

# CRIMINALISTICS

---

## Wednesday

### Poster Session

---

- 11:30 AM – 1:00 PM    **B1**    **What's In It For Me (WIIFM)?: Streamlining Sexual Assault Evidence From Collection to Analysis to Achieve the Best Outcome for the Survivor**  
*Fernanda Henry, BSc, MSc\*; Joy Quinlan, BSc; Valerie Mattimore Fuller, PhD, BS; Alikar Compton, BSc*
- 11:30 AM – 1:00 PM    **B2**    **The Remains of the Crime: An Assessment of Body Fluid Identification Over Time**  
*Francisco Medina Paz, PhD; Brandon L. Kuba, BS; Emily Kryvorutsky; M. Gabriela Roca, MSc, PhD\*; Sara C. Zapico, PhD*
- 11:30 AM – 1:00 PM    **B3**    **Dry Vacuum Recovery of DNA From Fabric**  
*Emily Sam-Zee-Moi, BS\*; Mechthild Prinz, MS, PhD*
- 11:30 AM – 1:00 PM    **B4**    **An Initial Investigation of the Applied Biosystems® SeqStudio™ Genetic Analyzer for Human Identification Purposes**  
*Brayleigh Keefe, BS\*; Megan Foley, MSFS; Nicole Novroski; Fabio Oldoni, PhD*
- 11:30 AM – 1:00 PM    **B5**    **A Morphological and Genetic Characterization of the Psychoactive Species *Psilocybe Cubensis* From Forensic Samples**  
*Ivana Horjan Zanki; Adela Makar, PhD; Andrea Ledić\**
- 11:30 AM – 1:00 PM    **B6**    **The Persistence of Wearer DNA on Clothing After Laundering**  
*Rachel Breitenstein, MS\*; Shawn Montpetit, MS; Ismail M. Sebetan, MD, PhD\*; Paul Stein, PhD\**
- 11:30 AM – 1:00 PM    **B7**    **A Multi-Species Reference Ladder Using Two PCR Multiplexes for the Rapid Identification of Most Domestic Animals for Forensic Purposes**  
*Vallarie Ostenson, MS; Lindsey Kaufman, MS; DeEtta Mills, PhD\**
- 11:30 AM – 1:00 PM    **B8**    **Advancing Semen Detection Techniques With Sperm Tracker STK® in Real Case Scenarios and Diverse Environments**  
*Monica Omedei, PhD\*; Selena Cisana, PhD; Aurora Desogus; Giorgia Ferrero; Florian Tharin; Paolo Garofano, PhD; Eugenio Alladio*
- 11:30 AM – 1:00 PM    **B9**    **Into the "Sexome": Genital Microbiome Transfer and Applications**  
*Julia Wang, BS, MS\*; Rachel Houston, PhD; Sheree R. Hughes, BSc, PhD; Brendan Chapman; Ruby Dixon, BS*
- 11:30 AM – 1:00 PM    **B10**    **The Adaptation, Optimization, and Validation of a Semi-Automated DNase I-Based Differential Extraction Procedure on the Beckman Coulter Biomek NX<sup>P</sup> Automation Workstation**  
*Susan A. Greenspoon, PhD\*; William Eggleston, PhD; Cathryn Shannon, BS, MS*
- 11:30 AM – 1:00 PM    **B11**    **From Tecan to Hamilton: Material Modification of Applied Biosystems™ PrepFiler™ Automated Extraction**  
*Cristina L. Servidio, MFS\*; Rachel H. Oefelein, MSc; Brittany Stirmell, MSFS*
- 11:30 AM – 1:00 PM    **B12**    **An Evaluation of the Effectiveness of Flow Cytometry in Sperm Testing in Mixed Semen Specimen**  
*Fang Chun Chung\*; Chun-Yen Lin; Kuan-Miao Yeh; Yeh-Lin Lu; Chun Changou*

