00 p.m.  **G2**  X-Ray Photoelectron Spectroscopy (XPS) Analysis of Etched Dental Crown Metal Surfaces Demonstrates Prior Immersion in Hydrochloric Acid  
Alexander S. Forrest, MDS*; Barry Wood, PhD

11:30 a.m. - 1:00 p.m.  **G3**  Reassessing the Dental Features of Lamendin’s Age-Estimation Method  
Eleni Zorba, BS; Matteo Borrini, PhD*; Konstantinos Moraitis, PhD

11:30 a.m. - 1:00 p.m.  **G4**  Evolution of Forensic Odontology Services in Queensland: 1994–2014  
Alistair Soon, BDS*; Alexander S. Forrest, MDS*; Henry Y.H. Wu; Bradley D. Ross, BDS; Annu Nangia, MDS

11:30 a.m. - 1:00 p.m.  **G5**  Forensic Dentistry and Malpractice Lawsuits in Turkey  
Huseyin Afsin, PhD*; Gulnaz T. Javan, PhD; Beytullah Karadayi, PhD; Abdi Ozaslan

11:30 a.m. - 1:00 p.m.  **G6**  What You See Is Not Always What You Should Believe: A Presentation of the Inconsistencies Commonly Seen in Antemortem Dental Charting  
Marnie L. Sperling, DMD*

11:30 a.m. - 1:00 p.m.  **G7**  Analysis of Human Bitemarks in Food and Beverages Using Metric and Biological Analysis  
Ricardo H.A. Silva, PhD*; Lais G. Araujo, MSc; Aline Azevedo, PhD; Raquel F. Gerlach, PhD; Adriana A. Marques, MSc; Wilson A. Silva-Junior, PhD; Rodrigo Galo, PhD

11:30 a.m. - 1:00 p.m.  **G8**  How the Characteristics of One Tooth Were Used to Make a Dental Identification in a Burn Victim: A Case Report  
Xiomara N. Rivera, DMD*

Thursday

Bitemarks I

**Moderator:** Richard M. Weledniger, DDS  
Melville, NY

8:30 a.m. - 8:45 a.m.  **G9**  Methodology and Interests of 3D Modeling of Bitemarks  
Charles E. Georget, PhD*; Aime Conigliaro, MA; Francois Duret, DDS, PhD

8:45 a.m. - 9:05 a.m.  **G10**  Bitemarks From the Emergency Room to the Courtroom: The Importance of the Expert in Forensic Odontology  
Franklin D. Wright, DMD*; Melissa Mourges, JD*
ODONTOLOGY

9:05 a.m. - 9:20 a.m.  G11  An Objective, Dynamic Bitemark Overlay Technique  
Alexander S. Forrest, MDS*; Chris Little, BS; Alistair Soon, BDS

9:20 a.m. - 9:40 a.m.  G12  Bitemark Evidence  
Robert B.J. Dorion, DDS*

9:40 a.m. - 9:55 a.m.  Break

Bitemarks II

Moderator: Mark T. Eilers, DMD  
Portland, OR

Emilio Nuzzolese, PhD*

10:15 a.m. - 10:35 a.m.  G14  Construct Validity of Bitemark Assessments Using the ABFO Bitemark Decision Tree  
Adam J. Freeman, DDS; Iain A. Pretty, DDS, PhD*

10:35 a.m. - 11:05 a.m.  G15  Bitemarks: To Profile or Not to Profile — So What’s the Question?  
Richard R. Souviron, DDS*

11:05 a.m. - 11:15 a.m.  Break

Cheiloscopy and Mentorship

Moderator: Jennifer A. Moore, DMD  
Bethpage, NY

11:15 a.m. - 11:30 a.m.  G16  Lip Prints: Inter-Rater Reliability  
Winnie Furnari, MS*

11:30 a.m. - 11:45 a.m.  G17  Morphological Patterns of Melanoderm Lip Prints In Dakar, Senegal  
Khalifa Dieng, DDS*

11:45 a.m. - 12:00 p.m.  G18  Honoring My Mentors — Drs. Levine, Snow, Maples, Stimson, and Stein  
John P. Kenney, DDS, MS*

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

Poster Session

11:30 a.m. - 1:00 p.m.  G19  Complex Dental Restorative Techniques: Are They Recognizable and Do They Survive Extreme Conditions?  
Alistair Soon, BDS*; Mary A. Bush, DDS; Peter J. Bush, BS

*Presenting Author
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<tr>
<td>11:30 a.m.</td>
<td>G20</td>
<td>Electron Microscopy of Etched Dental Crown Surfaces and Electron Dispersive Spectroscopy (EDS) Studies Following Immersion in Hydrochloric Acid</td>
<td>Alexander S. Forrest, MDS*; Peter J. Hines, PhD</td>
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<tr>
<td>11:30 a.m.</td>
<td>G21</td>
<td>Chronological Evaluation of Bruising in Bitemarks and Blunt Trauma: Validation of the Nuzzolese-Neri-DiVella (NNDV) Colorimetric Scale</td>
<td>Emilio Nuzzolese, PhD*; Simonetta Lamacchia, RN; Giancarlo Di Vella, MD, PhD*</td>
</tr>
<tr>
<td>11:30 a.m.</td>
<td>G22</td>
<td>Ethical Proceedings Involving Dentists in the State of Minas Gerais, Brazil</td>
<td>Fernanda Capuruto Horta Bouchardet, PhD*; Andrea Gomes Prates, DDS; Mário Marques Fernandes, MSc; Romilda de Melo Alves Branco, DDS; Rogério N. Oliveira, PhD</td>
</tr>
<tr>
<td>11:30 a.m.</td>
<td>G23</td>
<td>Dental Identification Using Facial Reconstruction on a Train Collision Victim’s Mangled Body</td>
<td>Liliana Innamorato, MD; Valeria Santoro, PhD; Alessandra Pentone; Francesco Introna, MD*</td>
</tr>
<tr>
<td>11:30 a.m.</td>
<td>G24</td>
<td>Scanning Electron Microscopy (SEM) and Energy Dispersive X-Ray Spectroscopy (EDS) of a Supposed “Gold Dental Crown”</td>
<td>Alistair Soon, BDS*; Mary A. Bush, DDS; Peter J. Bush, BS</td>
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**Disaster Victim Identification I**

*Moderator: Corinne D’Anjou, DMD
St-Lambert, CANADA*

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<tr>
<td>1:30 p.m.</td>
<td>G25</td>
<td>A Hot Air Balloon Crash in Wairarapa, New Zealand: A Forensic Dental Perspective</td>
<td>Judith A. Hinchcliffe, BDS*</td>
</tr>
<tr>
<td>1:50 p.m.</td>
<td>G26</td>
<td>Isle-Verte Disaster</td>
<td>Sylvain Laforte, DMD*; Robert B. J. Dorion, DDS*; Andre Ruest, DMD*; Sylvain Desranleau, DMD*</td>
</tr>
<tr>
<td>2:20 p.m.</td>
<td>G27</td>
<td>Dental Identification of 530 Landslide Victims: Lessons Learned</td>
<td>Kyle C. Tanaka, DDS*; Stephanie Kavanaugh, DMD*; Gary L. Bell, DDS</td>
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<tr>
<td>2:40 p.m.</td>
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<td>Break</td>
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**Disaster Victim Identification II**

*Moderator: Lena D. Karkalas, DDS
Providence, RI*

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<tr>
<td>2:50 p.m.</td>
<td>G28</td>
<td>Dental Identification of the 2008 Peruvian Andes Helicopter Crash Victims</td>
<td>Roy H. Sonkin, DDS*; Richard M. Weledniger, DDS</td>
</tr>
<tr>
<td>3:10 p.m.</td>
<td>G29</td>
<td>The Reno, Nevada Air Race Accident</td>
<td>Donna J. Hellwinkel, DDS*; Ellen G.I. Clark, MD; Rudolph Bein, BA</td>
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</table>
## Dental Identification Case Reports I

**Moderator:** Judy Y. Marshall, DMD  
*Marshall Family Dentistry  
Port Charlotte, FL*

3:35 p.m. - 3:50 p.m.  
**G30** Identification of an Unknown Sailor From the December 7, 1941, Attack on Pearl Harbor  
*John A. Lewis, Jr., DDS*

3:50 p.m. - 4:10 p.m.  
**G31** Forensic Dental Examination of Disinterred 19th-Century Archaeological Remains  
*Thomas J. David, DDS*; *Adam J. Freeman, DDS*

4:10 p.m. - 4:25 p.m.  
**G32** Adam Mayes: America’s Most Wanted — A Lack of Wisdom?  
*Edgar W. Turner, DDS*

4:25 p.m. - 4:30 p.m.  
**Break**

## Dental Identification Case Reports II

**Moderator:** Robert E. Barsley, DDS, JD  
*LSU School of Dentistry  
New Orleans, LA*

4:30 p.m. - 4:45 p.m.  
**G33** Two Teens, Midnight, and a Porsche® Carrera® — What Could Go Wrong?  
*John P. Kenney, DDS, MS*

4:45 p.m. - 5:05 p.m.  
**G34** The Case of the Missing Mandible  
*Roger D. Metcalf, DDS, JD*; *Janice W. Klim-Lemann, DDS*

5:05 p.m. - 5:20 p.m.  
**G35** Single Tooth Dental Identification Assisted by Digital Superimposition  
*Amber D. Riley, MS*; *Anthony R. Cardoza, DDS*; *Raymond Johansen, DMD*

5:20 p.m. - 5:35 p.m.  
**G36** Identification by Photograph: A Case Presentation  
*Barbara L. Needell, DMD*

## Friday

### Dental Identification

**Moderator:** Edgar W. Turner, DDS  
*Somerville, TN*

8:30 a.m. - 8:45 a.m.  
**G37** A Case for the Records — The Importance of Antemortem Records in Making a Positive Dental Identification  
*Randolph L. Mitchell, DMD*
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<tr>
<td>8:45 a.m. - 9:05 a.m.</td>
<td>G38</td>
<td>Fire, Fraud, and Forensics: A Complex Case Study in Dental Identification</td>
<td>Jacqueline S. Reid, DDS*; Diane Karluk, MD; Andrew L. Falzon, MD</td>
</tr>
<tr>
<td>9:05 a.m. - 9:25 a.m.</td>
<td>G39</td>
<td>Recovery and Processing of Multiple Partial and Total Cranial Fresh Cadaver Heads Purportedly for Surgical Teaching</td>
<td>Taylor L. Gardner, BSc*; Yolanda Nerkowski, BA*; Robert E. Wood, DDS, PhD*</td>
</tr>
<tr>
<td>9:25 a.m. - 9:40 a.m.</td>
<td>G40</td>
<td>Identifying the Edentulous</td>
<td>Corinne D’Anjou, DMD*; Robert B. J. Dorion, DDS*; Alistair Soon, BDSc</td>
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<tr>
<td>9:40 a.m. - 9:50 a.m.</td>
<td>Break</td>
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<tr>
<td>9:50 a.m. - 10:10 a.m.</td>
<td>G41</td>
<td>Cougar Attack Fatality</td>
<td>Peter W. Loomis, DDS*</td>
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<td>10:10 a.m. - 10:30 a.m.</td>
<td>G42</td>
<td>Estimating the Incidence of Dog Bite-Related Injuries in Australia From 1999 to 2012</td>
<td>Mithun Rajeshkar, MFSc*; Leigh Blizzard, PhD; Roberta Julian, PhD; Marc Tennant, PhD; Anne-Marie Williams, PhD; Laurence Walsh, PhD; Alexander S. Forrest, MDSc; Gary Wilson, MS (FSF Emerging Forensic Scientist Award Paper Presentation)</td>
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<td>10:30 a.m. - 10:45 a.m.</td>
<td>Break</td>
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<tr>
<td>10:45 a.m. - 11:00 a.m.</td>
<td>G43</td>
<td>Visualization of Histological and Physiological Criteria Used in Dental Methods of Age Assessment</td>
<td>Aime Conigliaro, MA*; Charles E. Georget, PhD</td>
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<tr>
<td>11:00 a.m. - 11:20 a.m.</td>
<td>G44</td>
<td>The London Atlas — A New Method for Dental Age Estimation</td>
<td>Sakher J. AlQahtani, PhD*; Mark Hector, PhD; Helen M. Liversidge, PhD (FSF Emerging Forensic Scientist Award Paper Presentation)</td>
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<tr>
<td>11:20 a.m. - 11:40 a.m.</td>
<td>G45</td>
<td>Dental Age Estimation: The 18-Year Threshold — A Source of Error Explored</td>
<td>Victoria Sorrell Lucas, PhD*; Fraser McDonald, PhD; Graham J. Roberts, MDS</td>
</tr>
<tr>
<td>11:40 a.m. - 12:00 p.m.</td>
<td>G46</td>
<td>Immigration-Related, Dental Age-Estimation Cases for the Del Rio and Laredo Sectors of the United States-Mexico Border in Texas</td>
<td>David R. Senn, DDS*</td>
</tr>
</tbody>
</table>
Age Estimation, Educational Opportunities, and International DVI

Moderator: Holland Maness, DMD
Memphis, TN

1:30 p.m. - 1:50 p.m. G47 Dental Age Estimation: Appropriate Censoring of Stage H
Graham J. Roberts, MDS*; Fraser McDonald, PhD; Victoria Sorrell Lucas, PhD

1:50 p.m. - 2:05 p.m. G48 Unique Dental Morphology With Concurrent Dental Developmental Anomalies: A Case Study Demonstrating the Utility of a Multidisciplinary Approach
Judy Y. Marshall, DMD*; Jan Westberry, DMD; Michael W. Warren, PhD

2:05 p.m. - 2:20 p.m. G49 A New 12-Month, University-Based United States Fellowship Program in Forensic Odontology
Richard A. Weens, DMD, MS*; Lee Wilson, DMD; Michael P. Tabor, DDS; William M. Bass III, PhD; Darinka Mileusnic-Polchan, MD, PhD; Murray K. Marks, PhD

2:20 p.m. - 2:35 p.m. G50 A Forensic Odontology Aspect of Disaster Victim Identification Across Members of the International Organization for Forensic Odonto-Stomatology
Shirley Miranda, MScD*

Research and Standard of Care

Moderator: Roger D. Metcalf, DDS, JD
Tarrant County Medical Examiner’s District
Fort Worth, TX

2:45 p.m. - 3:00 p.m. G51 Current Trends in Forensic Odontology Research Nearly 30 Years Later
Shirley Miranda, MScD*; Jeffrey W. Shirah, DMD

3:00 p.m. - 3:15 p.m. G52 Forensic Odontology Science: Applications in the Family of Forensics
Peter J. Bush, BS*; Mary A. Bush, DDS

3:15 p.m. - 3:30 p.m. G53 Application of Digital Laboratory and Clinical Dental Evidence
Raymond G. Miller, DDS*; Mary A. Bush, DDS

3:30 p.m. - 3:45 p.m. G54 Failure to Diagnose Oral Cancer Is Not Always Malpractice
Yolanda Nerkowski, BA; Taylor L. Gardner, BFSc; Robert E. Wood, DDS, PhD*

3:45 p.m. - 4:00 p.m. G55 Forensic Odontology (FOD) in the Canadian Armed Forces: FOD Activities Historical Review and Structure
Genevieve D.S. Bussiere, DMD*

4:00 p.m. - 4:15 p.m. Break

*Presenting Author
Potpourri

**Moderator:** Melinda Hacker, DDS
*Carrizozo, NM*

4:15 p.m. - 4:30 p.m.  **G56**  Odontology Support for Humanitarian Events
*James P. Fancher, DDS*

4:30 p.m. - 4:45 p.m.  **G57**  Restoring Smiles for Victims of Domestic Violence
*Helena Soomer Lincoln, DDS, PhD*

4:45 p.m. - 5:00 p.m.  **G58**  The Implications of a Guilty Verdict for an Innocent Defendant
*John P. Demas, DDS*

5:00 p.m. - 5:15 p.m.  Questions & Answers
**Wednesday**

**Poster Session**

11:30 a.m. - 1:00 p.m. **H1** An Autopsy Report: Death Secondary to a Widely Disseminated Invasive Scopulariopsis Infection  
Ross J. Miller, MD*; Sean Abbott, PhD; Connie F.C. Gibas, PhD; Marius Taranu, MD; Mary H. Dudley, MD; Peter C. Iwen, PhD

11:30 a.m. - 1:00 p.m. **H2** Incidence and Distribution of Intracellular Fat in Cardiac Myocytes in Chronic Alcoholics  
Amy Deibler*

