

## Wednesday

### Poster Session

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- 11:30 a.m. – 1:00 p.m.
- E1**     **The Use of Smart Phone Applications in Crime Scene Analysis: Forensic Advantages and Limitations**  
*Matteo Antonio Sacco, MD; Pietrantonio Ricci, MD, PhD; Isabella Aquila, MD, PhD\**
- E2**     **Autopsy Findings in Hydrogen Sulfide Toxicity**  
*Robyn Parks, MD\*; Christopher Rogers, MD*
- E3**     **A Case of Skully: An Investigation of X-Files Proportion**  
*Ashley Holmes, MS\*; Patrick Lantz, MD; Jerri McLemore MD*
- E4**     **Medicolegal Investigation in Two Cases of Suspected Anticoagulant Overdose**  
*Camilla Bonci, MD\*; Lucia Tattoli, MD, PhD; Francesca Capello, MD; Luana Bonaccorso, MD; Giuliana Mattioda, MD; Giancarlo Di Vella, MD, PhD*
- E5**     **Sudden Cardiac Death in Myocardial Bridging**  
*Angela Baldwin, MD, MPH\*; Sarah Thomas, MD, MS; Barbara Sampson, MD, PhD*
- E6**     **Light Detection and Ranging (LiDAR) Sensor for 3D Reconstructions in the Autopsy Room**  
*Alice Chiara Manetti, MD\*; Andrea Scatena, MD; Giacomo Visi, MD; Paola Santoro, MD; Fabio Del Duca, MD; Massimiliano Dell'Aquila, MD; Aniello Maiese, MD, PhD*
- E7**     **Enhancing Postmortem Care for Transgender Decedents: An Analysis of Global Violence and Forensic Methodologies**  
*Taylor Flaherty, MSc\*; Corrie Strayer, MA; Adrianne Dizon; Jennifer Byrnes, PhD*
- E8**     **Suicide Rates and Trends in Allegheny County, Pennsylvania, During 2010–2019**  
*Odile Enslin, BS\*; Lyndsie Ferrara, PhD; Anita Zuberi, PhD; Mandy Tinkey, MS*
- E9**     **The Recent Rise of Eutylone Intoxications in Onondaga County, New York**  
*Michel Tawil, MD\*; Katrina Thompson, MD; Lorenzo Gitto, MD*
- E10**    **A Review Of In-Custody Deaths at the West Tennessee Regional Forensic Center**  
*William Stout\*; Danielle Harrell, DO*
- E11**    **A Death in the Pool Is Not Just Drowning**  
*Gianluca Musci, MD\*; Carmelinda Angrisani, MD; Adriano Acella, MD; Giulia Gubinelli, MD; Gianluca Gravili, MD; Antonio De Donno*
- E12**    **Hanging: Between Doubts and Certainties**  
*Isabella Aquila, MD, PhD\*; Pietrantonio Ricci, MD, PhD*
- E13**    **Sudden Cardiac Death Related to COVID-19 in an Asymptomatic Teenager With a Negative Postmortem Swab**  
*Mirella Sabatino, MD; Giulia Bini, MD\*; Giacomo Belli, MD; Giorgia Lodetti, MD; Dario Galatone, MD; Elena Mercuri, MD; Gulnaz T. Javan, PhD; Silvia Damiana Visonà, PhD; Luca Morini, PhD; Pierangela Grignani, PhD; Carlo Previderé, PhD; Matteo Moretti, MD*

- E14 Older Adult Suicides in Clark County, Nevada (2017-2021): The Trends and Potential Impact of the COVID-19 Pandemic**  
*Katherine Gaddis MA\**; *Jennifer Byrnes, PhD*
- E15 Excess Deaths in Shelby County, Tennessee, During the COVID-19 Pandemic**  
*Morgan Lyttle, MS\**; *Erica Curry, MD*; *Benjamin Figura*
- E16 COVID-19 Pandemic From the Forensic Standpoint: A Platform Against Future Biological Threats**  
*Marina Korolija PhD\**; *Rosa Karlič, PhD*; *Ana Livun, PhD*; *Robert Belužić, PhD*; *Vjekoslav Tomaić, PhD*; *Dunja Glavaš, MSc*; *Antonija Mamić, BS*; *Andrea Ledić, MSc*; *Kristian Vlahoviček, PhD*
- E17 Organizational, Adaptational, and Continuous Changes of the Forensic Sciences During the COVID-19 Pandemic: An Overview**  
*Francesco Sessa, MS, PhD\**; *Massimiliano Esposito, MD*; *Cristoforo Pomara, MD, PhD*; *Monica Salerno, MD, PhD*
- E18 Determining Postmortem Intervals of Fetal Pigs Buried in Fayetteville, Tennessee, in June 2021 Using Attenuated Total Reflectance Fourier Transform Infrared Instrumentation Blood Analysis**  
*Catherine Walters, BS\**; *Elizabeth Gardner, PhD*
- E19 Equine Scent Detection in Search and Rescue and Search and Recovery**  
*Elsie-Kay Banks, MA\**; *Liam Funte, PhD, MD*; *Anatasia Holobinko, PhD*
- E20 Insect Activity During Decomposition in the Extreme Sonoran Desert Climate**  
*Meghan Gast, BS\**; *Kaitlyn Fulp, MA*; *Jacob Harris, PhD*; *Katelyn Bolhofner, PhD*
- E21 Forensic Species Identification Using Phylogenetic Proteomics**  
*Nicole Slattengren, BSc\**; *Ashley Spicer, MSFS*; *Glendon Parker, PhD*