# CRIMINALISTICS

---

11:30 AM – 1:00 PM	<b>B13</b>	<b>An Examination of Vaginal Swab Cross-Reactivity in Presumptive Saliva Testing</b> <i>Emily Wiesen, MS, BS*</i>
11:30 AM – 1:00 PM	<b>B14</b>	<b>Mitochondrial DNA Sequencing for Forensic Human Identification in a Saudi Arabian Context</b> <i>Dina Al Oraer, PhD*</i>
11:30 AM – 1:00 PM	<b>B15</b>	<b>An Application of Chemometrics-Assisted ATR/FTIR Spectroscopy for the Identification of Human Biological Stains Exposed to Different Environmental Conditions and Estimation of the Time Since Deposition</b> <i>Anna Barbaro, PhD*; Cristina Cano; Fernando E. Ortega-Ojeda; Carmen García-Ruiz; Gemma Montalvo</i>
11:30 AM – 1:00 PM	<b>B16</b>	<b>Cellular Autofluorescence for the Determination of Time Since Deposition of Blood Samples</b> <i>Hannah Elizabeth Lamer, BS*; Christopher Ehrhardt, PhD, BS; Catherine Cupples Cannon, PhD, MSFS; Susan A. Greenspoon, PhD</i>
11:30 AM – 1:00 PM	<b>B17</b>	<b>The Accuracy of Semen Presumptive Testing</b> <i>Heather Rogers*; Rhonda Williams, PhD</i>
11:30 AM – 1:00 PM	<b>B18</b>	<b>The Developmental Validation Testing of the Integrated Quantifiler™ Trio-HRM Assay</b> <i>Chastyn Smith*; Edward Boone, PhD; Tracey Dawson Green, PhD</i>
11:30 AM – 1:00 PM	<b>B19</b>	<b>A Qualitative Analysis of Natural, Synthetic, and Semi-Synthetic Cannabinoids in Vape Products by GC/MS</b> <i>Mikayla Siegfried*; Joshua S. DeBord, PhD; Alex J. Krotulski, PhD; Heather L. Harris, MFS, JD</i>
11:30 AM – 1:00 PM	<b>B20</b>	<b>Quantifying Cannabinoids in Complex Matrices</b> <i>Michael W. Gilbert, BS; Reta Newman, MA*</i>
11:30 AM – 1:00 PM	<b>B21</b>	<b>Seized Drugs: Carrier Gas Conversion of Helium to Hydrogen for GC/MS and GC/IR Instruments</b> <i>Cody Woltz*; Sadie Kasten*</i>
11:30 AM – 1:00 PM	<b>B22</b>	<b>The Structural Characterization of Nitazene Analogs Using Electron Ionization/Mass Spectrometry (EI/MS)</b> <i>Emma Hardwick, BA*; J. Tyler Davidson, PhD</i>
11:30 AM – 1:00 PM	<b>B24</b>	<b>The Loss of Latent Fingerprint Visual Quality: Natural Degradation vs. Depletion Series</b> <i>Josep De Alcaraz-Fossoul, PhD*</i>
11:30 AM – 1:00 PM	<b>B25</b>	<b>The Optimized Separation of Cannabis Terpenes/Terpenoids Via GC/EI/MS</b> <i>Kristina Martinet*; James V. DeFrancesco, PhD; Emma Humphreys, BS</i>
11:30 AM – 1:00 PM	<b>B26</b>	<b>The Quantitation of Furanocoumarins in Grapefruit Supplements Using High-Performance Liquid Chromatography</b> <i>Nequa Griffin, MSFS*; Ellen H. Hondrogiannis, PhD</i>
11:30 AM – 1:00 PM	<b>B27</b>	<b>Ag-Ligand Ion Complexation: An Alternative Approach for Hemp and Marijuana Differentiation</b> <i>Alleigh N. Couch, BS*; Jayleigh M. Lanza, BS; Christopher M. Zall, PhD; J. Tyler Davidson, PhD</i>
11:30 AM – 1:00 PM	<b>B28</b>	<b>A Workflow for the Rapid Analysis of Trace Drug Residues Collected From Used Paraphernalia</b> <i>Meghan G. Appley, PhD*; Elizabeth Robinson, MS; Edward Sisco, PhD</i>