11:30 a.m. - 1:00 p.m. **H3** Congenital Valsalva Sinus Aneurysm Causing Sudden Unexpected Death in a 20-Year-Old Woman  
Selly R. Strauch, MD; Charu Subramony, MD; Brooke Sims, MD*

11:30 a.m. - 1:00 p.m. **H4** Usability of Immunohistochemistry in Forensic Pathology  
Iana Lesnikova, MD, PhD*; Marc N. Schreckenbach; Liv Lindegaard Papanikolaou, MSc; Maria P. Kristensen, MD; Stephen Hamilton-Dutoit

11:30 a.m. - 1:00 p.m. **H5** Death Due to a Congenital Vascular Anomaly of Pulmonary Hamartoma Type: Malpractice or Tragic Fatality?  
Mariela Marrone, MD; Francesca Tarantino, MD*; Alessio Ostuni, MD; Andrea Marzullo; Francesco Vinci, MD

11:30 a.m. - 1:00 p.m. **H6** Adult Epiglottitis: A Case Series Review in an Autopsy Population  
Maggie Bellis*; Jayantha Herath, MD; Michael S. Pollanen, MD

11:30 a.m. - 1:00 p.m. **H7** Fatal Ice Cream: A Rare Case of Food-Induced Anaphylactic Shock  
Gabriela Perilli, MD*; Benedetta Di Battista, MD; Sara Vita, MD; Antonella Giuliani, MD; Stefano D’Errico, MD

11:30 a.m. - 1:00 p.m. **H8** Sudden Intrauterine Death Related to a Fork Bead Cord  
Luisa Andrello, MD; Laura Della Chiesa, MD; Silvia D. Visonà, MD; Antonio M.M. Osculati, MD*

11:30 a.m. - 1:00 p.m. **H9** Death as a Consequence of an Intestinal Obstruction Due to an Abnormal Congenital Band in a 4-Year-Old Child  
Massimiliano dell’Aquila, MD*; Aniello Maiese; Serenella Serinelli, MD; Lorenzo Gtto, MD; Luigi Bonaccorso, MD

11:30 a.m. - 1:00 p.m. **H10** A Fatality Due to Type I Long QT Syndrome (LQTS) Associated With Electrolyte Abnormalities and Therapeutic Levels of Citalopram  
Dennis J. Chute, MD*; Robert J. Bready, MS

11:30 a.m. - 1:00 p.m. **H11** A Case of Lethal Idiopathic Plasmacytic Lymphadenopathy With Polyclonal Hypergammaglobulinemia: A Medical Challenge for the Forensic Pathologist  
Giancarlo Di Vella, MD, PhD*; Oronzo Schiraldi; Lucia Tattoli, PhD; Biagio Solarino, PhD

*Presenting Author
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<tr>
<td>11:30 a.m.</td>
<td>H12</td>
<td>Sudden Death Due to Drug-Induced Vasculitis</td>
<td>Abdulrezak M. Shakir, MD*; Jennifer Janssen, MS; Todd M. Luckasevic, DO</td>
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<td>H13</td>
<td>Natural Death Caused by Catecholamine Toxicity Due to Pheochromocytoma in a Young Adult</td>
<td>David K. Arboe II, MD*; Kenneth H. Clark, MD, PhD; Todd M. Luckasevic, DO</td>
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<td>H14</td>
<td>Multiple Thromboses in a Case of Neonatal Dehydration and Failure to Thrive</td>
<td>Kristine D. Song, BA*; Beth E. Frost, DO; Meggen A. Walsh, DO; Sarah A. Higdon, MD; Cristin M. Rolf, MD; Gregory J. Davis, MD</td>
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<tr>
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<td>H15</td>
<td>Sudden Childhood Death Due to Acute Bronchospasm</td>
<td>Sarah A. Higdon, MD*; Beth E. Frost, DO; Kristine D. Song, BA; Meredith H. Frame, MD; William O'Connor, MD; Gregory J. Davis, MD</td>
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<td>H16</td>
<td>Rapid Unexpected Death in Late Pregnancy Due to Ruptured Iliac Artery Dissection</td>
<td>Julia Choi*; Stephanie M. Richards; Christine Yoo; Allen Burke, MD</td>
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<td>H17</td>
<td>Nutritional Child Abuse: A Case Report of Kwashiorkor and Vitamin D-Related Rickets</td>
<td>Michael S. Pollanen, MD; Charis Kepron, MD; Rebekah Jacques*</td>
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<tr>
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<td>H18</td>
<td>Genetic and Histopathological Factors in Thrombo-Embolic Disease: Results of a Preliminary Experimental Study</td>
<td>Isabella Aquila, MD*; Fiorella Caputo, MD; Natalia Malara, PhD; Vannio Vercillo, MD; Silvia Boca; Ciro Di Nunzio, MFS, PhD; Enzo M. Di Fabrizio, PhD; Pietrantonio Ricci</td>
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<tr>
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<td>H19</td>
<td>Sudden, Unexpected Death Due to Fatal Rupture of an Undiagnosed Aneurysm of the Splenic Artery: A Forensic Approach</td>
<td>Luigi Papi; Stefania Fornaro, MD*; Laura Roas, MD; Federica Gori, MD; David Forni, MD; Ranieri Domenici, MD</td>
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<td></td>
<td>H20</td>
<td>A Tremor in the Hand That Rocks the Cradle: Fatal Consequences of Postpartum Angiopathy</td>
<td>Rebecca Irvine, MD*; Michael Rodriguez, MBBS</td>
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<td>H21</td>
<td>Death Caused by Kawasaki Disease in Infants: Illustration of Three Cases and Literature Review</td>
<td>Emiliano G. Maresi; Antonina Argo*; Stefania Zerbo, MD; Azzurra M. Rizzo, MD; Francesca Portelli; Elisabetta Orlando; Elvira Ventura Spagnolo; Paolo Procacci; Emanuele G. Grassedonio, MD; Massimido Midiri</td>
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<td>H22</td>
<td>Thoracic Injuries Due to Cardiopulmonary Resuscitation in an Infant: A Case Report</td>
<td>Michael S. Pollanen, MD; Kona Williams, MD*</td>
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<td>H23</td>
<td>WITHDRAWN</td>
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<td>H24</td>
<td>Survival of Blow Fly Pupae After Submergence in Fresh, Salt, and Polluted Water</td>
<td>Paola A. Magni, PhD*; Samanta Wolff, BSc; Massimo Meregalli, PhD; Ian Dadour, PhD</td>
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11:30 a.m. - 1:00 p.m.  H25  Postmortem Artifacts Caused by the Water Beetle *Rhantus validus*, Sharp (Coleoptera: Dytiscidae) on a Corpse Found in a Pond in Región de La Araucanía, Chile
Christopher Oses, BSc; Edoardo Tosti-Croce, PhD; Herbert Viveros, BSc; Paola A. Magni, PhD*

11:30 a.m. - 1:00 p.m.  H26  Biodiversity of Functional Genes: An Aid in Soil Provenance
Priyanka Kushwaha, MS*; Jacqueline Zayas, BS; Yanie Oliva, BS; Maria A. Mendoza, PhD; Beatrice Kallifatidis, MS; DeEtta Mills, PhD

11:30 a.m. - 1:00 p.m.  H27  The Application of Novel Next Generation Sequencing (NGS) Technology in Forensic DNA Research
Chia-Hung Huang*; Tsun-Ying Huang; Fang-Chun Chung, MS; Chun-Yen Lin

11:30 a.m. - 1:00 p.m.  H28  WITHDRAWN

11:30 a.m. - 1:00 p.m.  H29  Genotyping of Used Drug Stamp Bags With Special Attention to the Minor Contributor
Aaron Beaver, BA*; Lisa R. Ludvico, PhD

11:30 a.m. - 1:00 p.m.  H30  Death Following Retrobulbar Injection of Desmopressin for the Treatment of Non-Arteritic Anterior Ischemic Optic Neuropathy: Which Implications Indicate This Off-Label Use?
Benedetta Guidi, MD*; Valentina Bugelli, MD*; Stefania Fornaro, MD*; Marco Di Paolo; Marco T. Tuccori, MD

11:30 a.m. - 1:00 p.m.  H31  Death Due to Butane and Propane Gas Inhalation in a Cell Block
Francesco Saverio Romolo, PhD; Paola A. Fiore; Simone Cappelletti, MD; Alessandro di Luca, MD*; Costantino Ciallella

11:30 a.m. - 1:00 p.m.  H32  Effects of Different Killing and Storage Methods on Larval Length of the Blow Fly *Lucilia Sericata*
Valentina Bugelli, MD*; Jens Amendt, PhD

11:30 a.m. - 1:00 p.m.  H33  Optimization of a Method for the Extraction of DNA From Human Skeletal Remains
Sherri Deaton, BS*

11:30 a.m. - 1:00 p.m.  H34  Engaging Undergraduate Students in Forensic Entomology Research: Life History Studies of Three Necrophilous Beetles
Erin J. Watson-Horzelski, PhD*

11:30 a.m. - 1:00 p.m.  H35  Effects of Amitriptyline on the Development of *Megaselia scalaris* (Diptera: Phoridae) and Implications on the Estimation of the Minimum Postmortem Interval
Esta Bostock, BSc; Emma Lomas; Peter D. Maskell, PhD; Valentina Bugelli, MD; Stefano Vanin, PhD*

11:30 a.m. - 1:00 p.m.  H36  Spatial and Temporal Variability in Soils — Their Importance for Intelligence and Forensic Application
Natalie Damaso*; Yu Cheung, BSc; DeEtta Mills, PhD
Thursday — Session I

Pediatrics— The Kids Are Not Alright

Moderator:  Kim A. Collins, MD
LifePoint Organ and
Tissue Donation Services
Charleston, SC

Co-Moderator:  Dawn B. Holnes, MD
Denver OME
Denver, CO

8:30 a.m. - 8:45 a.m.  H37  SIDS, SUID, and Sudden Death in the Young: Where Do We Stand Today?
Wendy M. Gunther, MD*

8:45 a.m. - 9:00 a.m.  H38  Deaths Due to Child Abuse: A Five-Year Review of Cases in the Cook County
Medical Examiner’s Office
Serenella Serinelli, MD*; Ponni Arunkumar, MD; James A. Filkins, MD, JD, PhD; Lorenzo Gatto, MD*

9:00 a.m. - 9:15 a.m.  H39  Reclassification of Sudden Infant Deaths in New Mexico
Lauren E. Dvorscak, MD*; Sarah Lathrop, DVM, PhD; J. Keith Pinckard, MD, PhD

9:15 a.m. - 9:30 a.m.  H40  A Re-Examination of Patterns of Abuse in Children
Gina O. Hart, MA*; Steven A. Symes, PhD; Roger A. Mitchell, MD

9:30 a.m. - 9:45 a.m.  H41  Autopsied Cases of Suspected Child Abuse Showing Absence of Clinically
Diagnosed Injuries
Ronald K. Wright, MD, JD*

9:45 a.m. - 10:00 a.m.  H42  Evaluation of Rib Fracture Injury Modes and Biomechanics in Abused Infants
Steven A. Symes, PhD*; Ericka N. L’Abbe, PhD; Erin Chapman, MS

10:00 a.m. - 10:15 a.m.  Break

10:15 a.m. - 10:30 a.m.  H43  Rebleeding Into Subdural Neomembranes and the Myth of “Two in a Row”
in Childhood
Nea D. Moyer, BS*; John A. Bechinski, DO; Rudy J. Castellani, MD
(FSF Emerging Forensic Scientist Award Paper Presentation)

10:30 a.m. - 10:45 a.m.  H44  Intrauterine Liver Disease and Sudden Unexpected Infant Death: Causally-Related
or Coincidence?
Peter J. Stephens, MD*

10:45 a.m. - 11:00 a.m.  H45  Fatal Aortoesophageal Fistulae Due to Foreign Body Ingestion in Young Children:
Presentation of Two Cases
Tasha Z. Greenberg, MD*; Susan J. Roe, MD; David Stephen, DO; Nizam Peerwani, MD

11:00 a.m. - 11:15 a.m.  H46  Mortality Related to Falls From the Balcony of Children Younger than
18 Years of Age
Fatih Sahin; Abdurrahman Emir; Erdinç Özdemir; Safa Celik*; Sermet Koc;
Gulnaz T. Javan, PhD

*Presenting Author
PATHOLOGY/BIOLOGY

11:15 a.m. - 11:30 a.m.  H47 Shaken Baby Syndrome/Abusive Head Trauma: An Ongoing Debate Not Yet Resolved  
Antonio Oliva, MD, PhD*; Vincenzo M. Grassi, MD; Valentino De Matteis, MD; Antonio Marcelli, MD; Riccardo Rossi, MD

11:30 a.m. - 11:45 a.m.  H48 Do the Eyes Have It? Traumatically Induced Primary Optic Nerve Sheath Hemorrhage  
Erik K. Mitchell, MD*; Stephen R. Roseborough, BA

11:45 a.m. - 12:00 p.m.  H49 Case Report: Institutional Experience With the Molecular Autopsy and Its Obstacles  
Lorraine Lopez Morell, MD*; Jerri McLemore, MD

12:00 p.m. - 1:15 p.m.  Lunch

Poster Session

11:30 a.m. - 1:00 p.m.  H50 In Ballistics, Interpretations of Postmortem Multi-Slice Computed Tomography Are Often Simple … But Not Always  
Dedouit Fabrice, MD*; Frederic Savall; Fatima-Zohra Mokrane, MD; Marion Vergnault; Hervé Rousseau, PhD; Daniel Rouge, MD; Norbert Telmon, PhD, MD

11:30 a.m. - 1:00 p.m.  H51 Flash Fire Victims and Carboxyhemoglobin Concentrations: A Report of Ten Simultaneous Flash Fire Fatalities With Autopsy Findings  
Thomas K. Resk, MD*; James A. Bailey, PhD; Jeremy Stuelpmagel, MD; Thomas A. Rudd, MS, MD

11:30 a.m. - 1:00 p.m.  H52 A Case of Intrauterine Fetal Cranial Injury After Attempted Suicide During Pregnancy  
Lucia Tattoli, PhD; Giorgia Pinto, MD*; Giancarlo Di Vella, MD, PhD; Biagio Solarino, PhD

11:30 a.m. - 1:00 p.m.  H53 Skeletal Trauma Analysis in the Elderly: A Case Study on the Importance of a Contextual Approach  
Ashley L. Humphries, MA*; Ashley B. Maxwell, MA; Ann H. Ross, PhD; Jonathan Privette

11:30 a.m. - 1:00 p.m.  H54 Hydrogen Sulfide Fatality From a Domestic Sink Drain Exposure  
Mary H. Dudley, MD*; Marius Tarau, MD; Tom Hensley; Megha Garg; Diane C. Peterson, MD; Uttam Garg, PhD; B. Robert Pietak, MD

11:30 a.m. - 1:00 p.m.  H55 A Complex Bullet Path: Entrance in the Head, Exit Through a Body Orifice, and Re-Entrance in the Arm  
Vadim Mesli, MD*; Tournel Gilles, MD, PhD; Philippe Morbidelli, MD; Erwan Le Garff, MD; Yann Delannoy, MD; Valéry C. Hedouin, MD, PhD

11:30 a.m. - 1:00 p.m.  H56 Autoerotic Accidental Death by Self-Inflicted Asphyxia by Body-Wrapping in a Plastic Curtain  
Claudia Rosa, MD; Roberto Testi, MD, PhD; Patrizia Mazzucco, MD; Paola A. Magni, PhD*

11:30 a.m. - 1:00 p.m.  H57 The Utility of CT Imaging in Determining Cause of Death in a Case of Iatrogenic Barotrauma  
Maggie Bellis*, Michael J. Pickup, MD; Michael S. Pollanen, MD

*Presenting Author
11:30 a.m. - 1:00 p.m.  H58  Fatal Pedestrian-Vehicle Encounters: Is Pedestrian Blood-Alcohol Concentration a Significant Factor?
Rodrigo N. Taniguchi*; Carmen Silvia M. Miziara, MD, PhD; Ivan D. Miziara, MD, PhD; Julio Ponce; Daniel R. Muñoz, MD, PhD

11:30 a.m. - 1:00 p.m.  H59  When Life Makes No Sense — Suicide by More Than 150 Stab and Incised Wounds With Atypical Features
Aniello Maiese*; Lorenzo Gitto, MD; Serenella Serinelli, MD; Massimiliano dell’Aquila, MD; Giorgio Bolino, MBBS

11:30 a.m. - 1:00 p.m.  H60  Burned Human Remains: The Importance of a Multidisciplinary Approach
Martina Focardi*; Francesco Mari; Ugo Ricci, MD; Viola Bartolini; Vilma Pinchi, PhD