## Thursday—Session I

### Death Investigation I

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*Moderator:*  
TBD

*Co-Moderator:*  
TBD

- 8:45 a.m. – 9:00 a.m. **E22 Forensic and Investigative Scene Factors Associated With the Undetermined Manner of Death**  
*Betsy Adelizzi, PhD\**
- 9:00 a.m. – 9:15 a.m. **E23 “Our Hearts Are Not at Rest”: A Critical Look at the Adequacy of Indigenous Death Investigations**  
*Steff King, MA\**; *Ted Palys, PhD*; *Annie Ross, PhD*; *Gail Anderson, PhD*
- 9:15 a.m. – 9:30 a.m. **E24 Forensic Science Data Integration and Stakeholder Workflow for Medicolegal Death Investigation Systems**  
*Matthew Gamette, MS\**; *Jeri Roper-Miller, PhD*
- 9:30 a.m. – 9:45 a.m. **E25 Medicolegal Systems and Forensic Services Assessments: Methods to Better Understand the Needs and Challenges of Providing Structured Support and Building Sustainable Forensic Capacities**  
*A. Skylar Joseph, MS\**; *Maria Dolores Morcillo Mendez, MD*; *Pierre Guyomarc’h, PhD*; *Denise Abboud, PhD*; *Eliane El Hajj, MBA*; *Rawan Chaaban, MPH*; *Myriam El Helou, BS*; *Luis Fondebrider, PhD*
- 9:45 a.m. – 10:00 a.m. **E26 Addressing Emerging Humanitarian Challenges Through an Innovative Concept: The International Centre for Humanitarian Forensics (ICHF)**  
*Melahat Elif Gunce Eskikoy, PhD\**; *Govindarajulu Rajesh Babu, PhD*; *Darshana Ishwarbhai Sharma, PhD*; *Abraham Johnson, PhD*

10:00 a.m. – 10:15 a.m.	<b>E27</b>	<b>Tapping an Overlooked Resource: Preparing and Utilizing Crime Scene Investigators to Recognize and Document Criminal Asphyxiation Cases</b> <i>Kelsey McKay, JD*</i> ; <i>Andrea Zaferes, BA*</i> ; <i>Rachel Johnson, MS*</i>
10:15 a.m. – 10:30 a.m.	<b>E28</b>	<b>Forensics in the Wilderness: Lessons Learned</b> <i>David Kintz, BS*</i>
10:30 a.m. – 10:45 a.m.	<b>E29</b>	<b>Homicide Victims and Location, Location, Location: Utilizing Body Dump Patterns and Forensic Archaeology in Outdoor Searches</b> <i>Sharon Moses, PhD*</i>
10:45 a.m. – 11:00 a.m.		<b>BREAK</b>

## COVID

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*Moderator:*

TBD

*Co-Moderator:*

TBD

11:00 a.m. – 11:15 a.m.	<b>E30</b>	<b>How the COVID-19 Pandemic and Related Restrictions Impacted Crime in Italy</b> <i>Francesco Sessa, MS, PhD*</i> ; <i>Massimiliano Esposito MD</i> ; <i>Monica Salerno, MD, PhD</i> ; <i>Cristoforo Pomara, MD, PhD</i>
11:15 a.m. – 11:30 a.m.	<b>E31</b>	<b>COVID-19 Impacts on Medical Examiner/Coroner Offices and Their Response to the Pandemic</b> <i>BeLinda Weimer, MA*</i> ; <i>Peyton Attaway, BS</i> ; <i>Daye Crystal, MPA</i> ; <i>Camille Gourdet, JD</i> ; <i>Paul Speaker, PhD</i> ; <i>Jeri Roper-Miller, PhD</i>
11:30 a.m. – 11:45 a.m.	<b>E32</b>	<b>An Examination of Medical Examiner/Coroner (ME/C) Outsourcing Practices</b> <i>Peyton Attaway, BS*</i> ; <i>BeLinda Weimer, MA</i> ; <i>Crystal Daye, MPA</i> ; <i>Camille Gourdet, JD</i> ; <i>Paul Speaker, PhD</i> ; <i>Jeri Roper Miller, PhD</i>
11:45 a.m. – 12:00 p.m.	<b>E33</b>	<b>“Cutting” for Profit in a Pandemic</b> <i>Abby Chapman*</i> ; <i>Cindy Moran</i> ; <i>Daniel Dye, MD</i> ; <i>Brandi McCleskey, MD</i>
12:00 p.m. – 1:00 p.m.		<b>BREAK</b>