# CRIMINALISTICS

---

- 11:30 AM – 1:00 PM    **B29**    **A Homemade Bomb Mistaken for a Terroristic Attack: A Variety of Forensic Analyses Can Help Substantiate the Investigations**  
*Irene Pradelle, MD\**; *Michele Carpinteri, MD*; *Laura Camilla Gasparini, MD*; *Luca Diani, MD*; *Giada Rovito, MD*; *Margherita Neri, MD PhD*
- 11:30 AM – 1:00 PM    **B30**    **Hidden Traces: An Alternative Analytical Scheme for Seized Drug Analysis**  
*J. Tyler Davidson, PhD\**; *Alleigh N. Couch, BS*
- 11:30 AM – 1:00 PM    **B31**    **Matricide: When Psycho-Social Fragilities Lead to Murder**  
*Laura Camilla Gasparini, MD\**; *Michele Carpinteri, MD*; *Giada Rovito, MD*; *Luca Diani, MD*; *Irene Pradelle, MD*; *Matteo Fabbri, PhD, MSc*; *Matteo Marti*; *Rosa M. Gaudio, MD, PhD*; *Raffaella Marino, MD*; *Letizia Alfieri, MD*; *Margherita Neri, MD, PhD*
- 11:30 AM – 1:00 PM    **B32**    **Quantitation of Lysergic Acid Diethylamide (LSD) Using HPTLC**  
*Tori Schaffer, BS, MSFS\**; *Sandra E. Rodriguez-Cruz, PhD*; *Jeanne R. Berk, PhD, LLB*; *Thomas A. Brettell, MS, PhD*
- 11:30 AM – 1:00 PM    **B33**    **Reviewing the Utility of Fentanyl Test Strips for the Screening of Seized Drugs**  
*Annie Myshak, BS, MFS\**; *Ira Saul Lurie, PhD*; *Alexandra Evans, MFS, BS*; *Bailey Jones, MSFS*; *Ashley N. Stallworth, MS*
- 11:30 AM – 1:00 PM    **B34**    **The Odor Behind a Shot: Chemical Characterization of Volatiles From Ammunition**  
*Salem Danielle Smith\**; *Paola A. Prada-Tiedemann, PhD*
- 11:30 AM – 1:00 PM    **B56**    **Toxic Adulterant Prevalence in the United States Illicit Drug Supply: Geographical Trends and Raising Awareness Regarding Their Dangers to Promote Public Health**  
*Mia Borrelli, MS, BS\**; *Melissa F. Hehir*; *Trisha Conti*; *Ryan Farrell*; *Nicole Lattanzio, MSFS*; *Sarah A. Shuda, MSFS*; *Amanda L.A. Mohr, MS*; *Thom Browne, MA*; *Barry K. Logan, PhD*