11:30 a.m. - 1:00 p.m.  H61  A Retrospective Study of Drowning Cases in Tarrant and Adjacent Counties From 2008 Through 2013
Marc Jones, BS*; David Stephen, DO; Nizam Peerkani, MD; Ronald L. Singer, MS

11:30 a.m. - 1:00 p.m.  H62  Hemorrhagic Death With Particular Postmortem Computed Tomography Findings Associated With Decompression Illness: A Case Report
Yui Igari, MD*; Tomoya Ikeda, MD; Tadashi Hosoya, MD; Akihito Usui, MS; Yusuke Kawasumi, MD, PhD; Masato Funayama

11:30 a.m. - 1:00 p.m.  H63  A Bizarre Way to Kill the Ex-Wife: Two Knives Buried in the Chest, Two Additional Knives, and a Screwdriver Implanted in the Thorax
Joao E.S. Pinheiro, MD*; Antonio Padilha; Maria Moura; Samantha Wijerathna

11:30 a.m. - 1:00 p.m.  H64  Homicide or Suicide? A Case Report of an Atypical Hanging
Furio Martino Patete*; Lucia Lops, MD; Francesco Sessa, BS; Sara Vita, MD; Margherita Neri, MD, PhD

11:30 a.m. - 1:00 p.m.  H65  Impact of Postmortem Computed Tomography on the Evaluation of Strangulation Deaths
Lauren A. Decker*; Gary M. Hatch, MD; Sarah Lathrop, DVM, PhD; Kurt B. Nolte, MD

11:30 a.m. - 1:00 p.m.  H66  Cardiac Arrest During Police Restraint in a Man With Catecholaminergic Polymorphic Ventricular Tachycardia (CPVT): Frightened to Death?
Ashwyn Rajagopalan, MD*; Michael S. Pollanen, MD

11:30 a.m. - 1:00 p.m.  H67  Atypical Self-Strangulation Through a Sphygmomanometer: An Uncommon Suicide Method
Sara Lo Pinto, MD*; Tiziana Tacchella, MD; Francesca Fossati, MD; Alessandro Bonsignore, MD; Francesco Ventura, MD

11:30 a.m. - 1:00 p.m.  H68  The Importance of Postmortem Computed Tomography in a Gunshot Wound-Related Death: A Case Report
Giorgio Bolino, MBBS; Lorenzo Gitto, MD*; Massimiliano dell’Aquila, MD; Serenella Serinelli, MD; Aniello Maiese*

11:30 a.m. - 1:00 p.m.  H69  Terminal Performance of Zombie-Killing Bullets and Polymer-Tipped Bullets
Todd M. Luckasevic, DO*; David K. Arboe II, MD; Thomas M. Morgan, BS; Kenneth H. Clark, MD, PhD; Abdulrezak M. Shakir, MD

*Presenting Author
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<td>11:30 a.m. -</td>
<td>H70</td>
<td>Savage Murder: Mutilation and Dismemberment — Why, When, and Where?</td>
<td>Baiyang Xu, MD*</td>
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<td>11:30 a.m. -</td>
<td>H71</td>
<td>The New Italian Law on Femicide: Was There a Real Reduction of Cases of Femicide?</td>
<td>Benedetta Di Battista, MD*; Stefania C. Bello, MD; Margherita Neri, MD, PhD; Natascha Pascale, MD; Cristoforo Pomara, MD, PhD; Stefano D’Errico, MD; Irene Riezzo, PhD; Francesco Sessa, BS; Emanuela Turillazzi, MD, PhD</td>
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<td>11:30 a.m. -</td>
<td>H72</td>
<td>Lethal Drug Intoxication of a Bank Robber: The Role of Physical Restraint</td>
<td>Pasquale Beltempo, MD*; Roberto Gagliano-Candela; Valeria Bruno, MD; Biagio Solarino, PhD</td>
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<td>11:30 a.m. -</td>
<td>H73</td>
<td>The Forensic Science Investigations in Recent Cases of Victim’s Cannibalism: Reality or Fiction? A Case of Matricide and a Review of Literature</td>
<td>Isabella Aquila, MD*; Ciro Di Nunzio, MFS, PhD*; Silvia Boca; Francesco Ausania, MD; Maurizio Saliva, MD; Ester de Luca, MD; Matteo Borrini, PhD; Pietrantonio Ricci</td>
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<td>11:30 a.m. -</td>
<td>H74</td>
<td>Death Following Intravenous Administration of Sucralphate</td>
<td>Henrik Druid, MD, PhD*</td>
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<td>11:30 a.m. -</td>
<td>H75</td>
<td>Alibi Verification Using Diatoms</td>
<td>Paola A. Magni, PhD*; Tommaso Pacini, MSc; Marco Pazzi, PhD; Marco Vincenti, MS; Ian Dadour, PhD; Elisa Falasco, PhD</td>
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<td>11:30 a.m. -</td>
<td>H76</td>
<td>Sudden Death After Methylprednisolone Sodium Hemisuccinate Injection: A Rare Case of Anaphylaxis</td>
<td>Giuseppe Ruggiero Parente, MD*; Marco Savito, MD; Furio Martino Patete; Gaetano Serviddio, MD, PhD; Cristoforo Pomara, MD, PhD</td>
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<td>11:30 a.m. -</td>
<td>H77</td>
<td>Body Packers and Body Stuffers: The Role of Cardiac Oxidative Stress on Myocardial Damage</td>
<td>Dania De Carlo, MD*; Stefania C. Bello, MD; Marco Di Paolo; Carmela Fiore, MD; Francesca Maglietta; Angelo Montana, MD; Antonio Oliva, MD, PhD; Laura Panata; Daniela Cerretani, BS; Irene Riezzo, PhD</td>
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<td>11:30 a.m. -</td>
<td>H78</td>
<td>Crystallins Aging Process and Related Post-Translational Modifications (PTMs) in Determination of Human Age</td>
<td>Hanqing Wang*; Mehdi Moini, PhD</td>
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<td>11:30 a.m. -</td>
<td>H79</td>
<td>Hydrophilic Polymer Embolization: A Common Incidental Finding at Medical Autopsy</td>
<td>Stephanie M. Richards*; Julia Choi; Allen Burke, MD</td>
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<td>11:30 a.m. -</td>
<td>H80</td>
<td>Fatalities Associated With Aldicarb</td>
<td>Hannah C. Jarvis, MRCS*; Carolyn A. Kappen, MD</td>
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<td>11:30 a.m. -</td>
<td>H81</td>
<td>An Extremely Enjoyable Rave Party Resulting in a Fatal Sleep: The Reliability of Postmortem Computed Tomography in a Case of Crush Asphyxia</td>
<td>Serenella Serinelli, MD*; Massimiliano dell’Aquila, MD; Lorenzo Gatto, MD; Aniello Maiese; Giorgio Bolino, MBBS</td>
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| 11:30 a.m. - 1:00 p.m. | **H82** 3D Body Surface Documentation in Forensic Pathology  
*Presenting Author* Petra Urbanová, PhD*; Petr Hejna, PhD; Mikolas Jurda, MSc |                                                                                             |
| 11:30 a.m. - 1:00 p.m. | **H83** Postmortem Changes on Computed Tomography (CT) Can Assist With the Diagnosis of Biliary Tract Disease  
*Presenting Author* Michael J. Pickup, MD* |                                                                                             |
| 11:30 a.m. - 1:00 p.m. | **H84** Idiopathic Arterial Calcification of Infancy: A Case Report With Postmortem Computed Tomography (PMCT) and Histologic Findings  
*Presenting Author* Zabiullah Ali, MD*; Pamela E. Southall, MD; David R. Fowler, MD |                                                                                             |

**Postmortem Imaging— I Can See Clearly Now**

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| 1:15 p.m. - 1:30 p.m. | **H85** A Prospective Double-Blinded Comparison of Autopsy and Postmortem Computed Tomography (PMCT) for the Evaluation of Pediatric Trauma Deaths  
*Co-Moderator* Michael J. Pickup, MD  
Ontario Forensic Pathology Service  
Toronto, CANADA | Sarah Lathrop, DVM, PhD*; Gary M. Hatch, MD; Chandra Gerrard, BS; Susan Williamson, MD; Jan Price, RN, MSA; Kathleen M. Lopez, MD; Sam W. Andrews, MD; Ross E. Zumwalt, MD; Ian Paul, MD; Jamie Elifritz, MD; Kurt B. Nolte, MD |
| 1:30 p.m. - 1:45 p.m. | **H86** Micro-Computed Tomography (Micro-CT) Features of Laryngeal Fractures in a Case of Fatal Manual Strangulation  
*Presenting Author* Paolo Fais, MD*; Chiara Giraudo, MD; Renzo Giordano, MD; Federica Bortolotti, PhD; Diego Miotto; Franco Tagliaro, PhD, MD |                                                                                             |
| 1:45 p.m. - 2:00 p.m. | **H87** Challenging the Role of Autopsy — Results of a Multicenter Study to Validate Multi-Phase Postmortem CT-Angiography (MPMCTA)  
*Presenting Author* Jochen Grimm, MD, JD*; Axel Heinemann, MD; Giuseppe Guglielmi, PhD; Krzysztof Wozniak, MD; Franziska Eplinious, MD; Fabrice F. Dedouit; Florian Fischer, MD; Guy N. Rutty, MD; Bruno Morgan, BS; Holger Wittig, MD; Patrice Mangin, MD, PhD; Silke Grabherr, PhD |                                                                                             |
| 2:00 p.m. - 2:15 p.m. | **H88** Diagnostic Values of Postmortem Computed Tomography (PMCT) and Multi-Phase Postmortem CT-Angiography (MPMCTA) in Blunt Trauma Death  
*Presenting Author* Dina A. Shokry, MD*; Maged Nabil Hussien, MS; Axel Heinemann, MD; Klaus Püschel, MD, PhD; Hermann Vogel, MD |                                                                                             |
| 2:15 p.m. - 2:30 p.m. | **H89** Thanatology of the Vascular System and Its Influence on Postmortem Computed Tomography (PMCT) and Multi-Phase Postmortem CT-Angiography (MPMCTA)  
*Presenting Author* Coraline Egger, MD*; Paul Vaucher, MSc; Pierre Bize, MD; Bruguier Christine; Patrice Mangin, MD, PhD; Silke Grabherr, PhD |                                                                                             |
| 2:30 p.m. - 2:45 p.m. | Questions & Answers |                                                                                             |
| 2:45 p.m. - 3:00 p.m. | Break |                                                                                             |
PATHOLOGY/BIOLOGY

3:00 p.m. - 3:15 p.m.  H90 Detection of Pulmonary Fat Embolism in Cases With Postmortem CT-Angiography (PMCTA) — Preliminary Results
Maria Del Mar Lesta, MD*; Patrice Mangin, MD, PhD; Marc D. Bollmann, MD

3:15 p.m. - 3:30 p.m.  H91 Limitations of Multi-Phase Postmortem CT-Angiography (MPMCTA) in Cases of Fat Embolism: The Goal of Immunohistochemistry to Distinguish Between Artificial and Vital Fat Embolism
Natascha Pascale, MD*; Stefania C. Bello, MD; Giuseppe Bertozzi, MD; Santina Cantatore; Gianpaolo Grilli, MD; Margherita Neri, MD, PhD; Irene Riezzo, PhD; Cristoforo Pomara, MD, PhD

3:30 p.m. - 3:45 p.m.  H92 Implications of Postmortem Magnetic Resonance Imaging in Sudden Cardiac Death
Marco Di Paolo; Tommaso Guerrini; Stefania Fornaro, MD; Laura Roas, MD; Benedetta Guidi, MD*; Giovanni Donato Aquaro, MD; Ranieri Domenici, MD

3:45 p.m. - 4:00 p.m.  H93 Visualization of Myocardial Infarction by Postmortem Single-Organ Coronary Computed Tomography: A Feasibility Study
Matteo Polacco, MD; Vincenzo M. Grassi, MD; Antonio Oliva, MD, PhD; Riccardo Rossi, MD*; Valentino De Matteis, MD

4:00 p.m. - 4:15 p.m.  H94 “Virtopsy” Utility on Mummified Corpses: Two Italian Iconic Cold Cases
Alessandra Pentone*, Liliana Innamorato, MD; Ilaria De Vitis; Francesco Introna, MD

Thursday — Session II

Jay Dix Memorial Bonus Day

Moderator: Michael A. Graham, MD
Saint Louis University School of Medicine
Division of Forensic Pathology
St. Louis, MO

9:00 a.m. - 9:10 a.m.  H96 Jay Dix Memorial Bonus Day Introduction
Michael A. Graham, MD*; Joseph A. Prahlhlow, MD*; J. Keith Pinckard, MD, PhD*; Joyce L. deJong, DO*; Jonathan Hayes, MD*

9:10 a.m. - 10:00 a.m.  H96 Sharp Force Injuries
Joseph A. Prahlhlow, MD*

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

10:10 a.m. - 11:00 a.m.  H96 Infant Deaths
J. Keith Pinckard, MD, PhD*

11:00 a.m. - 11:50 a.m.  H96 Deaths Temporally Related to Apprehension by Law Enforcement
Michael A. Graham, MD*
11:50 a.m. - 2:00 p.m.  
Lunch

2:00 p.m. - 2:50 p.m.  
H96  
Deaths Related to Sports and Recreation  
Joyce L. deJong, DO*

2:50 p.m. - 3:00 p.m.  
Break

3:00 p.m. - 3:50 p.m.  
H96  
Asphyxial Deaths  
Jonathan Hayes, MD*

3:50 p.m. - 4:00 p.m.  
Discussion

Friday — Session I

Entomology and Postmortem Changes — Dust in the Wind

Moderator: William C. Rodriguez III, PhD  
Office of the Chief Medical Examiner  
Baltimore, MD

Co-Moderator: Giancarlo Di V ella, MD, PhD  
Dept Public Health Sciences  
Sezione di Medicina Legale  
Torino, ITALY

8:30 a.m. - 8:45 a.m.  
H97  
Ecology of Decomposition: A Chemical and Biological Profile of the Maggot Mass  
Emily Junkins, BS*; David O. Carter, PhD  
(FSF Emerging Forensic Scientist Award Paper Presentation)

8:45 a.m. - 9:00 a.m.  
H98  
ForenSeek: A New Tool for Forensic Entomology  
Damien Charabidze, PhD*; Valéry C. Hedouin, MD, PhD; Didier Gosset, MD, PhD

9:00 a.m. - 9:15 a.m.  
H99  
Factors Related to Body Temperature From Scene to Autopsy: Implications for Forensic Entomology  
Michelle R. Sanford, PhD*

9:15 a.m. - 9:30 a.m.  
H100 WITHDRAWn

9:30 a.m. - 9:45 a.m.  
H101 WITHDRAWn

9:45 a.m. - 10:00 a.m.  
H102  
Diurnal Oviposition of Blow Flies: Does Time of Day Influence the Likelihood or Magnitude of Oviposition?  
Kristi Bugajski, PhD*

10:00 a.m. - 10:15 a.m.  
Break

10:15 a.m. - 10:30 a.m.  
H103  
The First Use of Postmortem Microbiomes in Human Death Investigations  
Jennifer L. Pechal, PhD*; Carl J. Schmidt, MD; M. Eric Benbow, PhD  
(FSF Emerging Forensic Scientist Award Paper Presentation)

10:30 a.m. - 10:45 a.m.  
H104  
Cadavers Show Distinctive Thanatobiofilm Signatures  
Ismail Can*; Gulnaz T. Javan, PhD; Alexander Pozhitkov, PhD; Peter A. Noble  
(FSF Emerging Forensic Scientist Award Paper Presentation)
10:45 a.m. - 11:00 a.m.  H105  DNA Extraction and Sample Storage Considerations for Using Metagenomic Sequencing Approaches to Evaluate Soil Microbial Communities Associated With Human Death Scenes
Sheree J. Finley, MS*; Jennifer L. Pechal, PhD; M. Eric Benbow, PhD; Gulnaz T. Javan, PhD
(FSF Emerging Forensic Scientist Award Paper Presentation)

11:00 a.m. - 11:15 a.m.  H106  Does Carcass Mass Influence the Structure of Grave Soil Microbial Communities?
David O. Carter, PhD*; Jessica L. Metcalf, PhD; Amnon Amir, PhD; Rob Knight, PhD

11:15 a.m. - 11:30 a.m.  H107  Entomotoxicology: The Past and Where to Go Next
Abigail J. Props, BS*