## Poster Session

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11:30 a.m. – 1:00 p.m.	<b>E34</b>	<b>The Assessment of Skin Lesions in Trafficking Victims: A Medicolegal Approach</b> <i>Francesca Capello, MD*</i> ; <i>Camilla Bonci, MD</i> ; <i>Niccolò Dino Melloni, MD</i> ; <i>Alice Porceddu, MD</i> ; <i>Davide Santovito, MD</i> ; <i>Giancarlo Di Vella, MD, PhD</i>
	<b>E35</b>	<b>The Role of MicroRNAs (miRNAs) as New Molecular Biomarkers for Dating the Age of Wound Production: A Systematic Review</b> <i>Stefania De Simone, MD*</i> ; <i>Elena Giacani, MD</i> ; <i>Maria Antonella Bosco, MD</i> ; <i>Francesco Sessa, MS, PhD</i> ; <i>Giuseppe Bertozzi, MD</i> ; <i>Luigi Cipolloni, MD</i> ; <i>Raffaele La Russa, MD</i>
	<b>E36</b>	<b>The Dirty Truth: Does Bathing After Sexual Assault Prevent the Development of Combined DNA Index System (CODIS) -Eligible DNA Profiles?</b> <i>Emily Black*</i> , <i>Samuel Payne, Julie Valentine, PhD</i>

- E37 Increased Sexual Assault Kit Submissions May Not Mean Increased Sexual Assault Prosecutions**  
*Julie Valentine, PhD\**; *Leslie Miles, DNP*; *Connor Alder*; *Luke Johnson*
- E38 The Detection and Determination of the Levels of Physiologically Active Substances in Non-Alcoholic Beverages**  
*Amarnath Mishra, PhD\**; *Akanksha Behl, MSc*
- E39 Improving the Signal Detection Limit of a Portable Raman Spectrometer for Surface Enhanced Raman Spectroscopy (SERS) Detection of Gunshot Residue (GSR)**  
*Megan Harper, BS\**; *Darius Aligholizadeh, BS*; *Lynn Krushinski, BS*; *Mary Devadas, PhD*; *Ellen Hondrogiannis, PhD*
- E40 A New Method for the Preservation of Forensic Fragrance/Odor Evidence for Future Analysis using Gas Chromatography/Mass Spectrometry (GC/MS)**  
*Rylee Bosse\**; *Susannah Sherwood*; *Mariah Fernandez*; *Aspen DeGolier*; *Chesterene Cwiklik*; *Kristen Skogerboe*
- E41 A Chemometrics Study for the Forensic Evidence Classification of Pet Foods Using Solid-Phase Microextraction-Gas Chromatography/Mass Spectrometry (SPME-GC/MS)**  
*Susannah Sherwood\**; *Rylee Bosse*; *Hazel Tran Biochemistry, BS*; *Anna Tran, BS*; *Aspen DeGolier, BS*; *Mariah Fernandez, BS*; *Luke Marney, PhD*; *Kristen Skogerboe, PhD*
- E42 Magnetic Resonance Imaging (MRI) of the Skin: Research Hypothesis, Objectives, Limitations, and Postmortem Examples**  
*Giuseppe Bertozzi MD\**; *Michela Ferrara, MD*; *Giovanni Gurgoglione, MD*; *Maria Antonella Bosco, MD*; *Francesco Pio Cafarelli, MD*; *Giuseppe Guglielmi, MD, PhD*; *Luigi Cipolloni, MD, PhD*; *Raffaele La Russa, MD, PhD*
- E43 The Development of a Rapid Drug Detection Method for Insects Using Paper Spray Ionization-Mass Spectrometry (PSI-MS)**  
*Alexandria Plyler, BS\**
- E44 An Examination of Lipstick Stains Via Fourier Transform Infrared (FTIR) Spectroscopy and Chemometric Methods**  
*Vishal Sharma, PhD\**
- E45 Multiplex Reverse Transcription Polymerase Chain Reaction (RT-PCR) on a Centrifugal Microfluidic Platform for Field-Forward Messenger RNA (mRNA) Body Fluid Profiling**  
*Renna Nouwairi, BS\**; *Tiffany Layne, PhD*; *Rachel Fleming, PhD*; *M. Shane Woolf, PhD*; *James Landers, PhD*
- E46 Preliminary Perspectives of Environmental Conditions on Cocaine's Chemical Odorant Methyl Benzoate Via Dynamic Airflow Sampling**  
*Ryan Thompson, BS\**; *Edgar O. Aviles-Rosa, PhD*; *Nathaniel J. Hall, PhD*; *Paola A. Prada-Tiedemann, PhD*
- E47 Exploring the Impact of Environmental Differences on Fiber Background Estimation in Forensic Investigation**  
*Chimdia KeChi-Okafor, MPhil\**
- E48 Backlog Reduction by Implementing Shorter Gas Chromatography/Mass Spectrometry (GC/MS) Confirmation of Seized Drugs**  
*Muhammad Chaudhary, MPhil\**; *Imtiaz Hussain, MPhil*; *Tahir Jamshaid, MPhil*; *Muhammad Amjad Nadeem, MPhil*; *Muhammad Irfan Ashiq, PhD*; *Mohammad Tahir, PhD*
- E49 Rapid Fentanyl Sensing Via Biochemical Assay**  
*Giana Biddle\**; *Jan Halamek, PhD*; *Morgan Eldridge*; *Ashley Newland*