## Thursday

### Poster Session

---

- 11:30 AM – 1:00 PM    **B23**    **The Effect of Solid Copper Bullets on Barrel Rifling Characteristics**  
*Natali Hassett, BS\**; *Eric Law, PhD*
- 11:30 AM – 1:00 PM    **B35**    **An Analysis of Improved Methods for the Genetic Identification of Cremated Skeletal Remains**  
*Kadir Dastan\**
- 11:30 AM – 1:00 PM    **B36**    **An Examination of the E22 Connect Fx for Extra-Large Volume DNA Extraction and Purification From Skeletal Samples**  
*Jennifer L. Snedeker, BS\**; *Sheree R. Hughes, BSc, PhD*; *Rachel Houston, PhD*
- 11:30 AM – 1:00 PM    **B37**    **The Development of a Custom qPCR Multiplex to Quantify Human and Microbial DNA**  
*Miriam Foster\**; *Mitchell M. Holland, PhD*; *Jennifer McElhoe*
- 11:30 AM – 1:00 PM    **B38**    **The Reassociation of Highly Degraded Human Remains Found in the East Marshall Street Well Using Insertion/Null Genotyping**  
*Sierra Laveroni\**; *Andrea Malchow\**; *Daniela Frausto, MS*; *Michelle M. Woo, MS, BS*; *Baneshwar Singh, PhD*; *Filipa Simao*; *Tal Simmons, PhD*
- 11:30 AM – 1:00 PM    **B39**    **An Overview of Cannabis Seizures and Methods for Distinguishing Between Cannabis and Hemp in Croatia**  
*Slavena Cukrov Bezbradica, PhD*; *Lucija Barbarić, PhD*; *Kristina Jurković, PhD\**; *Adela Makar, PhD*; *Maja Jelena Čop, PhD*; *Andrea Ledić*

# CRIMINALISTICS

---

11:30 AM – 1:00 PM	<b>B40</b>	<b>An Efficient Alternative to the Conventional Bone Pulverization Step for Personal Identification in 11 Real Forensic Caseworks</b> <i>Chiara Della Rocca, PhD*</i> ; <i>Gavino Piras</i> ; <i>Alessandro Mameli</i>
11:30 AM – 1:00 PM	<b>B41</b>	<b>Investigative Single Cell Genetics: Determining the Probability of a Genotype After Observing Single-Cell Data Enables Robust Database Searches Regardless of Mixture Complexity</b> <i>Qhawe A. Bhembe, MS*</i> ; <i>Nidhi Sheth, MS</i> ; <i>Leah M. O'Donnell, BSc, MSc</i> ; <i>Ken R. Duffy, PhD</i> ; <i>Desmond S. Lun, PhD</i> ; <i>Catherine M. Grgicak, PhD</i>
11:30 AM – 1:00 PM	<b>B42</b>	<b>Locus Abundance Variation by ForenSeq™ DNA Signature Prep Kit Lot</b> <i>Kim Eskey, MS, BS*</i> ; <i>Kyleen Elwick, PhD</i> ; <i>Sana Enke</i> ; <i>Claire Levy</i> ; <i>Marie Lovett</i> ; <i>April Manzella, BA</i> ; <i>Christina Scott, MS, BA</i> ; <i>Rebecca S. Just, PhD</i>
11:30 AM – 1:00 PM	<b>B43</b>	<b>Genotyping Strategies for Tissues Fixed With Various Embalming Fluids for Human Identification, Databasing, and Traceability</b> <i>Cassidy Callaway*</i> ; <i>Madeline Ashton, BSc</i> ; <i>Natalia Czado, BS, MSFS</i> ; <i>Sheree R. Hughes, BSc, PhD</i>