11:30 a.m. - 11:45 a.m.  H108  WITHDRAWN

11:45 a.m. - 12:00 p.m.  H109  Validating an Equation to Estimate Postmortem Interval on Oahu, Hawaii
Christopher G. Inoue, BS*; David O. Carter, PhD

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

DNA, Genetics, and Chemistry

Moderator: Louis N. Finelli, DO
Rockville, MD

Co-Moderator: Edward A. Reedy, PhD, MD
Armed Forces Medical Examiner System
Dover AFB, DE

1:00 p.m. - 1:30 p.m.  H110  Development of PowerQuant™ System: A New Robust Human and Male-Specific DNA Quantification System Which Monitors DNA Integrity
Anupama Gopalakrishnan, PhD*; Margaret Ewing, MSFS; Jonelle M. Thompson, MS; Robert McLaren, PhD; Benjamin Krenke, MS; Douglas R. Storts, PhD

1:30 p.m. - 1:45 p.m.  H111  In Situ Detection of Latent DNA Using Nucleic Acid Binding Dyes and an Alternative Light Source
Alicia M. Haines, BSc*; Shanan S. Tobe, PhD; Hilton Kobus, PhD; Adrian Linacre, PhD

1:45 p.m. - 2:15 p.m.  H112  Comparison of QIAcube® Differential to Manual Differential Extraction When Purified Using the QIAamp® DNA Blood Mini Kit
Kayla Holsworth*; Brittany M. Baguley, PhD; Lisa Smyth-Roam, PhD; Pamela J. Staton, PhD

2:15 p.m. - 2:30 p.m.  H113  Detection of Genetic Variations in Cardiac Channelopathies Using Ion Torrent™ Next Generation Sequencing in a Cohort of Autopsy-Negative Sudden Unexplained Deaths
Audrey Farrugia, MD, PhD*; Christine Keyser, PhD; Jean Muller, PhD; Jean-Sébastien Raul; Bertrand P. Ludes, MD, PhD

2:30 p.m. - 2:45 p.m.  H114  Evaluation of the Ion Torrent™ PGM™ for Use With Low-Copy and Degraded Whole Mitochondrial Genome
Lisa Skandalis*; Kazufusa C. Okamoto, PhD
(FSF Emerging Forensic Scientist Award Paper Presentation)

2:45 p.m. - 3:00 p.m.  Questions & Answers
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<tr>
<td>3:00 p.m. - 3:15 p.m.</td>
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| 3:15 p.m. - 3:30 p.m. | H115 Identification of Non-Synonymous SNPs in Archaeological Hair Protein: Calculation of Measures of Identity and Biogeographic Background  
Jonathan Hilmer, PhD; Katie Giddons, BSc; Tami Leppert, MSc; Brian Bothner, PhD; Mark Leppert; Andrew Wilson, PhD; Glendon Parker, PhD*  |
| 3:30 p.m. - 3:45 p.m. | H116 A Multiplex PCR Assay for Simultaneous Analysis of 13 Rapidly Mutating Y-STRs  
Rashed Alghafri, MS*; William Goodwin, PhD; Sibte Hadi, PhD  |
| 3:45 p.m. - 4:00 p.m. | H117 On Combining MicroRNA Analysis With DNA STR Profiling in a Single Stream Process  
Dieudonné J. van der Meer, MSc*; Graham A. Williams, PhD  
(FSF Emerging Forensic Scientist Award Paper Presentation)  |
| 4:00 p.m. - 4:15 p.m. | H118 Postmortem Bacterial Translocation: When Does it Happen?  
Vadim Mesli, MD*; Erwan Le Garff, MD; Rodrigue Dessein, PhD; Valéry C. Hedouin, MD, PhD; Christel Neut, PhD; Didier Gosset, MD, PhD  |
| 4:15 p.m. - 4:30 p.m. | H119 Apoptosis in Brain Tissues: Antemortem and Postmortem Cellular Responses  
Justin C. Astin*; Shivani Soni, PhD; Gulnaz T. Javan, PhD  |
| 4:30 p.m. - 5:00 p.m. | Questions & Answers |

**Friday — Session II**

**Multidisciplinary Session: Pathology/Biology Session II/Toxicology**

**Moderator:** Meredith A. Lann, MD  
OME  
Denver, CO

**Co-Moderator:** Rebecca Jufer Phipps, PhD  
State of MD, OCME  
Baltimore, MD

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<th>Time</th>
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| 8:15 a.m. - 8:30 a.m. | H120 Marijuana Edible Consumption as a Contributing Factor in Death: Two Cases and Live Anecdotal Accounts  
Dawn B. Holmes, MD*; Meredith A. Lann, MD; Billie-Jo Naysmith, BS; Sarah Urfer, MS; James Louis Caruso, MD  |
| 8:30 a.m. - 8:45 a.m. | K64 Case Report of a Death Involving the Designer Opioid MT-45 Raises the Spectre of Synthetic Opioids in Forensic Casework  
Donna M. Papsun, MS*; Alison Krywanczyk, MD*; James C. Vose, BA; Elizabeth A. Bundock, MD, PhD; Barry K. Logan, PhD  
(FSF Emerging Forensic Scientist Award Paper Presentation)  |
| 8:45 a.m. - 9:00 a.m. | K65 The Art of Embalming vs. the Science of Forensic Toxicology  
Sonia Cuevas, BS; Wendy Santiago-Tirado, BS; Marina Stajic, PhD*  |
| 9:00 a.m. - 9:15 a.m. | H121 Poor Man’s Methadone: A Case Report of Loperamide Toxicity  
Jennifer Dierksen*; Morna L. Gonsoulin, MD; Jeffrey Walterscheid, PhD  |
| 9:15 a.m. - 9:30 a.m. | K66 Case Study: A Suicide Death by Sotalol Overdose  
Autumn Massiello, PhD*; Jeffrey Walterscheid, PhD  
*Presenting Author
### PATHOLOGY/BIOLOGY

**ORLANDO 2015**

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<th>Time</th>
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<tr>
<td>9:30 a.m.</td>
<td>H122</td>
<td>A Fatal Case of Reye’s Syndrome Associated With Pepto-Bismol®</td>
<td>Sasha Osbourne, MD*; Stephen K. Wilson, MD</td>
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<tr>
<td>9:45 a.m.</td>
<td>H123</td>
<td>Comparison of the Concentrations of Morphine, Methadone, and Diazepam When Sampled From Cardiac, Subclavian, Femoral, and Popliteal Sites and From Clamped and Unclamped Subclavian and Femoral Vein Samples</td>
<td>Eric Lemaire, MD*; Carl J. Schmidt, MD</td>
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<tr>
<td>10:00 a.m.</td>
<td>K67</td>
<td>Manners of Death in Drug-Related Fatalities in Florida</td>
<td>Dayong Lee, PhD*; Chris Delcher, PhD; Mildred M. Maldonado-Molina, PhD; Jon R. Thogmartin, MD; Bruce A. Goldberger, PhD</td>
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<td>10:15 a.m.</td>
<td>Break</td>
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<td>10:30 a.m.</td>
<td>H124</td>
<td>Electrocution Deaths of United States Service Members From 2003 to 2012</td>
<td>Wendy S. Warren, DO*; Lisa Rivera, DO; Edward Mazuchowski, II, MD, PhD</td>
</tr>
<tr>
<td>10:45 a.m.</td>
<td>H125</td>
<td>All-Terrain Vehicle and Snowmobile-Related Deaths</td>
<td>Melissa M. Blessing, DO*; Peter T. Lin, MD</td>
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<tr>
<td>11:00 a.m.</td>
<td>H126</td>
<td>Suicides in Manitoba, Canada — A Ten-Year Study From 2003 to 2012</td>
<td>Thambirajah Balachandra, MBBS*; Mzueen Ismath, BSc*</td>
</tr>
<tr>
<td>11:15 a.m.</td>
<td>H127</td>
<td>Epidemiology of Suicide in Denver</td>
<td>Kelly Kobylanski, DO*; Dawn B. Holmes, MD; Meredith A. Lann, MD; James L. Caruso, MD</td>
</tr>
<tr>
<td>11:30 a.m.</td>
<td>H128</td>
<td>Fentanyl-Laced Heroin: A Maryland Public Health Problem</td>
<td>Natasha L. Grandhi, MD*; Rebecca Jufer Phipps, PhD; Mary G. Ripple, MD; Suzanne Doyon, MD; David R. Fowler, MD</td>
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<tr>
<td>11:45 a.m.</td>
<td>H129</td>
<td>Triangulating Time-of-Death With CT Scan, Immunohistochemistry, and Autopsy: An Experimental Study on Murder Case Investigations</td>
<td>Alessandro di Luca, MD*; Alessandro Mariant; Valeria Panebianco, MD; Luigi Cipolloni, MD, PhD</td>
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<tr>
<td>12:00 p.m.</td>
<td>Lunch</td>
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Sudden Death and Cardiovascular Issues — A Heart Needs a Second Chance

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<tr>
<td>1:00 p.m. - 1:15 p.m.</td>
<td>H130</td>
<td>Is It Proper to Cite Mitral Valve Prolapse (MVP) as the Cause of Sudden Cardiac Death (SCD)?</td>
<td>Francesco Pontoriero, DO*; Abraham T. Philip, MD</td>
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<tr>
<td>1:15 p.m. - 1:30 p.m.</td>
<td>H131</td>
<td>WITHDRAWN</td>
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<td>1:30 p.m. - 1:45 p.m.</td>
<td>H132</td>
<td>Sudden Death Due to Undiagnosed Rheumatic Heart Disease in a Child</td>
<td>Pauline Saint-Martin, MD, PhD*; Camille Rerolle, MD; Maxime Faisant, MD; Thierry Lefrancq, MD</td>
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<tr>
<td>1:45 p.m. - 2:00 p.m.</td>
<td>H133</td>
<td>Cardiovascular Abnormalities Associated With Sudden Unexpected Death in Epilepsy</td>
<td>Marisa DelMundo-Galicia, MD*, Steven M. White, MD, PhD</td>
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<tr>
<td>2:00 p.m. - 2:15 p.m.</td>
<td>H134</td>
<td>Sudden Deaths in Patients With Cardiac Rhythm Devices Via Medical Examiner Surveillance and Systematic Autopsy</td>
<td>Zian Tseng, MD*; Christopher Mulvanny, BS; Nina Clark, BS; Philip Ursell, MD; Jeffrey Olgin, MD; Amy P. Hart, MD; Nikolas P. Lemos, PhD; Ellen Moffatt, MD*</td>
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<tr>
<td>2:15 p.m. - 2:30 p.m.</td>
<td>H135</td>
<td>A Case of Maternal and Fetal Death by Spontaneous Rupture of Splenic Artery Aneurysm (SAA) in a Nulliparous Pregnancy at the Third Trimester</td>
<td>Monica Salerno, MD, PhD*; Dania De Carlo, MD; Benedetta Di Battista, MD; Gabriela Perilli, MD; Stefania C. Bello, MD</td>
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<tr>
<td>2:30 p.m. - 2:45 p.m.</td>
<td>H136</td>
<td>Sudden Death in an 11-Year-Old Child With Epilepsy</td>
<td>Peter T. Lin, MD; Jadee L. Neff, MD, PhD*</td>
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<tr>
<td>2:45 p.m. - 3:00 p.m.</td>
<td>H137</td>
<td>Next Generation Sequencing Technology for the Identification of Genetic Markers Associated With Sudden Unexplained Death and Sudden Infant Death Syndrome</td>
<td>Roger Kahn, PhD*; Nicole Methner; Michael A. Donley, MS; Katherine Welch, MSFS</td>
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<td>3:00 p.m. - 3:15 p.m.</td>
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<td>3:15 p.m. - 3:30 p.m.</td>
<td>H138</td>
<td>Sudden Cardiac Death Due to Anabolic Androgenic Steroids (AAS): Autoptic, Histopathological, and Toxicological Findings in Four Cases</td>
<td>Francesco P. Busardo, MD*; Enrico De Dominicus, MD; Francesco Ventura, MD; Simona Napoletano, MD; Simona Zaami, PhD; Carmela Fiore, MD (FSF Emerging Forensic Scientist Award Paper Presentation)</td>
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<tr>
<td>3:30 p.m. - 3:45 p.m.</td>
<td>H139</td>
<td>The Challenges Faced in Evaluating a Death Related to Left Ventricular Assist Device (LVAD)</td>
<td>Abraham T. Philip, MD*; Megan Keane-Tarchichi, MD; Yvonne Yetman, RN</td>
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<tr>
<td>3:45 p.m. - 4:00 p.m.</td>
<td>H140</td>
<td>Cardiovascular Pathology in Cases of Death Following Autonomic Failure</td>
<td>Enrico A. Risso, MD*; Paolo Garofano, MD, PhD; Dragan Primorac, MD, PhD; Maurizio Cravello, MD</td>
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PATHOLOGY/BIOLOGY

4:00 p.m. - 4:15 p.m.  H141 Myocardial Rupture and Cardiopulmonary Resuscitation: Diagnosis and Forensic Issues
Isabelle Plu, MD, PhD*; Jean-Marc Laborie, MD; Thierry Lefrancq, MD; Isabelle Sec, MD; Bertrand P. Ludes, MD, PhD

4:15 p.m. - 4:30 p.m.  H142 Genetic Investigation of Sudden Cardiac Death: The State of the Art in Italy
Antonio Oliva, MD, PhD*

4:30 p.m. - 4:45 p.m.  H143 Homicide by Stroke: Cholesterol Embolus Induced During a Struggle
Ericka A. Becker, BS*; Brandy Shattuck, MD; Rudy J. Castellani, MD

4:45 p.m. - 5:00 p.m.  H144 An Uncommon Cause of Pulmonary Embolism
Adrienne Segovia, MD*; Tasha Z. Greenberg, MD; Kimberly Golden, MD

Saturday

Forensic Pathology Potpourri — Another Brick in the Wall

Moderator: Judy Melinek, MD
PathologyExpert Inc.
San Francisco, CA

Co-Moderator: Eric W. Berg, MD
Blanchfield Army Hospital
Armed Forces Med Examiner Sys
Fort Campbell, KY

8:30 a.m. - 8:45 a.m.  H145 A Novel Approach to a Quality Program in a Medical Examiner’s Office
Sam W. Andrews, MD*; J. Keith Pinckard, MD, PhD

8:45 a.m. - 9:00 a.m.  H146 Worked to Death: A Detailed Discussion of At-Work Deaths in Harris County, Texas
Kathryn H. Haden-Pinneri, MD*

9:00 a.m. - 9:20 a.m.  H147 Quality Assurance Projects at the Los Angeles Medical Examiner/Coroner’s Office
Lakshmanan Sathyavagiswaran, MD*; Christopher B. Rogers, MD

9:20 a.m. - 9:40 a.m.  H148 Forensic Pathologist Concurrence in the Interpretation of Images of Patterned Injuries
Xianming Fang, PhD; William R. Oliver, MD*; Karen L. Kelly, MD; Colleen Tetterton

9:40 a.m. - 10:00 a.m.  H149 Gone and Forgotten: A Medical Examiner’s Nightmare
Mark M. LeVaughn, MD*; Amber M. Plemons, BS; Nicholas P. Herrmann, PhD

10:00 a.m. - 10:15 a.m.  H150 Quality Assurance of Autopsy Cultures
Christopher B. Rogers, MD*; Nicole Ellis, DO

10:15 a.m. - 10:30 a.m.  Break

10:30 a.m. - 10:45 a.m.  H151 A Comparison of Deaths From Diabetic and Alcoholic Ketoacidosis
Anita Lal, MD*; Jacqueline L. Parai, MD; Chris Milroy, MD, LLB

10:45 a.m. - 11:00 a.m.  H152 The Speckled Polarized Lung: Microcrystalline Cellulose Pulmonary Granulomatosis as a Complication of Intravenous Drug Abuse
Wendi G. O’Connor, MD*; Yanfei Huang, MD, PhD; William F. Hamilton, MD; Martha J. Burt, MD

*Presenting Author
11:00 a.m. - 11:15 a.m.  H153  Death Scene Findings Associated With Accidental Toxicity Deaths in New Mexico, United States, From 2010 to 2011
Timothy J. Dubois*; Sam W. Andrews, MD; Sarah Lathrop, DVM, PhD

11:15 a.m. - 11:30 a.m.  H154  An Analysis of the Causal Relationship Between Maternal/Prenatal Cocaine Use and Stillbirth: Results of a National Hospital Database Study
Frank A. Franklin, PhD*; Michael Freeman, MD, PhD