- E50**     **A Characterization of Metal-Peroxide Explosive Complexes Using Paper Spray Ionization-Tandem Mass Spectrometry (PSI-MS)**  
*Kayla Massari\**
- E51**     **Determining the Method Threshold of Identification Via Gas Chromatography/Mass Spectrometry (GC/MS) of Weathered Gasoline Extracted From Laminate Flooring**  
*Ellen Hondrogiannis, PhD; Allyson Wesley\**
- E52**     **Assessing the Rate of Loss of Fibers in Primary, Secondary, and Tertiary Transfers**  
*Samantha Hadley BS\*; Steven Burmeister, MS; Cary Oien, MS*

## Death Investigation II & Taphonomy

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*Moderator:*  
TBD

*Co-Moderator:*  
TBD

- 1:00 p.m. – 1:15 p.m.     **E53**     **A Physical Assessment of Torture: An Analysis on Medicolegal Degrees of Consistency Expressed According to the Istanbul Protocol**  
*Lorenzo Franceschetti, MD\*; Francesca Magli, MSc, MA; Chiara Nava, MD; Lidia Maggioni, MD; Andrea Verzeletti, PhD; Cristina Cattaneo, PhD*
- 1:15 p.m. – 1:30 p.m.     **E54**     **Record Depths: 2019 Deep Water Recovery of “Password 33” at 18,600 Feet**  
*Katherine Grosso, MA\**
- 1:30 p.m. – 1:45 p.m.     **E55**     **A Dismembered Pedestrian and a Debris Field: A Case Report of a Fatal Hit And Run**  
*Stacey Chepren, MFS\**
- 1:45 p.m. – 2:00 p.m.     **E56**     **How Hot Is Too Hot? The Interior Temperature in Unattended Vehicles and the Effect on Children Left Inside**  
*Laura Lathrop, MS\**
- 2:00 p.m. – 2:15 p.m.     **E57**     **Have Cocaine, Will Travel: A Case Report of Body Packing**  
*Anita Hasert, BS\**
- 2:15 p.m. – 2:30 p.m.     **E58**     **Necrobiome Succession in Muscle Tissue as a Potential Indicator of Postmortem Interval (PMI)**  
*Anna Wacker, MS\*; Josh Sharp, PhD; Jane Harris, PhD*
- 2:30 p.m. – 2:45 p.m.     **E59**     **Human Taphonomy Facilities: Considerations for Establishment in the United Kingdom**  
*Claire Power, MSc\*; Fiona Jane Wilcox, MD; Richard Walters, LLB; Nikolas Petros Lemos, PhD*
- 2:45 p.m. – 3:00 p.m.     **E60**     **The Effect of Necrophagous Entomofauna on Textile Damage During the Summer in Western Australia**  
*Sotirios Ziogos, MFS\**
- 3:00 p.m. – 3:15 p.m.     **BREAK**

## Dogs & Animals in Forensic Science

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Moderator:

TBD

Co-Moderator:

TBD

- 3:15 p.m. – 3:30 p.m. **E61** **Step-Wise Lead-Poisoning of a Sheep: A Case Report Combining Virtopsy and Autopsy in a Ballistic Veterinary Case**  
*Dagmar Mierzwiak\**; *Matthias Dennler*; *Monika Hilbe*; *Michael Thali, MD*; *Wolf Schweitzer, MD*; *Stephan Bolliger, MD*
- 3:30 p.m. – 3:45 p.m. **E62** **Morphology and Behavior: What Can Dog Bite Wound Morphology Tell Us About the Behavior Involved in Fatal Dog Attacks?**  
*James Crosby\**
- 3:45 p.m. – 4:00 p.m. **E63** **Are We Barking Up the Wrong Tree When Selecting Detection Canine Candidates?**  
*Keir Davies, MSc\**; *Nikolas Lemos, PhD*
- 4:00 p.m. – 4:15 p.m. **E64** **An Analysis of the Degradation and Contamination of Canine Training Aids Stored in Semi-Permeable Membrane Devices (SPMDs) and Traditional Storage Conditions Via Fourier Transform Infrared Spectroscopy (FTIR) and Gas Chromatography/Mass Spectrometry (GC/MS)**  
*Kymeri Davis, MS\**; *Courtney Cruse, BS*; *John Goodpaster, PhD*

## Thursday—Session II

### Forensic Nursing I

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Moderator:

TBD

Co-Moderator:

TBD

- 8:30 a.m. – 8:45 a.m. **E65** **Forensic Nurse Roles: Exploring the Future Within a Modern Forensic Science World**  
*Joyce Williams, DNP\**
- 8:45 a.m. – 9:00 a.m. **E66** **A Global Response in the Frontiers of Forensic Nursing Science**  
*Virginia A. Lynch, MSN\**
- 9:00 a.m. – 9:15 a.m. **E67** **Responding to the Future Challenges of Emergency Preparedness in a Modern Forensic Science World**  
*Joyce Williams, DNP, RN\**
- 9:15 a.m. – 9:30 a.m. **E68** **Forensic Nursing Science: A Contemporary Response to Humanitarian and Human Rights**  
*Virginia A. Lynch, MSN\**
- 9:30 a.m. – 9:45 a.m. **E69** **Forensic Nurse Hospitalist: The Comprehensive Role of the Forensic Nurse in a Hospital Setting**  
*Kelly Berishaj, DNP\**; *Christina Boyland, MSN*; *Kristin Reinink, MSN*; *Virginia A. Lynch, MSN*
- 9:45 a.m. – 10:00 a.m. **E70** **Exploring the Conditions, Challenges, and Situations for Nurses Involved in Forced Organ Transplants in China**  
*Nancy Cabelus, DNP\**
- 10:00 a.m. – 10:15 a.m. **E71** **The Forensic Nurse Response to Elder Abuse: Meeting and Surpassing the Challenges**  
*Amy Carney, PhD\**
- 10:15 a.m. – 10:30 a.m. **BREAK**

## Forensic Nursing II

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Moderator:

TBD

Co-Moderator:

TBD

- 10:30 a.m. – 10:45 a.m. **E72** **Forensic Nursing Science as an Indispensable Core Service in Modern Patient Care: The First Implementation Outcomes in Switzerland**  
*Valeria Kaegi, RN\*; Michael J. Thali, MD; Rosa Maria Martinez, MD*
- 10:45 a.m. – 11:00 a.m. **E73** **Improving Care for the Sexual Assault Patient**  
*Kathleen Sekula, PhD\**
- 11:00 a.m. – 11:15 a.m. **E74** **The Development and Successful Implementation of a State-Wide Sexual Assault Nurse Examiner (SANE) Coordinator Role: A Rural Perspective**  
*Matthew Gamette, MS; Deborah Wetherelt, RN\**
- 11:15 a.m. – 11:30 a.m. **E75** **The Standardization of Sexual Assault Examination Kits in the United States: An Exploration of the Role Sexual Assault Nurse Examiners (SANEs) and Telehealth Have on the Sexual Assault Examination Process**  
*Amy Southall-Malone, MFS\**
- 11:30 a.m. – 11:45 a.m. **E76** **The Sexual Assault Nurse Examiner (SANE): A Responsive Strategy to Global Sexual Violence**  
*Jamie Ferrell, MBA, BSN, RN\**
- 11:45 a.m. – 12:00 p.m. **E77** **Sexual Assault Victim and Assault Characteristics and Development of Combined DNA Index System (CODIS) -Eligible Short Tandem Repeat (STR) DNA Profiles**  
*Julie Valentine, PhD\*; Sam Payne, PhD; Leslie Miles, DNP; Luke Johnson; Connor Alder*
- 12:00 p.m. – 1:00 p.m. **BREAK**

## Trace Evidence

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Moderator:

TBD

Co-Moderator:

TBD

- 1:00 p.m. – 1:15 p.m. **E78** **An Estimation of Error Rates in Library Matching of Forensic Textile Evidence Classified by Attenuated Total Reflectance/Fourier Transform Infrared (ATR/FTIR) Spectroscopy**  
*Lauren Bouju Davies\*; Braeden Camarota; Kristen Skogerbo, PhD*
- 1:15 p.m. – 1:30 p.m. **E79** **An Assessment of Heat Damage on Fourier Transform Infrared (FTIR) Spectral Characteristics of Various Fabric Samples for Applications to Forensic Clothing Examination**  
*Braeden Camarota\*; Cheyenne Smith; Lauren Bouju Davies; Chesterene Cwiklik, BS; Kristen Skogerboe, PhD*
- 1:30 p.m. – 1:45 p.m. **E80** **A Quantitative Analysis of Smokeless Powder Particles in Post-Blast Debris Via Gas Chromatography/Vacuum Ultraviolet Spectroscopy (GC/VUV)**  
*Madison Reavis BS\*; John Goodpaster, PhD*
- 1:45 p.m. – 2:00 p.m. **E81** **Addressing the Quantitative Aspect of Single Grain Forensic Palynology**  
*Luz Kelley, MS\*; Matthieu Baudelet, PhD*