11:30 AM – 1:00 PM	<b>B44</b>	<b>The Development of a Facial Phenotype Prediction Method Using Korean 3D Craniofacial Images and SNPs</b> <i>Won Joon Lee</i> ; <i>Joon Yeol Ryu*</i> ; <i>Hyobong Jang*</i> ; <i>Eunseo Park</i> ; <i>Eunsoon Shin</i> ; <i>Sohee Cho, PhD</i> ; <i>Jong Eun Lee</i> ; <i>Soong Deok Lee, MD, PhD</i>
11:30 AM – 1:00 PM	<b>B45</b>	<b>The Development of Reagents, Software, and a Database for Kinship Determination in Missing Persons, Disaster Victims, and Human Rights Violation Cases</b> <i>Gothami A. Padmabandu, MS*</i> ; <i>Joana Antunes, PhD</i> ; <i>Sarah M. Radecke</i> ; <i>Michaela Russo</i> ; <i>Erin McCarthy, BS</i> ; <i>Juan Carlos Perez, BS</i> ; <i>Kathryn M. Stephens, PhD</i>
11:30 AM – 1:00 PM	<b>B46</b>	<b>A 353-Plex Panel for Forensic Identification Based on Massively Parallel Sequencing Technology</b> <i>Yingying Cheng*</i> ; <i>Qiujuan Wang, PhD</i> ; <i>Dong Li</i> ; <i>Bowen Li</i> ; <i>Shengjie Gao</i> ; <i>Kunjie Pang, MS, BS</i> ; <i>Xianhua Jiang</i> ; <i>Hongqi Wang</i> ; <i>Xiaosen Guo*</i>
11:30 AM – 1:00 PM	<b>B47</b>	<b>Differentiating Marijuana From Hemp Using an NGS Panel and Rapid Genotyping Assays Targeting Cannabinoid Synthase Genes</b> <i>Ya-Chih (Jessica) Cheng, MS*</i> ; <i>Rachel Houston, PhD</i>
11:30 AM – 1:00 PM	<b>B48</b>	<b>Challenges of DNA Profiling After Firefighting Plane Crash: The Influence of Kerosene Biodegradation on Human Remains</b> <i>Francesco Sessa, MS, PhD*</i> ; <i>Martina Francaviglia, MD</i> ; <i>Giuseppe Cocimano, MD</i> ; <i>Salvatore Rocuzzo, MD</i>
11:30 AM – 1:00 PM	<b>B49</b>	<b>The Development of a Multiplex SNP Genotyping RT-PCR Kit for Screening of Non-Koreans</b> <i>Seyoung Nam*</i> ; <i>Si-Keun Lim</i> ; <i>Yukyoungh Sin</i>
11:30 AM – 1:00 PM	<b>B50</b>	<b>The Utilization of a Single Nucleotide Variant (SNV) Panel for the Confirmation of Sample Identity in Two Clinical Genomics Applications</b> <i>Mariana Voudouri, MD*</i> ; <i>Donald Green, BS</i> ; <i>Sophie Deharvengt</i> ; <i>Joel Lefferts, PhD</i> ; <i>Wahab A. Khan, PhD</i> ; <i>Parth Shah, MD</i>
11:30 AM – 1:00 PM	<b>B51</b>	<b>Examining the Risk Associated With Qualitative Exclusions in Forensic DNA Casework</b> <i>Samantha Orans Wandzek, MS*</i>
11:30 AM – 1:00 PM	<b>B52</b>	<b>STRBase Moving Forward</b> <i>Lisa A. Borsuk*</i> ; <i>Angela Lee</i> ; <i>Peter Vallone, PhD</i>