11:30 a.m. - 11:45 a.m.  H155  Heroin Trends in Cuyahoga County, 2013
Claire Kaspar-Naso, BS; Erin M. Worrell, BSc; Hugh Shannon, BS; Camille Herby, MPH; Thomas P. Gilson, MD*

11:45 a.m. - 12:00 p.m.  H156  Obstruction of Aqueduct of Sylvius Following Spontaneous Intra-Ventricular Hemorrhage and Meningitis in a Premature Infant Leading to Hydrocephalus and Cystic Cerebellar Degeneration With Polymicrogyria: A Case Study With a Review of Literature
Avneesh Gupta, MD*; Amanda O. Fisher-Hubbard, MD; Jeffrey Hudson, MD; Kilak Kesha, MD; Carl J. Schmidt, MD
Wednesday

Poster Session

11:30 a.m. - 1:00 p.m.  I1 Medicolegal and Criminological Suicide Diagnosis in Historical Cases: A New Methodology
Luca Massaro, MD*; Matteo Borrini, PhD

11:30 a.m. - 1:00 p.m.  I2 Malingering Detection With the Autobiographical Implicit Association Test
Laura Muscatello*; Annabella A. Pozzoli, MEd*

11:30 a.m. - 1:00 p.m.  I3 Criminal Behavior and Single Nucleotide Polymorphisms in Genes Related to Dopamine and Serotonin Modulation
Gabriella Cansino, BS*; Peyton Gandy, MSFS; Jessica A. Motl, MS; Todd Armstrong, PhD; Matt R. Nobles, PhD; Brian Boutwell, PhD; David A. Gangitano, PhD

11:30 a.m. - 1:00 p.m.  I4 Forensic Analysis of a Chiropractor Accused of Sexual Assaults on His Patients: A Case Report
Jutta M. Birkhoff, MD, PhD; Giuseppe O. Armocida, MD; Laura Re, MD; Davide Torri, MD; Antonio M. Osculati, MD*

11:30 a.m. - 1:00 p.m.  I5 Aggression and Interpersonal Violence in Hospital Emergency Departments
Adam H. Crighton, BS; Scott Bresler, PhD*; Dustin B. Wygant, PhD; Gordon L. Gillespie, PhD

11:30 a.m. - 1:00 p.m.  I6 Could Cases of Abusive Head Trauma (Shaken Baby Syndrome) Historically Have Been Misdiagnosed as Pervasive Developmental Disorders?
Michael J. McCarthy, BA*; Catherine B. Pearman, MPAS; Wendy M. Gunther, MD

11:30 a.m. - 1:00 p.m.  I7 Assessment of Children Who Are in Conflict With the Law: Çukurova University Department of Child and Adolescent Psychiatry Between 2006 and 2011
Kemal C. Yildirim, MD; Aysegül Y. Tahioglu, MD; Kenan Kaya; Necmi Cekin, MD; Mete K. Gulmen, PhD, MD*

Thursday

Annual Lectureship in Toxicology — Multidisciplinary Session: Toxicology/Psychiatry & Behavioral Science

Moderator: Dan T. Anderson, MS
Los Angeles County Dept of ME-Coroner
Los Angeles, CA

Co-Moderator: Dean M. De Crisce, MD
Special Treatment Unit-Annex
Avenel, NJ

8:00 a.m. - 8:20 a.m.  K41 The Psychological Autopsy: Psychiatry & Behavioral Science and Toxicology in a Working Relationship — Suicide—A General Overview
Dean M. De Crisce, MD*

8:20 a.m. - 8:40 a.m.  K42 The Psychological Autopsy: Psychiatry & Behavioral Science and Toxicology in a Working Relationship — Medicines of the Mind
Dan T. Anderson, MS*
8:40 a.m. - 9:05 a.m.  K43  The Psychological Autopsy: Psychiatry & Behavioral Science and Toxicology in a Working Relationship — Psychological Autopsy and the Assessment of Motive  
Michael Welner, MD*; Dan T. Anderson, MS

9:05 a.m. - 9:30 a.m.  K44  The Psychological Autopsy in Practice: Applying Behavioral Science to Mode of Death Investigations and a Case Study  
Lauren Reba-Harrelson, PhD*

9:30 a.m. - 9:45 a.m.  K45  The Psychological Autopsy as an Aid to Scientific Investigation: The Application of the Italian Model to a Cold Case Murder  
Laura Volpini, PhD*; Luciano Garofano, PhD*; Jacapo Taloni, MS; Cristina Mazza

9:45 a.m. - 10:15 a.m.  Break

Aggression and Institutions

Moderator: Dean M. De Crisce, MD
Special Treatment Unit-Annex
Avenel, NJ

10:15 a.m. - 10:35 a.m.  I8  Violence in the Inpatient Psychiatric Unit: A Case Study and Review of the Literature  
Varma Penumetcha*; William Cardasis, MD

10:35 a.m. - 11:00 a.m.  I9  Violent Behavior and Protective Factors: A Retrospective Study of a Psychiatric Patient’s Cohort in Southern Italy  
Felice F. Carabellese, MD*; Gabriele Rocca; Chiara Candelli, MD, PhD; Donatella La Tegola, PhD; Domenico Montalbò, MD; Roberto Catanesi, MD

11:00 a.m. - 11:30 a.m.  I10  The Acute Stress Response to Threats and Physical and/or Verbal Aggressions: The Influence of Epigenetics on Defensive Strategies of Human Behavior  
Luca Massaro, MD*; Patrizia Trapella, JD*; Vincenzo Lusa, JD*

11:30 a.m. - 12:00 p.m.  I11  Mental Health Services Within California’s Prison Realignment Act (Assembly Bill 109): Challenges and Recommendations  
Cynthia Chavira, MD*; Timothy Botello, MD; Isabel Lagomasino, MD

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

Poster Session

11:30 a.m. - 1:00 p.m.  I12  Stalking of Health and Social Services Workers: Preliminary Results of a Study Conducted by the Region of Apulia, Italy  
Ignazio Grattagliano, MD*; Grazia Pierri, PsyD; Adriana Pastore, MD; Francesco Margari, MD
11:30 a.m. - 1:00 p.m.  **I13 Parricide, Abuse, and Emotional Processing**
Romy Greco, PsyD; Ignazio Grattagliano, MD*; Rosalinda Cassibba, PsyD; Giancarlo Di Vella, MD, PhD; Graziamaria Corbi, PhD; Carlo P. Campobasso, MD, PhD; Andrea Lisi, PsyD; Maria Carolina Romanelli, MD; Nicola Petruzzelli, PhD; Alessio Ostuni, MD; Roberto Catanesi, MD

11:30 a.m. - 1:00 p.m.  **I14 Elder Abuse: Risk Factors and the Role of the Nurse**
Graziamaria Corbi, PhD; Ignazio Grattagliano, MD*; Nicola Ferrara, MD; Carlo P. Campobasso, MD, PhD

11:30 a.m. - 1:00 p.m.  **I15 Qualitative Analysis on the Ability to Provide Consent of Treatment to Patients With Chronic Neurodegenerative Diseases — Alzheimer’s Disease**
Felice F. Carabellese, MD*; Antonio Leo, MD; Donatella La Tegola, PhD; Chiara Candelli, MD, PhD; Salvatore Distaso, MD; Alessandro Dell’Erba, PhD; Giancarlo Logroscino, MD, PhD; Roberto Catanesi, MD

11:30 a.m. - 1:00 p.m.  **I16 An Unusual Patricide: The Woman Who Dismembered Her Father**
Felice F. Carabellese, MD*; Rosa Taratufolo, MD; Roberto Catanesi, MD; Isabella Aquila, MD; Ciro Di Nuzzio, MFS, PhD; Francesco Ausania, MD; Walter Caruso, MD; Pietrantonio Ricci

11:30 a.m. - 1:00 p.m.  **I17 Profiling in Violent Crimes: The Perpetrator and the Victim in Portuguese Cases of Filicide**
Fatima Almeida, MSc; Duarte N. Vieira, PhD, MD*

11:30 a.m. - 1:00 p.m.  **I18 Death Due to Neglect in the Elderly: A Sad Reality**
Isabella Aquila, MD*; Fiorella Caputo, MD; Silvia Boca; Salvatore Savastano; Pietrantonio Ricci

**Sexual Offenders and Sexual Behaviors**

**Moderator:** Karen B. Rosenbaum, MD  
**Co-Moderator:** Christopher R. Thompson, MD  
**New York, NY**  
**Los Angeles, CA**

1:00 p.m. - 1:15 p.m.  **I19 Critique of New Sex Offender Management in California: Assessment, Containment, and Treatment**
Susie Morris, MD*

1:15 p.m. - 1:30 p.m.  **I20 Evaluation of Sexual Abuse Crimes Committed By Teachers Against Students in Terms of Socio-Demographic Characteristics and Related Parameters**
Fatih Yagmur*; Mustafa Çeltek, MD; Taha Yasin Arslan; Hüseyin Keles; Alperen Bİkmazer; Harun Akkaya, MD

1:30 p.m. - 3:00 p.m.  **I21 Assessment and Treatment of Problematic Sexual Behaviors: An Update**
J. Paul Fedoroff, MD*; R. Gregg Dwyer, MD, EdD*

3:00 p.m. - 3:15 p.m.  **Break**

3:15 p.m. - 3:35 p.m.  **I22 Transgender Inmates: Considerations in Placement, Management, and Treatment in Correctional Facilities**
Jennilee Tuazon, MD*
### PSYCHIATRY & BEHAVIORAL SCIENCE

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<td>3:35 p.m. - 4:00 p.m.</td>
<td>I23</td>
<td>Zoophilia and the Law in the United States: Legal Responses to a Rare Paraphilia</td>
<td>Brian J. Holoyda, MD*; William Newman, MD</td>
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<td>4:00 p.m. - 4:20 p.m.</td>
<td>I24</td>
<td>A Pilot Study Comparing Hands-On and Hands-Off Child Pornography Consumers</td>
<td>Sebastien Prat, MD*; Heather M. Moulden, PhD; Carol Jonas, PhD; Gary A. Chaimowitz, MD</td>
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<td>4:20 p.m. - 4:50 p.m.</td>
<td>I25</td>
<td>Pedophilia: A Crime or a Disease? How Should the Courts Address This Problem? A Case Study</td>
<td>Thomas V. Brady, DMD*</td>
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<td>Questions &amp; Answers</td>
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### Friday

#### Crime and the Courts

**Moderator:** Eleanor B. Vo, MD  
OmaDesala Psychiatric Services  
Ewing, NJ

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<td>8:30 a.m. - 8:50 a.m.</td>
<td>I26</td>
<td>Contemporaneous Assessments of Testamentary Capacity and Undue Influence: Strike While the Iron Is Hot</td>
<td>Daniel A. Martell, PhD*</td>
</tr>
<tr>
<td>8:50 a.m. - 9:20 a.m.</td>
<td>I27</td>
<td>Extreme Emotional Disturbance Defense: From the Heat of Passion to a Reasonable Explanation</td>
<td>Megan M. Mroczkowski, MD*; Christopher Racine, MD, MPH*; Danielle Kushner, MD*; Karen B. Rosenbaum, MD*; Eric Goldsmith, MD*</td>
</tr>
<tr>
<td>9:20 a.m. - 9:40 a.m.</td>
<td>I28</td>
<td>The Power of Intuition in Deception Detection</td>
<td>Christopher Fischer, MD*</td>
</tr>
<tr>
<td>9:40 a.m. - 10:00 a.m.</td>
<td>I29</td>
<td>Incapacity of the Mind Secondary to Medication Misuse as a Not Criminally Responsible (NCR) Defense</td>
<td>Sebastien Prat, MD*; Bruno Losier, PhD; Heather M. Moulden, PhD; Gary A. Chaimowitz, MD</td>
</tr>
<tr>
<td>10:00 a.m. - 10:15 a.m.</td>
<td></td>
<td>Break</td>
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#### Child and Adolescent Issues

**Moderator:** Eleanor B. Vo, MD  
OmaDesala Psychiatric Services  
Ewing, NJ

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<tr>
<td>10:15 a.m. - 11:15 a.m.</td>
<td>I30</td>
<td>Unintentional Child Neglect: Literature Review and Observational Study</td>
<td>Emily Friedman, BS*; Stephen B. Billick, MD*</td>
</tr>
</tbody>
</table>
11:15 a.m. - 11:35 a.m.  I31 Assessing and Addressing Preteen Violence  
John L. Young, MD*

11:35 a.m. - 12:00 p.m.  I32 Perception of Police Among Adolescents in Istanbul  
Mine Özasçilar*; Neylan Ziyalar

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

White-Collar Crime

Moderator:  R. Gregg Dwyer, MD, EdD  
Medical University of South Carolina  
Community & Public Safety Psychiatry Division  
Charleston, SC

1:00 p.m. - 3:00 p.m.  I33 Behavioral Characteristics and Personality Traits of the White-Collar Organized Criminal and the White-Collar Organized Community  
Janet M. Schwartz, PhD*

3:00 p.m. - 3:15 p.m.  Break

3:15 p.m. - 4:30 p.m.  I33 Behavioral Characteristics and Personality Traits of the White-Collar Organized Criminal and the White-Collar Organized Community  
Janet M. Schwartz, PhD*

Saturday

Murder and Suicide

Moderator:  Lauren Reba-Harrelson, PhD  
Columbus, GA  
Co-Moderator:  Janet M. Schwartz, PhD  
Forensic Fraud Research, Inc.  
Canton, OH

9:00 a.m. - 9:30 a.m.  I34 Honor-Based Violence: A Cultural Problem!  
Mete K. Gulmen, PhD, MD*; Sunay Firat, PhD

9:30 a.m. - 10:00 a.m.  I35 Paternal Filicide for Spousal Revenge: The Male Side of Medea’s Syndrome in the Italian Population Over the Last Ten Years  
Federica Collini*; Angelo Giuseppe De’ Micheli, MD; Isabella Merzagora Betsos, PhD  
(FSF Emerging Forensic Scientist Award Paper Presentation)

10:00 a.m. - 10:15 a.m.  Break

10:15 a.m. - 10:45 a.m.  I36 Suicide Among Turkish Police Officers From 2003 to 2013  
Neylan Ziyalar; Mine Özasçilar*; Can Çalici; Davut Acar

*Presenting Author
10:45 a.m. - 11:20 a.m.  I37  Parricides and Crime Scene Behaviors — Do They Tell the Story?  
Wade C. Myers, MD*; Eleanor B. Vo, MD*

11:20 a.m. - 11:50 a.m.  I38  Suicide by Suffocation: A Case Report of an Elderly Woman Who Completed Suicide by Suffocation  
Cynthia Rutherford, DO*; Amina Ali, MD*; Panagiota Korenis-Rios, MD*

11:50 a.m. - 12:00 p.m.  Questions & Answers
QUESTIONED DOCUMENTS

Wednesday

Poster Session

11:30 a.m. - 1:00 p.m.  J1 Developments and Validations of TD-GC/MS and HPLC Methods for the Identification of Ballpoint Pen Ink Components: Study of Their Decomposition on Aging
Dilek Salkim Islek, MSc; Esra Isat, BSc; Burak H. Gungor, MSc; Salih Cengiz, PhD*

11:30 a.m. - 1:00 p.m.  J2 Carbon Black Nanoparticles and Graphene Oxide-Embedded Thin Sol-Gel Film for Analysis of Dye Molecules in Writing Inks by Laser Desorption/Ionization Mass Spectrometry
Seung-Hoon Bahng, MS*; Sangwon Cha, PhD

Thursday

Moderator: Carl R. McClary, BA
Atlanta, GA
Co-Moderator: John L. Sang, MS
Glen Head, NY

8:30 a.m. - 10:30 a.m.  J3 Frequency Occurrence of Handwriting and Hand Printing Characteristics
Ellen M. Schuetzner, BA*; Thomas W. Vastrick, BS*; Mark Johnson, PhD*; Kevin P. Kulbacki, MSFS*

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

10:45 a.m. - 11:00 a.m.  J4 Natural Variation in Modern Handwriting
Jane A. Lewis, MFS*

11:00 a.m. - 11:20 a.m.  J5 Different Writer or Alternate Writing Style — A Case Review
Charles L. Haywood, MFS*

11:20 a.m. - 11:45 a.m.  J6 Development of Individual Handwriting Characteristics in ~1,500 Students: Statistical Analysis and Likelihood Ratios That Emerge Over an Extended Period of Time
Lisa M. Hanson, BS*; Kirsten A. Singer, MFS

11:45 a.m. - 12:00 p.m.  J7 Development of a Supplemental Technique to Increase Visualization of Handwriting Indentations in Crumpled Documents With the Use of an Electrostatic Detection Device (EDD)
Kate Butler, BS*