2:00 p.m. – 2:15 p.m.	<b>E82</b>	<b>Chemometrics in Forensic Examination</b> <i>Vishal Sharma, PhD*</i>
2:15 p.m. – 2:30 p.m.	<b>E83</b>	<b>Spectrally-Based Color Calibration of Microscopes for the Analysis of Birefringence</b> <i>Olivia Field, BS*;</i> <i>Matthieu Baudelet, PhD</i>
2:30 p.m. – 2:45 p.m.	<b>E84</b>	<b>The Persistence of Diatoms as Trace Evidence in Clothing Fabrics: The Effect of Active Removal (Machine Washing) and Passive Removal (Time and Environment)</b> <i>Ross Flynn, MSc*;</i> <i>Paola Magni, PhD;</i> <i>Ashiwin Vadiveloo, PhD;</i> <i>Navid Moheimani, PhD;</i> <i>Kari Pitts, PhD</i>
2:45 p.m. – 3:00 p.m.	<b>E85</b>	<b>An Assessment of Swab Efficiency for Body Fluid Identification and DNA Isolation and Analysis in Different Types of Fabric</b> <i>Gabriela Roca, PhD*;</i> <i>Sara C. Zapico, PhD</i>
3:00 p.m. – 3:15 p.m.		<b>BREAK</b>

## Analytical Techniques

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*Moderator:*

TBD

*Co-Moderator:*

TBD

3:15 p.m. – 3:30 p.m.	<b>E86</b>	<b>An Elemental Analysis of Bullets Via Atomic Absorption Spectroscopy</b> <i>Jan Halámek, PhD;</i> <i>Ashley Newland, MS*;</i> <i>Giana Biddle, MS;</i> <i>Morgan Eldridge, PhD</i>
3:30 p.m. – 3:45 p.m.	<b>E87</b>	<b>A Pre-Post Experimental Study on the Life of Blood Stains on Different Soil Samples</b> <i>Eleena Philip, MS*</i>
3:45 p.m. – 4:00 p.m.	<b>E88</b>	<b>Investigation Into the Aging Mechanism of Bloodstains Post-Deposition Using Steady-State Fluorescence Spectroscopy for Forensic Purposes</b> <i>Alexis Weber, MSFS*;</i> <i>Anna Wójtowicz, BS;</i> <i>Igor Lednev, PhD</i>
4:00 p.m. – 4:15 p.m.	<b>E89</b>	<b>A Membrane-Modulated Centrifugal Microfluidic Platform for Field-Forward Immunodetection of Opioids</b> <i>Leah Dignan, BSc*;</i> <i>Michael Woolf, PhD;</i> <i>Jennifer Ross, MD, MPH;</i> <i>Carly Baehr, PhD;</i> <i>Christopher Holstege, MD;</i> <i>Marco Pravetoni, PhD;</i> <i>James Landers, PhD</i>
4:15 p.m. – 4:30 p.m.	<b>E90</b>	<b>Non-Contact Detection of Fentanyl by a Field-Portable Ion Mobility Spectrometer</b> <i>Ashley Fulton, PhD*;</i> <i>Stephanie Vaughan, PhD;</i> <i>Lauryn DeGreeff, PhD</i>
4:30 p.m. – 4:45 p.m.	<b>E91</b>	<b>Sweat Analysis Leading to Possible On-Site Detection for Drugs and Alcohol in the Body</b> <i>Jan Halamek, PhD*;</i> <i>Morgan Eldridge;</i> <i>Giana Biddle;</i> <i>Ashley Newland</i>
4:45 p.m. – 5:00 p.m.	<b>E92</b>	<b>A Multidisciplinary Forensic Approach: The Investigation of a “Kuman Thong”</b> <i>Alessandra Radogna, MD*;</i> <i>Chiara Siodambro, MD;</i> <i>Laura Scotti, MD;</i> <i>Anna Lisa Nanni, MD;</i> <i>Maria Sole Prevedoni Gorone, MD;</i> <i>Silvia Damiana Visonà, MD, PhD;</i> <i>Matteo Moretti, MD;</i> <i>Pierangela Grignani, PhD;</i> <i>Carlo Previderè, PhD</i>

## Friday

### Traditional & Non-Traditional Pattern Evidence

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Moderator:

TBD

Co-Moderator:

TBD

- 8:45 a.m. – 9:00 a.m. **E93** **Automatic Class Characteristic Recognition in Shoe Tread Images**  
*Jayden Stack\**; *Susan VanderPlas PhD*
- 9:00 a.m. – 9:15 a.m. **E94** **A Comparison of Dust Cover Impact Marks on 200 Consecutively Fired Cartridge Cases From a Saiga 7.62x39mm Rifle**  
*Malory Molt, BS\**; *V. Rick Wyant, MS*; *Brian Smelser*
- 9:15 a.m. – 9:30 a.m. **E95** **An Open-Source Implementation of the Congruent Matching Profile Segments (CMPS) Algorithm for Assessing the Similarity of Bullets**  
*Wangqian Ju, MSc\**; *Heike Hofmann, PhD*
- 9:30 a.m. – 9:45 a.m. **E96** **Blind Testing in Firearms: Preliminary Results From a Blind Quality Control Program**  
*Maddisen Neuman, MA\**; *Callan Hundl, BS*; *Aimee Grimaldi, MS*; *Donna Eudaley, BS*; *Darrell Stein, BS*; *Peter Stout, PhD*
- 9:45 a.m. – 10:00 a.m. **E97** **Ordinal Regression for Error Rates in a Black-Box Face Recognition Study**  
*Larry Tang, PhD\**; *Ngoc-Ty Nguyen, PhD*
- 10:00 a.m. – 10:15 a.m. **E98** **A Forensic Decryption of Ludlings**  
*David Simpson, BS\**
- 10:15 a.m. – 10:30 a.m. **E99** **Examining New Trends Exclusive to Latino Youth Gang Violence**  
*Cliff Akiyama, MPH, MA*
- 10:30 a.m. – 10:45 a.m. **BREAK**