# CRIMINALISTICS

---

- 11:30 AM – 1:00 PM      **B53**      **Ten Years of Developing and Improving CSI Camps, Forensic Science Educational Conferences, and Science Museum Programs Toward Enhancing Interest, Attitudes, and Motivation in Forensic Science**  
*Steven B. Lee, PhD\**; *Mark Okuda, MS*; *Bruce R. McCord, PhD*; *Sara C. Zapico, PhD*;  
*Sharon L. Plotkin, EdD*; *Margie Phipps, MS*; *Analisa Duran, MS*; *Mary Juno, MSc*
- 11:30 AM – 1:00 PM      **B54**      **A Longitudinal Study on the Odor Stability of Decomposition Simulated Training Aids Under Freezing Conditions**  
*Jonathan Bateman Locke\**; *Andrea Medrano, MS, BS*; *Paola A. Prada-Tiedemann, MS, BS*;  
*Chris Holleyman*
- 11:30 AM – 1:00 PM      **B55**      **A Pre-Concentrating Polymer Coating for Improved Detection of Fentanyl and Fentanyl Analogs**  
*Galpayage Dona Thouli Lochana Jayawardana, BSc\**; *Lauryn DeGreeff, PhD*;  
*Ashley Fulton, PhD*; *Braden C. Giordano, PhD*
- 11:30 AM – 1:00 PM      **B57**      **An Analysis of Plant Fragments Using X-Ray Fluorescence Spectrometry and X-Ray Absorption Fine Structure Technique Utilizing Synchrotron Radiation**  
*Suzuha Kurosugi\**; *Yoshinori Nishiwaki*; *Masanobu Mori*
- 11:30 AM – 1:00 PM      **B58**      **An Analysis of Single Synthetic Fibers by Metallic Components in Dyes by Nanobeam X-Ray Fluorescence Imaging and X-Ray Absorption Fine Structure Technique Utilizing Synchrotron Radiation**  
*Keita Miyazaki, BA\**; *Yoshinori Nishiwaki*; *Masanobu Mori*
- 11:30 AM – 1:00 PM      **B59**      **The Application of the Expert Algorithm for Substance Identification (EASI) to the Mass Spectra of Various Bath Salts (Synthetic Cathinones)**  
*Glen P. Jackson, PhD\**; *Alexandra I. Adeoye, MS*; *Jessica Orris, BS*; *Clarissa McQuain*;  
*Stephen P. Hokanson, BS*
- 11:30 AM – 1:00 PM      **B60**      **An Assessment of a Combined Field-Portable Raman Spectroscopy and Gas Chromatography/Mass Spectrometry Approach for the Analysis of Seized Drugs**  
*Christina Chang, BS\**; *Geraldine Monjardez, PhD*; *J. Tyler Davidson, PhD*
- 11:30 AM – 1:00 PM      **B61**      **An Assessment of Odorant Permeability for Canine Training Aid Mimics in Different Containers Utilizing HS/SPME-GC/MS**  
*Kayla Hogan, BS\**; *Katherine Dias Castro, BS*; *Janet M. Crespo Cajigas, MS, BS*;  
*Lauryn DeGreeff, PhD*; *Kenneth G. Furton, PhD*
- 11:30 AM – 1:00 PM      **B62**      **Color, Monogram, and Physical Measurements of Illicitly Manufactured Fentanyl Tablet Exhibits Seized Along the United States Southwestern Border**  
*Joshua William Kotchey, MS, BA\**; *Joshua S. DeBord, PhD*; *Sarah A. Shuda, MSFS*;  
*Mia Borrelli, MS, BS*; *Amanda L.A. Mohr, MS*; *M.J. Menendez, JD*; *Thom Browne, MA*;  
*Barry K. Logan, PhD*
- 11:30 AM – 1:00 PM      **B63**      **The Detection of Airborne Methamphetamine in Contaminated Properties and Vehicles Using Active Air Sampling With Liquid Chromatography/Mass Spectrometry (LC/MS)**  
*Gemma L. Kerry\**; *Emma J. Kuhn, BSc*, *Jackie Wright, PhD*; *Kirstin E. Ross, PhD, BSc*;  
*Stewart Walker, PhD, BSc*
- 11:30 AM – 1:00 PM      **B64**      **The Development of a Gas Chromatography/Mass Spectrometry/Selected Ion Monitoring (GC/MS/SIM) Method for Analyzing Adulterated Nitazene Samples**  
*Alexa Mehlman\**; *Alexandra Evans, MFS, BS*; *Ashley N. Stallworth, MS*