12:00 p.m. - 1:00 p.m.  Lunch
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<th>Time</th>
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<th>Presenter(s)</th>
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<tbody>
<tr>
<td>1:00 p.m.</td>
<td>J8</td>
<td>Cut-and-Paste Manipulation of a Quitclaim Deed</td>
<td>Farrell C. Shiver, MS*</td>
</tr>
<tr>
<td>1:15 p.m.</td>
<td>J9</td>
<td>Using Video Spectral Comparator (VSC) to Examine Documents Previously Subjected to Latent Print Examination</td>
<td>Robert H. Negherbon, MS; Jennifer A. Ward-Trupp, BA*</td>
</tr>
<tr>
<td>1:25 p.m.</td>
<td>J10</td>
<td>Conductive Inks and the Electrostatic Detection of Indentations</td>
<td>Kevin P. Kulbacki, MSFS*</td>
</tr>
<tr>
<td>1:40 p.m.</td>
<td>J11</td>
<td>Case Studies of Simulated Security Features in United States Identity Documents</td>
<td>Hillary M. Hoover, MFS*</td>
</tr>
<tr>
<td>1:55 p.m.</td>
<td>J12</td>
<td>Factors Affecting Electrostatic Detection Apparatus — 2 (ESDA2) Indented Writing Visualization</td>
<td>Nina A. Harnarine, BSc*; John Jacobs, BAA; Dave Juck; Tracy Rogers, PhD</td>
</tr>
<tr>
<td>2:10 p.m.</td>
<td>J13</td>
<td>Analysis Techniques of Plastic Identity Documents</td>
<td>Stephanie A. Kingsbury, MFS*</td>
</tr>
<tr>
<td>2:30 p.m.</td>
<td>J14</td>
<td>Are the Principles of Forensic Signature Identification Corroborated by an Analysis of Digitally Captured Biometric Data?</td>
<td>William J. Flynn, BS; Kathleen Annuziata Nicolaides, BA*</td>
</tr>
<tr>
<td>2:45 p.m.</td>
<td></td>
<td>Break</td>
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<tr>
<td>3:00 p.m.</td>
<td>J15</td>
<td>The Universal Coded Character Set (ISO/IEC 10464) and the Unicode Standard as Aids to Forensic Document Examination in an International and Transnational Environment</td>
<td>Peter V. Tytell, BA*</td>
</tr>
<tr>
<td>3:20 p.m.</td>
<td>J16</td>
<td>Collaborative Radiography (and Other Interdisciplinary Activities) Between Document Analysts and Forensic Anthropologists at the FBI Laboratory</td>
<td>Angi M. Christensen, PhD*; Gabriel D. Watts, BA; Gregg M. Mokrzycki, BA, MFS</td>
</tr>
<tr>
<td>3:35 p.m.</td>
<td>J17</td>
<td>Characterization and Discrimination of Inkjet Printer Inks Using Micro-Raman Spectroscopy</td>
<td>Patrick Buzzini, PhD*; Alyshia K. Meyers, BS</td>
</tr>
<tr>
<td>3:55 p.m.</td>
<td>J18</td>
<td>A Novel Automated, Searchable Database for the Chemical Characterization and Comparison of Printing Inks</td>
<td>Tatiana Trejos, PhD*; Peter Torrione, PhD; Ruthmara Corzo, BSc; Paul Martin, PhD; Anna Ruva, PhD; Kiran Sabedi; Rhett J. Williamson; Jong Yoo, PhD; Jose R. Almirall, PhD</td>
</tr>
<tr>
<td>4:10 p.m.</td>
<td>J19</td>
<td>Computer-Scored Test Answer Marks, A.K.A. Bubble Marks: How Individual Are They?</td>
<td>Janet F. Masson, B./*</td>
</tr>
<tr>
<td>4:30 p.m.</td>
<td>J20</td>
<td>Another Look at Ink and Toner Intersections: A Word of Caution</td>
<td>Laura A. Mancebo, BS*; Dennis J. Ryan, MBA</td>
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*Presenting Author
**Friday**

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<tr>
<th>Time</th>
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<th>Title</th>
<th>Presenters</th>
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<tbody>
<tr>
<td>8:30 a.m.</td>
<td>J22</td>
<td>Document Examination For Non-Document Examiners</td>
<td>Gregory A. McNally, BS*</td>
</tr>
<tr>
<td>8:50 a.m.</td>
<td>J23</td>
<td>Addressing Admissibility Challenges to Forensic Document Examination From Both a Federal and a State Examiner’s Perspective</td>
<td>Carl R. McClary, BA*; Karen J. Nobles, BA*</td>
</tr>
<tr>
<td>9:05 a.m.</td>
<td>J24</td>
<td>The American Dreyfus Affair: Parallels Between the Alfred Dreyfus and the Leo Frank Matters in America</td>
<td>Arthur T. Anthony, BS*</td>
</tr>
<tr>
<td>9:25 a.m.</td>
<td>J25</td>
<td>Standardization of Conclusions: Meeting Current Needs</td>
<td>Thomas W. Vastrick, BS*</td>
</tr>
<tr>
<td>9:40 a.m.</td>
<td>J26</td>
<td>A New-Dominant Hand: Training the Non-Dominant Hand to Perform the Complex Task of Handwriting</td>
<td>Brenda N. Lanners, BS*</td>
</tr>
<tr>
<td>9:55 a.m.</td>
<td>Break</td>
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<tr>
<td>10:10 a.m.</td>
<td>J27</td>
<td>The Reliability of Hand Printing Identification by the Forensic Document Examiner</td>
<td>Linda L. Mitchell, BS*; Mara L. Merlino, PhD*</td>
</tr>
<tr>
<td>10:30 a.m.</td>
<td>J28</td>
<td>Some Reasons for Qualified Conclusions</td>
<td>Ronald N. Morris, BS*</td>
</tr>
<tr>
<td>10:55 a.m.</td>
<td>J29</td>
<td>Forensic Document Examiner (FDE) Testimony Related to Quality Processes Denied — What a Florida Jury Did Not Hear and More (or Less)</td>
<td>Grant R. Sperry, BS*</td>
</tr>
<tr>
<td>11:10 a.m.</td>
<td>J30</td>
<td>The Forensic Document Examiner Testimony List</td>
<td>Ellen M. Schuetzner, BA*</td>
</tr>
<tr>
<td>11:35 a.m.</td>
<td>J31</td>
<td>The Scientific Working Group for Forensic Document Examination (SWGDOC) and the Organization of Scientific Area Committees (OSAC) Process</td>
<td>Ted M. Burkes, BS*; F.L. Jim Lee, Jr., MS*</td>
</tr>
<tr>
<td>12:00 p.m.</td>
<td>Lunch</td>
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</tbody>
</table>
### Multidisciplinary Session Part I: Criminalistics Session III/General/Questioned Documents

**Moderator:** F.L. Jim Lee, Jr., MS  
*Eden, UT*

**Co-Moderator:** Gulnaz T. Javan, PhD  
*Alabama State University*  
*Forensic Science Program*  
*Montgomery, AL*

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<tr>
<td>1:00 p.m. -</td>
<td><strong>E67</strong> Organization of Scientific Area Committees (OSAC) Forensic Science Standards Activities: Helping Each Other and Stimulating the Future</td>
<td>John Paul Jones II, MBA*</td>
</tr>
<tr>
<td>1:20 p.m. -</td>
<td><strong>E68</strong> A Step Toward Likelihood Ratios in Pattern Recognition Disciplines</td>
<td>Simone Gittelson*</td>
</tr>
<tr>
<td>1:45 p.m. -</td>
<td><strong>E69</strong> Reliability, Validity, Accuracy, and Bias in Forensic Document Examination: An Interdisciplinary Approach to Understanding Forensic Decision-Making Processes and Outcomes</td>
<td>Mara L. Merlino, PhD*; Tierra M. Freeman, PhD*; Veronica B. Dahir, PhD; Victoria Springer, PhD; Derek L. Hammond, BA; Adrian G. Dyer, PhD; Bryan Found, PhD</td>
</tr>
<tr>
<td>2:15 p.m. -</td>
<td><strong>Break</strong></td>
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### Multidisciplinary Session Part II: Criminalistics Session III/General/Questioned Documents

**Moderator:** Jean M. Snider  
*Hope Mills, NC*

**Co-Moderator:** Parris Ward, JD  
*Biodynamics Engineering, Inc*  
*Pacific Palisades, CA*

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<tr>
<td>2:30 p.m. -</td>
<td><strong>E70</strong> Scientific Area Committee for Physics and Pattern Evidence</td>
<td>R. Austin Hicklin, MS*</td>
</tr>
<tr>
<td>2:45 p.m. -</td>
<td><strong>E71</strong> Objective and Quantifiable Metrics for the Determination of Latent Print “Suitability”</td>
<td>Henry J. Swafford, MSFS*; Anthony Koertner, BS; Michael J. Salyards, PhD</td>
</tr>
<tr>
<td>3:15 p.m. -</td>
<td><strong>E72</strong> Cognitive Profiling of Latent Fingerprint Examiners</td>
<td>Itiel Dror, PhD; Melissa K. Taylor, BA*</td>
</tr>
<tr>
<td>3:45 p.m. -</td>
<td><strong>E73</strong> Tips for the Courtroom: How to Get the Most Out of the Expert Witness</td>
<td>Stephanie Domitrovich, JD, PhD*; Jeffrey M. Jentzen, MD*</td>
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<tr>
<td>4:30 p.m. -</td>
<td><strong>Discussion</strong></td>
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Wednesday

Toxicology Section Awardees Recognition (by invitation only)

6:30 p.m. - 7:30 p.m. Supported by: Aegis Sciences Corporation

Poster Session

Moderator: Sarah K. Himes, BS
National Institute on Drug Abuse/NIH
Baltimore, MD

Co-Moderator: Kayla N. Ellefisen, MS
National Institute on Drug Abuse/NIH
Biomedical Research Center
Baltimore, MD

Toxicology Best Poster Award Supported by: RTI International

7:30 p.m. - 9:00 p.m. K1 A Reduced Workflow Solution for the Analysis of Gamma-Hydroxybutyrate (GHB) in Human Hair Samples Via an Automated Bead Mill as a Precursor to High Resolution-Gas Chromatography/Time-of-Flight (GC/TOF) and 2D Gas Chromatography/Time-of-Flight (GCxGC/TOF)
Brittany M. Watt, BA*; David Alonso, PhD; Joe Binkley, PhD; Jeff Patrick, PhD; Frank Kero, PhD; Victor Vandell, PhD; Elena Gairloch, BS; M. Brad Nolt, MS; Tom Enzweiler, BS; Rhys Jones, PhD; Lee Williams, PhD; Karen S. Scott, PhD

7:30 p.m. - 9:00 p.m. K2 A Novel Extraction Methodology for the Analysis of Lorazepam and Oxazepam Glucuronide Hydrolysis in Meconium
Kaylee R. McDonald, BS*; William E. Brewer, PhD; Stephen L. Morgan, PhD

7:30 p.m. - 9:00 p.m. K3 Analysis of Promethazine, Chlorpromazine, and Selected Metabolites in Decomposed Skeletal Tissues by Microwave-Assisted Extraction/Microplate Solid Phase Extraction/ Ultra High-Performance Liquid Chromatography (MAE/MPSPE/UHPLC)
Courtney A. Campbell, BS*; James Watterson, PhD; Caroline C. Betit, MSc
(FSF Emerging Forensic Scientist Award Paper Presentation)

7:30 p.m. - 9:00 p.m. K4 Detection of Trace Buprenorphine and Norbuprenorphine in Human Hair Using Enzyme-Linked Immuno-Sorbent Assay (ELISA)
Irene Shu*; Valencia Sagnia, BS; Joseph Jones, MS

7:30 p.m. - 9:00 p.m. K5 The “I’s” Have It: A High-Performance Liquid Chromatography Tandem Mass Spectrometry Method for the Determination of 25I-NBOH, 25I-NBOMe, and 2C-I in Urine
Sara Dempsey, BS*; Justin L. Poklis, BS; Carl E. Wolf II, PhD; Alphonse Poklis, PhD
(FSF Emerging Forensic Scientist Award Paper Presentation)

7:30 p.m. - 9:00 p.m. K6 Identification of Synthetic Cathinones From Electron Impact Mass Spectra
Rebecca J. Ponsini, MS*; Sarah Kerrigan, PhD

7:30 p.m. - 9:00 p.m. K7 Investigation of Unknown Designer Drugs and Metabolites in Urine Collected From Electronic Dance Music (EDM) Attendees
Jillian K. Yeakel, MS*; Amanda L.A. Mohr, MSFS; John J. Kristofic, BS; Barry K. Logan, PhD

*Presenting Author
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<tr>
<td>7:30 p.m. - 9:00 p.m.</td>
<td>K8</td>
<td>Development of a Quantitation Method for Synthetic Cannabinoid Metabolites in Urine Using Liquid Chromatography With Tandem Mass Spectrometry (LC/MS/MS)</td>
<td>Craig Leopold, BS*; Sherri L. Kacinko, PhD; Barry K. Logan, PhD; Karen S. Scott, PhD</td>
<td>Presenting Author</td>
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<td></td>
<td>K9</td>
<td>Recreational Drug Use Trends and Emerging Analytes Identified in Blood, Urine, and/or Oral Fluid From Attendees at an Electronic Dance Music (EDM) Festival</td>
<td>Amanda L.A. Mohr, MSFS*; Jillian K. Yeakel, MS; Melissa Frisica, MSFS; Barry K. Logan, PhD</td>
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<td>K10</td>
<td>Evaluation of Cases Admitted to Cukurova University Forensic Toxicology Laboratory From June 2009 to June 2014: A Retrospective Study</td>
<td>Pinar Efeoglu, MS*; Nebile G Daglioglu, PhD; Mete K. Gulmen, PhD, MD; Ismail E. Goren, BS; Ahmet Hilal, MD</td>
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<td>K11</td>
<td>Analysis of the Anticoagulant Brodifacoum in Serum After an Incident of Pesticide Poisoning</td>
<td>Stephen J. Melito, DO*; Donna M. Papsun, MS; Daniel S. Isenschmid, PhD</td>
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<td>K12</td>
<td>Effect of Sunlight on Methamphetamine in Urine</td>
<td>Dickens Wong Vui Foo*</td>
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<td>K13</td>
<td>Analysis of Buprenorphine, Norbuprenorphine, Naloxone, and Their Glucuronides From the Urine Obtained in Drug and Driving Cases</td>
<td>Jeffery Hackett, PhD*; Albert A. Elian, MS*</td>
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<td>K14</td>
<td>Validation of the Neogen® Enzyme-Linked Immuno-Sorbent Assay (ELISA) Fentanyl Ready-to-Use (RTU) Kit for Whole Blood and Urine Specimens</td>
<td>Kristin E. Wegner, BS*; Nicholas B. Tiscione, MS</td>
<td>Presenting Author</td>
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<td>K15</td>
<td>Rapid Drug Screening Using a Combination of Flow Injection Tandem Mass Spectrometry (FI/MS/MS) and the Quick, Easy, Cheap, Effective, Rugged, and Safe (QuEChERS) Method</td>
<td>Kiyotaka Usui*, Koichi Saito; Tetsuo Kokaji; Tomomi Aramaki; Masato Funayama</td>
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<td>K16</td>
<td>Detection of Amitriptyline and Nortriptyline in Decomposed Skeletal Tissues by Microwave-Assisted Extraction and Ultra High-Performance Liquid Chromatography</td>
<td>Heather M. Cornthwaite, MSc*; Caroline C. Bettit, MSc; James Watterson, PhD</td>
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<td>K17</td>
<td>A Validated Method for the Determination of Salvinorin A and Salvinorin B in Forensic Toxicology Samples</td>
<td>Sarah Kerrigan, PhD; Tracy Gastineau, MS*</td>
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<td>K18</td>
<td>Identification of Methcathinone in Urine by Gas Chromatography/Mass Spectrometry (GC/MS) Using a One-Step Simultaneous Dispersive Liquid-Liquid Extraction (LLE)/Cyclohexanone Derivatization</td>
<td>Jennifer Leach*; Thomas A. Brettell, PhD; Brandi Skymba</td>
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<td>K19</td>
<td>Quantitative Analysis of Methylphenidate (Ritalin®) and Ritalinic Acid in Oral Fluid by Liquid Chromatography/Triple Quadrupole/Mass Spectrometry (LC/QqQ/MS)</td>
<td>Carmen T. Mulet, BS*; Lorena A. Leon; Luis E. Arroyo, PhD; Anthony P. DeCaprio, PhD</td>
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| 7:30 p.m. - 9:00 p.m. | **K20** Assessment of Three Time-of-Flight/Mass Spectrometry (TOF/MS) Drug Screening Technologies Using Different Fragmentation Modes  
Helen Piper, BS*; Alexander L. Maggitti III, BS; Jared Castellani, BS;  
Francis X. Diamond, BS; Matthew M. McMullin, MS; Barry K. Logan, PhD |
| 7:30 p.m. - 9:00 p.m. | **K21** Analysis of Phosphide Zinc and Aluminium Phosphide  
Geetanjli Sachdeva, MSc* |
| 7:30 p.m. - 9:00 p.m. | **K22** A Total Sample Preparation Screening Solution for Acidic, Neutral, and Basic Drugs Using ISOLUTE® Multimode Solid Phase Extraction (SPE) Prior to High-Performance Liquid Chromatography With Tandem Mass Spectrometry (HPLC/MS/MS) Analysis  
Victor Vandell, PhD*; Frank Kero, PhD |
| 7:30 p.m. - 9:00 p.m. | **K23** Adulterants and Diluents in Urine Samples After Consumption of Cocaine: What Compounds Are Typically Found by Liquid Chromatography (LC) Combined With High-Resolution Tandem Mass Spectrometry (HRMS/MS)?  
Werner Bernhard, DSc*; Stefan Koenig, PhD; Franziska Penitschka, BSc;  
Lars Ambach, MSc; Susanne Nussbaumer, PhD; Wolfgang Weinmann, PhD |
| 7:30 p.m. - 9:00 p.m. | **K24** Impact of Novel Accurate Mass MS/MS ALL Acquisition and Processing Techniques on Forensic Toxicological Screening  
Adrian M. Taylor, MSc, PhD* |
| 7:30 p.m. - 9:00 p.m. | **K25** Analysis of Acetyl Fentanyl in Postmortem Blood and Urine Specimens by Gas Chromatography/Mass Spectrometry (GC/MS)  
Marissa J. Finkelstein, BA*; Chris W. Chronister, PhD; Christina Stanley, MD;  
Laurie M. Ogilvie, MS; Bruce A. Goldberger, PhD |
| 7:30 p.m. - 9:00 p.m. | **K26** Postmortem Distribution of Acetyl Fentanyl  
Xiang Zhang, MD*; Rebecca Jufer Phipps, PhD; Barry S. Levine, PhD;  
Patricia Aronica, MD; James Locke; Melissa A. Brassell, MD; Wendy S. Warren, DO;  
Mary G. Ripple, MD; David R. Fowler, MD |
| 7:30 p.m. - 9:00 p.m. | **K27** Fatal Intoxication With Acetyl Fentanyl  
Susan M. Cunningham, MCJ*; Kristen M. Bailey, MS*; Christina L. Newsome-Sparks, BS;  
Myron A. Gebhardt, MS; David J. Clay, BA; Susan E. Venuti, MD; Nabila A. Haikal, MD;  
James C. Kraner, PhD |
| 7:30 p.m. - 9:00 p.m. | **K28** Trazodone and M-Chlorophenylpiperazine (m-CPP) Concentrations in Postmortem Blood  
C. Richard Crooks, PhD*; David M. Schwope, PhD; Jana A. James, MS |
| 7:30 p.m. - 9:00 p.m. | **K29** A Case of Suicide Using Veterinary Drug T-61® With Subsequent Submergence in the Sea  
Claudia Trignano*; Maria Nieddu, BS; Antonio Nieddu, MD; Santina Cantatore;  
Stefania C. Bello, MD; Margherita Neri, MD, PhD |