### Fingerprints & Fingerprinting

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Moderator:

TBD

Co-Moderator:

TBD

- 10:45 a.m. – 11:00 a.m. **E100** **Exploring the Effectiveness of a Fingerprint Powder Batch Acceptance Protocol: Interdisciplinary Considerations**  
*Helen Earwaker, PhD\**; *Jodie Coulston, PhD*; *Paul Smith, PhD*
- 11:00 a.m. – 11:15 a.m. **E101** **Magnetic Nanoparticles Combined With Mass Spectrometry for the Extraction and Detection of Drugs and Toxic Metal From Fingermarks: A Novel Approach for the Forensic Chemist**  
*Mohamed O. Amin, MSc\**; *Entesar Al-Hetlani, PhD*; *Simona Francese, PhD*
- 11:15 a.m. – 11:30 a.m. **E102** **The Use of Morphological Image Processing and MATLAB® Tools in Fingerprint Forgery—An Emerging Challenge**  
*Awais Amin, MS\**

- 11:30 a.m. – 11:45 a.m. **E103** **Investigative Leads in Latent Prints: A Comparison of Laboratory Procedures**  
*Amanda Wilson, MS\**; *Sharon Kelley, JD, PhD*; *Jeniffer Molina, BS*; *Brett Gardner, PhD*;  
*Maddisen Neuman, MA*
- 11:45 a.m. – 12:00 p.m. **E104** **Measuring Proficiency Among Latent Print Examiners: A Statistical Approach From Standardized Testing**  
*Amanda Luby, PhD\**
- 12:00 p.m. – 1:00 p.m. **BREAK**

## Poster Session

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- 11:30 a.m. – 1:00 p.m. **E105** **Modeling Latent Fingermark Aging Processes by 2D Optical Methodologies**  
*Josep De Alcaraz-Fossoul, PhD\**
- E106** **Similarities of Fingerprints Among Siblings**  
*Angelina Lopez, MFS\**; *Ismail Sebetan, MD, PhD*; *Paul Stein, PhD*
- E107** **An Examination of Pattern Types in Twins' Fingerprints and Bilateral Symmetry in an Unrelated Population**  
*Kristine Duran, MFS\**; *Ismail Sebetan, MD, PhD*; *Paul Stein, PhD*
- E108** **An Analysis and Discrimination of Fingermarks Contaminated With Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) Tablets Using Raman Spectroscopy and Chemometrics**  
*Mohamed O. Amin, MSc\**; *Entesar Al-Hetlani, PhD*; *Igor K. Lednev, PhD*
- E109** **The Terminal Deposition of Latent Fingermarks Determined by Chemical and Physical Developers**  
*Hannah Hubbard\**; *Josep De Alcaraz-Fossoul, PhD*
- E110** **The Development of Fingerprints After Prolonged Submersion in Freshwater**  
*Haley Bolt, MSFS\**; *Katrina Willis*; *Bruce Willis*; *Catherine Rushton*
- E111** **Environmental Influences on Latent Fingerprint Recovery**  
*Madison Frese, BA\**; *Caitlin Porterfield, MS*
- E112** **Forensic Phenomics—An Applied Approach to Fingerprint Profiling for Intelligence Guided Investigations**  
*Georgia Cottnam\**; *Brendan Chapman*; *Berin Boughton*; *Torben Kimhofer*
- E113** **The Impact of Packaging and Transportation on the Preservation and Processing of Latent Friction Ridge Impressions**  
*Sydney Baber\**; *Caitlin Porterfield*
- E114** **Raman Spectroscopy to Tackle the Analysis of Bloodstains in Crime Scene Conditions**  
*Alexis Weber, MSFS\**; *Alexis Barber, BS*; *Igor Lednev, PhD*
- E115** **Optimizing Blood Removal Methodology for Visualizing Gunshot Residue (GSR) Patterns**  
*Ashley Smith, BS\**; *Michael Kusluski, MFS*
- E116** **Utilizing the ECHO Model to Virtually Train Medical Examiners and Coroners on Drug Overdose Investigations and Mortality Data Improvement**  
*Rachel Redding, MPH\**; *Richa Ranade, MPH*
- E117** **Are Medical Students Prepared to Recognize Child Abuse and Neglect? The Evaluation of an Italian Sample**  
*Francesco Lupariello, MD\**; *Francesca Capello, MD*; *Camilla Bonci, MD*; *Giancarlo Di Vella MD, PhD*