*Presenting Author
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<tr>
<td>K30</td>
<td>7:30 p.m. - 9:00 p.m.</td>
<td>Development and Validation of a Method Using Gas Chromatography/Mass Spectrometry (GC/MS) After Liquid-Liquid Extraction (LLE) for the Detection and Quantification of Clotiapine in Blood and Urine and Its Application to a Postmortem Case</td>
<td>Giulio Mannocchi*; Flaminia Pantano*; Roberta Tittarelli; Miriam Catanese; Federica Umani Ronchi; Francesco P. Busardo, MD</td>
</tr>
<tr>
<td>K31</td>
<td>7:30 p.m. - 9:00 p.m.</td>
<td>Pesticide Poisoning Deaths in Istanbul and Nearby Cities in Turkey</td>
<td>Erdinç Özdemir*; Yigit Sezer; Yusuf Özer; Safa Celik; Sermet Koc</td>
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<td>K32</td>
<td>7:30 p.m. - 9:00 p.m.</td>
<td>The Role of Cytochrome P450 2B6 (CYP2B6) Genetic Polymorphisms in Unexpected Methadone Fatalities</td>
<td>Taha Ahmad, MSFS*; Samie Sabet; Lauren L. Richards-Waugh, PhD; Gary O. Rankin, PhD</td>
</tr>
<tr>
<td>K33</td>
<td>7:30 p.m. - 9:00 p.m.</td>
<td>A Case of Suicide Due to Oral Ingestion of Phorate Revealed by Gas Chromatography/Mass Spectrometry (GC/MS): A Contribution to Clarify the Human Toxicokinetic and the Mechanism of Death</td>
<td>Marco Savito, MD*; Carmela Fiore, MD; Palmira Fortarezza, MS; Angelo Montana, MD; Cristoforo Pomara, MD, PhD</td>
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<td>K34</td>
<td>7:30 p.m. - 9:00 p.m.</td>
<td>Heroin-Related Deaths in the West of Scotland Between 2008 and 2011</td>
<td>Carlijn van der Sluijs, Msc*; Tony Martin, PhD; Karen S. Scott, PhD</td>
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<td>K35</td>
<td>7:30 p.m. - 9:00 p.m.</td>
<td>Analysis of N-Bombs: Quantitation of NBOMe-type Novel Psychoactive Substances (NPS) in Biological Fluids by Liquid Chromatography With Tandem Mass Spectrometry (LC/MS/MS)</td>
<td>Donna M. Papsun, MS*; Heidi Schimmelbusch, BS; Barry K. Logan, PhD</td>
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<td>K36</td>
<td>7:30 p.m. - 9:00 p.m.</td>
<td>Phencyclidine (PCP) in San Francisco: A Review of 50 Postmortem and Human Performance Toxicology Cases Between 1997 and 2013</td>
<td>Alexander C. San Nicolas, MSFS*; Nikolas P. Lemos, PhD</td>
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<td>K37</td>
<td>7:30 p.m. - 9:00 p.m.</td>
<td>Determination of Methamphetamine Concentrations in Thighbones Buried in Soil</td>
<td>Ken-ichiro Nakao, MS*; Kazuhiro Kihayashi, MD*</td>
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<td>K38</td>
<td>7:30 p.m. - 9:00 p.m.</td>
<td>Supported Liquid Extraction (SLE) as a New Technique for the Clean-Up of Hair Extracts Containing Drugs of Abuse</td>
<td>Jakub Klobut, MSc*; Frank Kero, PhD; Amanda L.A. Mohr, MSFS; Karen S. Scott, PhD (FSF Emerging Forensic Scientist Award Paper Presentation)</td>
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<td>K39</td>
<td>7:30 p.m. - 9:00 p.m.</td>
<td>Surface-Enhanced Raman Analysis of Synthetic Cannabinoids Using Gold Nanoparticles and Various Aggregating Agents</td>
<td>Thaddeus Mostowtt, MFS*; Bruce R. McCord, PhD</td>
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<tr>
<td>K40</td>
<td>7:30 p.m. - 9:00 p.m.</td>
<td>Characterization of Binding of Ricin Toxin to Cultured Human Lung Cell Line A549</td>
<td>Oluseyi A. Vanderpuye, PhD, BS*; Jaderica A. Smith, BS; James J. Hardy, BS</td>
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Thursday

Annual Lectureship in Toxicology — Multidisciplinary Session: Toxicology/Psychiatry & Behavioral Science

Moderator: Dan T. Anderson, MS
Los Angeles County Dept of ME-Coroner
Los Angeles, CA

Co-Moderator: Dean M. De Crisce, MD
Special Treatment Unit-Annex
Avenel, NJ

8:00 a.m. - 8:20 a.m. K41 The Psychological Autopsy: Psychiatry & Behavioral Science and Toxicology in a Working Relationship — Suicide–A General Overview
Dean M. De Crisce, MD*

8:20 a.m. - 8:40 a.m. K42 The Psychological Autopsy: Psychiatry & Behavioral Science and Toxicology in a Working Relationship — Medicines of the Mind
Dan T. Anderson, MS*

8:40 a.m. - 9:05 a.m. K43 The Psychological Autopsy: Psychiatry & Behavioral Science and Toxicology in a Working Relationship — Psychological Autopsy and the Assessment of Motive
Michael Welner, MD*; Dan T. Anderson, MS

9:05 a.m. - 9:30 a.m. K44 The Psychological Autopsy in Practice: Applying Behavioral Science to Mode-of-Death Investigations and a Case Study
Lauren Reba-Harrelson, PhD*

9:30 a.m. - 9:45 a.m. K45 The Psychological Autopsy as an Aid to Scientific Investigation: The Application of the Italian Model to a Cold Case Murder
Laura Volpini, PhD*; Luciano Garofano, PhD*; Jacopo Taloni, MS; Cristina Mazza

9:45 a.m. - 10:15 a.m. Break
Supported by: Aegis Sciences Corporation

Special Session: Driving Under the Influence of Drugs

Moderator: William R. Johnson, BA
Wisconsin State Lab of Hygiene
Toxicology Section
Madison, WI

Co-Moderator: Christine Moore, PhD, DSc
Immunalysis Corporation
Pomona, CA

10:15 a.m. - 10:40 a.m. K46 Utility of Oral Fluid in Driving Under the Influence of Drugs (DUID) Investigations
Christine Moore, PhD, DSc*

10:40 a.m. - 11:00 a.m. K47 An Evaluation of Oral Fluid Testing Devices During Drug Influence Evaluations
Kyle J. Clark, MA*

11:00 a.m. - 11:15 a.m. K48 The Perilous Practice of Predicting the Past: Does Retrograde Extrapolation Accurately Predict Prior Blood Alcohol Level?
Ronald L. Moore, JD*

*Presenting Author
11:15 a.m. - 11:30 a.m.  K49  Evaluation of the Impact of Expanding Enzyme-Linked Immuno-Sorbent Assay (ELISA) Screening in Driving Under the Influence of Drugs (DUID) Investigations
Aileen Lu, HBSc*; Karen S. Scott, PhD; Ayako Chan-Hosokawa, MS; Barry K. Logan, PhD
(FSF Emerging Forensic Scientist Award Paper Presentation)

11:30 a.m. - 11:45 a.m.  K50  Sleep-Driving Is a Nightmare: Driving Under the Influence of Zolpidem Cases in Colorado
Sarah Urfer, MS*; Jaime Morton

11:45 a.m. - 12:00 p.m.  K51  Synthetic Cannabinoids in Operating While Intoxicated (OWI) Casework: Field Observations and Outsourced Testing
William R. Johnson, BA*

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

Designer Drugs

Moderator: Sarah Kerrigan, PhD
Sam Houston State University
Huntsville, TX

Co-Moderator: Sumandeep Rana, PhD
Redwood Toxicology Laboratory
Santa Rosa, CA

1:00 p.m. - 1:15 p.m.  K52  Development of an Analytical Method for Nootropic “Smart” Drugs in Biological Fluids
Mollie Mares, BS*; Karen S. Scott, PhD; Donna M. Papsun, MS; Barry K. Logan, PhD
(FSF Emerging Forensic Scientist Award Paper Presentation)

1:15 p.m. - 1:30 p.m.  K53  Adverse Effects of Synthetic Cannabinoids: A Case-Oriented Review
Susan M. Gurney, PhD*; Karen S. Scott, PhD; Sherri L. Kacinko, PhD; Brandon C. Presley, BS; Barry K. Logan, PhD

1:30 p.m. - 1:45 p.m.  K54  4-Methoxy-A-PVP: In Silico Metabolite Prediction, Assessment of Metabolic Stability With Human Liver Microsomes, and Metabolite Identification After Human Hepatocyte Incubation With High Resolution-Mass Spectrometry
Kayla N. Ellefsen, MS*; Madeleine J. Swortwood, PhD; Ariane Wohlfarth, PhD; Marta Concheiro-Guisan, PhD; Marilyn A. Huestis, PhD
(FSF Emerging Forensic Scientist Award Paper Presentation)

1:45 p.m. - 2:00 p.m.  K55  Identification of Major Metabolites in Human Blood and Urine Associated With the Ingestion of Alpha-Pyrrolidinopentiophenone (Alpha PVP)
Melissa Friscia, MSFS*; Sarah E. Wolf; Amanda L.A. Mohr, MSFS; Francis X. Diamond, BS; Jillian K. Yeakel, MS; Barry K. Logan, PhD
(FSF Emerging Forensic Scientist Award Paper Presentation)

2:00 p.m. - 2:15 p.m.  K56  Characterization of AB-FUBINACA Metabolites in Rat Urine by Liquid Chromatography/Time-of-Flight/Mass Spectrometry (LC/TOF/MS)
Ashraf Mozayani, PharmD, PhD*; Aybike Dip, PhD; Hsinhung Chen; Amruthesh Shivachar, PhD; Munder Zagaar, PhD; Jeffrey Walterscheid, PhD

2:15 p.m. - 2:30 p.m.  K57  Broad Detection of Synthetic Cannabinoids in Whole Blood Using Ultra High-Performance Liquid Chromatography-Quadrupole-Time-of-Flight (UHPLC-Q-TOF)
Robert Kronstrand, PhD*; Cassandra Jaque, BSc; Markus Roman, BS
General Toxicology

Moderator: Marilyn A. Huestis, PhD
Chemistry & Drug Metabolism
Intramural Research, NIDA, NIH
Baltimore, MD

Co-Moderator: Dwain C. Fuller, BS
VA North Texas Health Care System
Dallas, TX

3:00 p.m. - 3:15 p.m. K58 Sleeping With the Enemy: Zolpidem in Driving Under the Influence (DUI) and Postmortem Cases
Charlotte A. Baker, PhD*

3:15 p.m. - 3:30 p.m. K59 Pyrimethamine Toxicity: A Case Report
Steven Marcus, MD; Numan Butt, MD; Sherri L. Kacinko, PhD*

3:30 p.m. - 3:45 p.m. K60 Ethyl Glucuronide, Ethyl Sulfate, and Nicotine and Metabolites Quantified in Human Fetal Liver From Electively Terminated Pregnancies
Sarah K. Himes, BS; Karl B. Scheidweiler, PhD; Susan Fairley, PhD; Panagiotis Filis, PhD; Alex Douglas, PhD; Peter J. O'Shaughnessy, PhD; John P. Iredale, MD, PhD; David Hay, PhD; Paul A. Fowler, PhD; Marilyn A. Huestis, PhD*

3:45 p.m. - 4:00 p.m. K61 The Egg Roll Driving Under the Influence (DUI) Defense: A Unique DUI Defense Incorporating Slow Gastric Emptying Due to the Presence of Egg Rolls, Followed by Rapid Gastric Emptying Due to Vehicle-Collision Impact
Deborah R. Stonebarger, BS*

4:00 p.m. - 4:15 p.m. K62 Determination of Gamma-Hydroxybutyric Acid (GHB) in Hair Using Alternative Derivatization Techniques
Brittany M. Watt, BA*; Edward J. Barbieri, PhD; Melissa Frisica, MSFS; Karen S. Scott, PhD (FSF Emerging Forensic Scientist Award Paper Presentation)

4:15 p.m. - 4:30 p.m. K63 Cannabinoid Disposition in Oral Fluid After Controlled Cannabis Vaporizer Administration
Rebecca L. Hartman, BA*; Moonhee Jang, PhD; Andrew L. Spurgin, PharmD; Keming Yun, PhD; David A. Gorelick, MD, PhD; Gary Milavetz, PharmD; Timothy L. Brown, PhD; Gary Gaffney, MD; Marilyn A. Huestis, PhD (FSF Emerging Forensic Scientist Award Paper Presentation)

Toxicology Open Forum

7:00 p.m. - 9:00 p.m. Supported by: SPEware Corporation

*Presenting Author
Friday

Multidisciplinary Session: Pathology/Biology Session II/Toxicology

Moderator:  Meredith A. Lann, MD
OME
Denver, CO

Co-Moderator:  Rebecca Jufer Phipps, PhD
State of MD, OCME
Baltimore, MD

8:15 a.m. - 8:30 a.m.  H120  Marijuana Edible Consumption as a Contributing Factor in Death: Two Cases and Live Anecdotal Accounts
Dawn B. Holmes, MD*; Meredith A. Lann, MD; Billie-Jo Naysmith, BS; Sarah Urfer, MS; James L. Caruso, MD

8:30 a.m. - 8:45 a.m.  K64  Case Report of a Death Involving the Designer Opioid MT-45 Raises the Spectre of Synthetic Opioids in Forensic Casework
Donna M. Papsun, MS*; Alison Krywanczyk, MD*; James C. Vose, BA; Elizabeth A. Bundock, MD, PhD; Barry K. Logan, PhD
(FSF Emerging Forensic Scientist Award Paper Presentation)

8:45 a.m. - 9:00 a.m.  K65  The Art of Embalming vs. the Science of Forensic Toxicology
Sonia Cuevas, BS; Wendy Santiago-Tirado, BS; Marina Stajic, PhD*

9:00 a.m. - 9:15 a.m.  H121  Poor Man’s Methadone: A Case Report of Loperamide Toxicity
Jennifer Dierksen*; Morna L. Gonsoulin, MD; Jeffrey Walterscheid, PhD

9:15 a.m. - 9:30 a.m.  K66  Case Study: A Suicide Death by Sotalol Overdose
Autumn Massiello, PhD*; Jeffrey Walterscheid, PhD

9:30 a.m. - 9:45 a.m.  H122  A Fatal Case of Reye’s Syndrome Associated With Pepto-Bismol®
Sasha Osbourne, MD*; Stephen K. Wilson, MD

9:45 a.m. - 10:00 a.m.  H123  Comparison of the Concentrations of Morphine, Methadone, and Diazepam When Sampled From Cardiac, Subclavian, Femoral, and Popliteal Sites and From Clamped and Unclamped Subclavian and Femoral Vein Samples
Eric Lemaire, MD*; Carl J. Schmidt, MD

10:00 a.m. - 10:15 a.m.  K67  Manners of Death in Drug-Related Fatalities in Florida
Dayong Lee, PhD*; Chris Delcher, PhD; Mildred M. Maldonado-Molina, PhD; Jon R. Thogmartin, MD; Bruce A. Goldberger, PhD

10:15 a.m. - 10:30 a.m.  Break
Supported by:  Immunalysis Corporation

*Presenting Author
### Postmortem Toxicology

**Moderator:** Ruth E. Winecker, PhD  
OCME  
Raleigh, NC  

**Co-Moderator:** Philip M. Kemp, PhD  
Bioaeronautical Research Lab  
Oklahoma City, OK

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<td>10:30 a.m. - 10:45 a.m.</td>
<td>K68</td>
<td>A Survey of Human Performance and Postmortem Cases Involving Ketamine in San Francisco Between 1997 and 2013</td>
<td>Alexander C. San Nicolas, MSFS*, Nikolas P. Lemos, PhD</td>
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<td>10:45 a.m. - 11:00 a.m.</td>
<td>K69</td>
<td>WITHDRAWN</td>
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<td>11:00 a.m. - 11:15 a.m.</td>
<td>K70</td>
<td>A Rare Case of Criminal Poisoning by Means of Butane Gas: N-Butane Quantification in Biological Fluids and Tissues</td>
<td>Jean Hiquet, MD*, Florence Tovagliao, MD; Nathalie Groslieron-Gros, MD; Véronique Dumestre-Toulet, PharmD; Jean-Michel Gaulier, PharmD, PhD; Sophie Gromb, JD, PhD</td>
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<td>11:15 a.m. - 11:30 a.m.</td>
<td>K71</td>
<td>Asphyxia Due to Inhalation of Hydrogen Gas</td>
<td>Dana Mike, BS; Anna Kelly, PhD*</td>
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<td>11:30 a.m. - 11:45 a.m.</td>
<td>K72</td>
<td>Characterizations of AB-PINACA, AB-FUBINACA, and Metabolites Identified in Driving Under the Influence (DUI) and Postmortem Cases by Liquid Chromatography/Time-of-Flight Mass Spectrometry (LC/TOF/MS) and Liquid Chromatography With Tandem Mass Spectrometry (LC/MS/MS)</td>
<td>Michael Chen, PhD*; Jeffrey Walterscheid, PhD</td>
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| 11:45 a.m. - 12:00 p.m. | K73       | Determination of Presence and Quantification of Ketamine, Norketamine, and Dehydronorketamine in Dosed and Buried Rat Remains at Different Stages of Decomposition | Cassandra L. Prickett, BS*; Kimberlee S. Moran, MSc; Laura M. Labay, PhD; Karen S. Scott, PhD  
(FSF Emerging Forensic Scientist Award Paper Presentation) |
| 12:00 p.m. - 1:00 p.m. |           | Lunch                                                                |                                                                        |

### Methodology

**Moderator:** Marc A. LeBeau, PhD  
FBI Laboratory  
Quantico, VA  

**Co-Moderator:** Robert D. Johnson, PhD  
Tarrant County MEO  
Fort Worth, TX

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<td>1:00 p.m. - 1:15 p.m.</td>
<td>K74</td>
<td>Analytical Method Development and Robustness Evaluation for Gas Chromatographic Analysis of Piperazine Designer Drugs</td>
<td>Kathleen K. Luo, BS*; Frank Dorman, PhD</td>
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</table>
1:15 p.m. - 1:30 p.m.  **K75**  
Comparison of Solid Phase Extraction (SPE) and Supported Liquid Extraction (SLE) Columns for the Extraction of 23 Novel Psychoactive Substances From Blood and Urine  
Lorna A. Nisbet, MSc*; Karen S. Scott, PhD  
(FSF Emerging Forensic Scientist Award Paper Presentation)

1:30 p.m. - 1:45 p.m.  **K76**  
Application of Time-of-Flight/Mass Spectrometry (TOF/MS) With Three Different Fragmentation Modes to the Toxicological Screening of Urine Samples Collected From an Electronic Dance Music (EDM) Population  
Helen Piper, BS*; Alexander L. Maggitti III, BS; Jared Castellani, BS; Francis X. Diamond, BS; Matthew M. McMullin, MS; Barry K. Logan, PhD  
(FSF Emerging Forensic Scientist Award Paper Presentation)

1:45 p.m. - 2:00 p.m.  **K77**  
Optimization of Extraction Parameters Using IMCSzyme™ β-Glucuronidase for Opiate Analysis of Various Toxicological Matrices  
Nancy A. Kedzierski, MS*; Danielle C. Mata, MS

2:00 p.m. - 2:30 p.m.  
Break  
Supported by: Aegis Sciences Corporation

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**Postmortem Pediatric Toxicology**

**Moderator:** Robert A. Middleberg, PhD  
NMS Labs  
Willow Grove, PA  

**Co-Moderator:** Nikolas P. Lemos, PhD  
OCME, Forensic Lab Division  
San Francisco, CA

2:30 p.m. - 4:00 p.m.  **K78**  
Postmortem Pediatric Toxicology  
Robert A. Middleberg, PhD; Nikolas P. Lemos, PhD; Erik D. Christensen, MD*; James R. Gill, MD*; Ellen Moffatt, MD*; Marina Stajic, PhD*
### Thursday

**Moderator:** James E. Starrs, LLM  
Springfield, VA  
**Co-Moderator:** Kenneth E. Melson, JD  
Montclair, VA

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<td>8:00 p.m.</td>
<td>LW1</td>
<td>Asperger’s Disorder: Does It Make Someone Violent?</td>
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<td><em>Katherine Ramsland, PhD</em></td>
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<td>8:20 p.m.</td>
<td>LW2</td>
<td>The Gunshot Residue Evidence of The People of the State of California vs. Robert Blake, the Actor</td>
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<td><em>Bryan R. Burnett, MS</em></td>
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<td>8:40 p.m.</td>
<td>LW3</td>
<td>The Exhumation and Identification of the Remains of St. Marianne Cope of Molokai</td>
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<td><em>Vincent J. Sava, MA</em></td>
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<td>9:00 p.m.</td>
<td>LW4</td>
<td>Romance and Reality: Horses and Experimentation</td>
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<td><em>Jennie Meade, JD, MLS</em></td>
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<td>9:20 p.m.</td>
<td>LW5</td>
<td>Once Upon... Forensic Sciences</td>
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<td><em>Matteo Borrini, PhD</em>; Camilla Borrini, MSc</td>
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<td>9:40 p.m.</td>
<td>LW6</td>
<td>Death in Police Custody: Negligence or Body Packing and Self Administration?</td>
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<td><em>David M. Benjamin, PhD</em></td>
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<td>10:00 p.m.</td>
<td>LW7</td>
<td>The Investigation Into the Identification and Death of Ukrainian Journalist Georgiy Gongadze:</td>
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<td>An International Case of Revolution, High Politics, and Toxic Consequences</td>
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<td><em>William C. Rodriguez III, PhD</em></td>
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<td>10:20 p.m.</td>
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<td>Discussion</td>
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*Presenting Author*
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National Institute of Justice (Grant Support)

David G. Ferguson, MS - C19
Microsoft Corporation (Discussion of Commercial Products or Services)

Deloitte (Employee)
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<td>James Glasgow, JD - W21</td>
<td>Cook County Medical Examiner’s Office (Employee) - H68 Cook County Medical Examiner’s Office (Employee) - H38</td>
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<td>Promega Corporation (Discussion of Commercial Products or Services and Employee)</td>
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<td>Ellen McRae Greytak, PhD - B186</td>
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<td>Andy Gruler, MSW – B22</td>
<td>Discloses no financial relationships with commercial entities.</td>
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<td>Marc Jones, BS</td>
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<td>Emily Junkins, BS</td>
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<td>Air Force Research Laboratory-Clarkson Aerospace Corporation (Grant Support)</td>
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<td>Sandra Lösch, PhD</td>
<td>PhD - A54 Discloses no financial relationships with commercial entities.</td>
</tr>
<tr>
<td>The Mathworks Inc. (Discussion of Commercial Products or Services) - A130</td>
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<tr>
<td>Jennifer C. Love, PhD</td>
<td>PhD - A117 BeamMed Ltd (Discussion of Commercial Products or Services)</td>
</tr>
<tr>
<td>Washington D.C. Office of the Medical Examiner (Employee)</td>
<td></td>
</tr>
<tr>
<td>Aileen Lu, HBSc</td>
<td>K49 Cerilliant Corporation, MedaPharmaceuticals, Neogen Corporation, Sanofi-Aventis, Titeretek-Berthold (Discussion of Commercial Products or Services)</td>
</tr>
<tr>
<td>Kathleen K. Luo, BS</td>
<td>BS - K74 Agilent Technologies, Restek Corporation (Discussion of Commercial Products or Services)</td>
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<tr>
<td>The Pennsylvania State University (Grant Support)</td>
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<tr>
<td>Ira S. Lurie, PhD</td>
<td>B193 PerkinElmer Inc. (Discussion of Commercial Products or Services and Other Financial/Material Support)</td>
</tr>
<tr>
<td>Todd M. Luckasevie, DO</td>
<td>- H69 Hornady Manufacturing, Nolster Inc. (Discussion of Commercial Products or Services)</td>
</tr>
<tr>
<td>Kathleen K. Luo, BS</td>
<td>BS - K74 Vincenzo Lusa, JD - BSS, F1, F2, 110 Discloses no financial relationships with commercial entities.</td>
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<tr>
<td>Jennifer C. Love, PhD</td>
<td>PhD - A117 Discloses no financial relationships with commercial entities.</td>
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<tr>
<td>Robert Dale Lynch, BA</td>
<td>BA - D17 Discloses no financial relationships with commercial entities.</td>
</tr>
<tr>
<td>William A. MacCrehan, PhD</td>
<td>PhD - B161 Department of Homeland Security S&amp;T Standards (Grant Support)</td>
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<tr>
<td>Polydimethylsiloxane (Discussion of Unlabeled/Investigational Use of Product/Device)</td>
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<tr>
<td>Lauren MacDonald</td>
<td>B135 Discloses no financial relationships with commercial entities.</td>
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<tr>
<td>Paola A. Magni, PhD</td>
<td>PhD - H24, H25, H56, H75 Discloses no financial relationships with commercial entities.</td>
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<tr>
<td>Añiello Maiese</td>
<td>H59 Apple Inc, Smith Micro (Discussion of Commercial Products or Services) - H59</td>
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<tr>
<td>Bettyzaida L. Maldonado, BS</td>
<td>BS - B70 Promega Corporation, Thermo Fisher Scientific Inc (Discussion of Commercial Products or Services)</td>
</tr>
<tr>
<td>Marshall University/National Institute of Justice (Grant Support)</td>
<td></td>
</tr>
<tr>
<td>Laura A. Mancebo, BS</td>
<td>BS - J20 Discloses no financial relationships with commercial entities.</td>
</tr>
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Jeremy M. Manheim - E2
National Institute of Justice (Grant Support)

Sheila Manica - A86
Science Without Borders - Brazil (Grant Support)

Giulio Mannocchi - K30
Agilent Technologies (Discussion of Commercial Products or Services)

Mollie Mares, BS - K52
Agilent Technologies (Discussion of Commercial Products or Services)

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Perkin Elmer Inc. (Discussion of Commercial Products or Services)

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FINANCIAL DISCLOSURE

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Ross James Miller, MD - H1
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  - Integrated Ballistics Identification System (Discussion of Unlabeled/Investigational Use of Product/Device)
  - United States Department of Defense (Grant Support) - B34
  - United States Department of Defense/West Virginia University (Grant Support) - B61

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- Nexttec™ Biotechnolgie GmbH, Promega Corporation, QIAGEN Inc, Thermo Fisher Scientific Inc (Discussion of Commercial Products or Services)

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- The Beatles (Discussion of Commercial Products or Services) - F13
  - American Broadcasting Company (Discussion of Commercial Products or Services) - L2

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Discloses no financial relationships with commercial entities.
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Discloses no financial relationships with commercial entities.
Helen Piper, BS - K20, K76
Agilent Technologies (Discussion of Commercial Products or Services)
Dane T. Plaza - B181
Foster + Freeman, Puritan Medical, QIAGEN Inc, SAS Institute Inc, Thermo Fisher Scientific Inc, Vivaproducts (Discussion of Commercial Products or Services)
National Institute of Justice (Grant Support)
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San Luis Obispo Fire Investigation Strike Team Inc.
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Joseph A. Prahlow, MD - H96
Discloses no financial relationships with commercial entities.
Samuel Prahlow - E37
Discloses no financial relationships with commercial entities.
Sebastien Prat, MD - E18, I24, I29
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Iain A. Pretty, DDS, PhD - G14
  Discloses no financial relationships with commercial entities.
Quashanna Price - B33
  National Center for Forensic Science/National Institute of Justice
  (Grant Support)
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  Biotage® (Discussion of Commercial Products or Services)
  Discloses no financial relationships with commercial entities.
Ronald Prins, MS - W14
  Fox-IT (Shareholder)
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  Discloses no financial relationships with commercial entities.

Lawrence Quarino, PhD - B43
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Christopher Racine, MD, MPH - I27
  Discloses no financial relationships with commercial entities.
Yvette Rada, MS - B143
  General Electric Company, IntegenX Inc, Promega Corporation,
  SoftGenetics LLC (Discussion of Commercial Products or Services)
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  Discloses no financial relationships with commercial entities.
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  Discloses no financial relationships with commercial entities.
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  Discloses no financial relationships with commercial entities.
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  EMD Millipore, Promega Corporation, QIAGEN Inc, Thermo
  Fisher Scientific Inc, (Discussion of Commercial Products
  or Services)
  Armed Forces DNA Identification Laboratory (Other
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  E. I. du Pont de Nemours and Company, Orica Limited, Pyramex™
  Safety Products LLC (Discussion of Commercial Products
  or Services)
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  or Services)
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  Discloses no financial relationships with commercial entities.
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MULTIPLEX DRUG SCREENING

Multiplex drug screening
- Simultaneous detection of multiple drugs from one undivided sample. All your ELISA’s in one well.

Highly accurate testing
- BAT has a proven high standard of accurate test results with CV’s typically <10%.

Any sample type
- Multiple sample types can be used on one analyzer including whole blood, post-mortem blood, urine, oral fluid, hair, vitreous humor, meconium and tissue.

Consolidation
- Multiplex testing reduces the amount of time spent on individual tests and associated costs.

Largest test menu in the world
- Detecting over 500 drugs and metabolites on the fastest screening analyzers in the world.

Optimum efficiency
- Multi-analyte reagents and quality control material, provides highly efficient testing while eliminating any wastage.

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