**E118 Characterizing the Use of Blind Verification and Blind Proficiency Testing at Forensic Laboratories**  
*Anni Hong, BS\**; *Sharon Kelley, JD, PhD*; *Brett Gardner, PhD*; *Robin Mejia, MPH, PhD*

**E119 A Million Little Pieces: Pursuing Justice Through Methodology in Evidence**  
*Michela Ferrara, MD\**; *Giovanni Pollice, MD*; *Giovanni Gurgoglione, MD*; *Elena Giacani, MD*; *Stefania De Simone, MD*; *Francesco Sessa, MS*; *Giuseppe Bertozzi, MD*

## Standards, Management, & Best Practice

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*Moderator:*

TBD

*Co-Moderator:*

TBD

- 1:00 p.m. – 1:15 p.m. **E120 Taking a Sniff Ahead: Updates on the Development of National Standards for Canine Detection Applications**  
*Paola Prada-Tiedemann, PhD\**; *Kenneth Furton, PhD*; *Suzanne Perry*; *Cynthia Otto, PhD*
- 1:15 p.m. – 1:30 p.m. **E121 Standards Development Activities in Medicolegal Death Investigation**  
*Kelly A. Keyes, BS\**
- 1:30 p.m. – 1:45 p.m. **E122 Evidence Management and the Forensic Lab: Results From a Nationwide Survey of Evidence Handlers**  
*Shannan Williams-Mitchem, MPP\**
- 1:45 p.m. – 2:00 p.m. **E123 A National Perspective of How Unidentified Human Remains Are Handled in the United States Using a 2018 Census of Medical Examiner and Coroner Office Data**  
*Ashley Rodriguez\**; *Kelly Keyes*; *Christopher Williams*; *Donia Slack*; *Stirling Cummings*; *Jeri Roper Miller, PhD*; *Patricia Melton*
- 2:00 p.m. – 2:15 p.m. **E124 Variation in Laboratory Policies and Procedures Related to Interpretation of DNA Mixtures**  
*R. Austin Hicklin, PhD\**; *Nicole Richetelli, PhD*; *Mitch Holland, MS*; *Robert Bever, PhD*; *Lauren Brinkac, MS*; *Jonathan Davoren, MS*
- 2:15 p.m. – 2:30 p.m. **E125 Toward the Quantitative Evaluation of Pattern Evidence**  
*Alicia Carriquiry, PhD\**
- 2:30 p.m. – 2:45 p.m. **E126 Border Police Officers Versus Automatic Border Control Systems**  
*Andrijana Filko\**
- 2:45 p.m. – 3:00 p.m. **E127 New Jersey's Drug Monitoring Initiative: Developing Forensic Intelligence to Identify Drug Trends, Support Law Enforcement Investigations, and Share Information With Laboratory and Public Health Partners**  
*Adam Polhemus, BA\**; *Jason Piotrowski, BS*
- 3:00 p.m. – 3:15 p.m. **BREAK**

## Forensic Training & Education

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Moderator:

TBD

Co-Moderator:

TBD

- 3:15 p.m. – 3:30 p.m.    **E128**    **How Educators in the American Academy of Forensic Sciences (AAFS) Have Met and Surpassed the Challenges of Providing Forensic Science Education During COVID-19 to Produce Improved Education and Training for the Modern Forensic Science World**  
*Stewart Walker, PhD\**
- 3:30 p.m. – 3:45 p.m.    **E129**    **Integrating Cold Case Investigations in Forensic Science Education: Student Engagement in Research, Information Literacy, and Data Visualization**  
*Krystal Hans, PhD\*; Rachael Rosselet, MPhil*
- 3:45 p.m. – 4:00 p.m.    **E130**    **Examples and Lessons Learned From Virtual Reality Simulation Inclusion in Forensic Humanitarian Training**  
*Ivett Kovari, PhD\*; Sherry Fox, PhD; Pierre Guyomarc’h, PhD; Melissa Kiehl; Christian Rouffaer; Xuan Wei; Kristy Winter*
- 4:00 p.m. – 4:15 p.m.    **E131**    **Mental Health and Resilience Education for Forensic Science Students**  
*Karen Woodall, PhD\*; Grace Gregory-Alcock, BSc*
- 4:15 p.m. – 4:30 p.m.    **E132**    **Understanding Foundational Ethical Content Necessary for Educating Future Forensic Scientists**  
*Sarah McKendrick, BA\*; Lyndsie Ferrara, PhD, Pamela Marshall, PhD, Sara Bitner MS; James Schreiber PhD*
- 4:30 p.m. – 4:45 p.m.    **E133**    **Bias—It’s Not Just in Your Numbers: The Importance of Teaching Unconscious Bias in Forensic Education**  
*Charla Skinner Perdue MS, MFS\**
- 4:45 p.m. – 5:00 p.m.    **E134**    **Facing the Field: An Innovative Virtual Reality Training for Recoveries in Weapon Contaminated Environments**  
*A. Skylar Joseph, MS\*; Xuan Wei MA; Ryan Yates, BSc; Daniel Perkins, MEng; Pierre Guyomarch, PhD*