# CRIMINALISTICS

---

11:30 AM – 1:00 PM	<b>B65</b>	<b>The Development of a Novel Nanocomposite Using Polypyrrole and Single-Walled Carbon Nanotubes for Headspace Solid Phase Microextraction of Alkanes in Forensic Ignitable Liquid Analysis</b> <i>Ting-Yu Huang, MS*; Jorn Yu, PhD</i>
11:30 AM – 1:00 PM	<b>B66</b>	<b>Enhanced Ignitable Liquid and Substrate Database Functionality for Improved Casework and Research</b> <i>Michael E. Sigman, PhD*; Nikhil Prakash, MS*; Mary R. Williams, MSc; Larry Tang, PhD</i>
11:30 AM – 1:00 PM	<b>B67</b>	<b>An Estimation of Dyeing Methods From Wool Single Fibers by Nanobeam X-Ray Fluorescence Imaging Utilizing Synchrotron Radiation</b> <i>Yoshinori Nishiwaki*</i>
11:30 AM – 1:00 PM	<b>B68</b>	<b>How to Minimize the Presence of Drug Residues on the Exterior of Drug Evidence Packaging After Analysis</b> <i>Elizabeth Robinson, MS*; Edward Sisco, PhD; Rebecca Mead, MS</i>
11:30 AM – 1:00 PM	<b>B69</b>	<b>The Identification and Classification of Major Cannabinoids Using Raman Microscopy, Chemometrics, and a Novel Artificial Intelligence Approach</b> <i>John Hugo Laetsch, BS*; Jose Grijalva, MS; Ting-Yu Huang, MS; Patrick Buzzini, PhD; Jorn Yu, PhD; J. Tyler Davidson, PhD; Geraldine Monjardez, PhD</i>
11:30 AM – 1:00 PM	<b>B70</b>	<b>One Gunshot Is Not Enough: A Case of Suicide by Double Gunshot Wound to the Head and a Literature Review</b> <i>Eleonora Mezzetti, MD*; Federica Spina, MD; Laura Panata, MD; Isabella Mercurio, MD; Massimo Lancia, MD; Marco Di Paolo, MD</i>
11:30 AM – 1:00 PM	<b>B71</b>	<b>The Optimization of Sample Preparation Procedures for the Determination of <math>\Delta^9</math>-THC and Its Isomers in Seized Cannabis Oils, Concentrates, and Vapes by LC-PDA</b> <i>Walter B. Wilson, PhD*</i>
11:30 AM – 1:00 PM	<b>B72</b>	<b>WITHDRAWN</b>

## Thursday—Session I

### Standards, Policies, and Surveys

---

Moderator: Charlotte Word, PhD

8:45 AM – 9:00 AM	<b>B73</b>	<b>Standards Development Activities in Human Forensic Biology</b> <i>Jillian Conte, PhD*</i>
9:00 AM – 9:15 AM	<b>B74</b>	<b>Human Factors in Forensic DNA Handbook Recommendations in Practice</b> <i>Tiffany A. Roy, BS, JD, MSFS*; Sasha B. Colvin, BS*</i>
9:15 AM – 9:30 AM	<b>B75</b>	<b>Speak Now: To Be a Part of the People That Make Meaning</b> <i>Nancy Dinh, BS, MS*</i>
9:30 AM – 9:45 AM	<b>B76</b>	<b>Processing Gun Crimes in NYC: How the Department of Forensic Biology Was Able to Meet a 30-Day Turnaround Time</b> <i>Craig O. O'Connor, PhD*; Katey Nori, MSFS</i>

# CRIMINALISTICS

---

9:45 AM – 10:00 AM    **B77**    **A Global Survey on Activity-Level DNA Evaluative Reporting**  
*Devyn Pirtle, BS\**; *Mechthild Prinz, MS, PhD*; *Fabio Oldoni, PhD*

10:00 AM – 10:15 AM    **BREAK**

## Trace and Touch DNA

---

Moderator: Robin Cotton, PhD

Co-Moderator: Kristy Kadash, PhD

10:15 AM – 10:30 AM    **B78**    **An Investigation of Handling Time on the Deposition and Persistence of Trace DNA in Pickpocket Scenarios**  
*Lauren Hoopes, BS\**; *Tiffany A. Kreidler, BS*; *Bas Kokshoorn, PhD*; *Fabio Oldoni, PhD*

10:30 AM – 10:45 AM    **B79**    **An Evaluation of Transfer, Persistence, and Recovery of Touch DNA From Mobile Phones**  
*Ashley J. Moo-Choy, MSc\**; *Jamie E. McGregor, HBSc*; *Nicole Novroski*

10:45 AM – 11:00 AM    **B80**    **The Design of a Protocol for Detecting Trace DNA From Skin-to-Skin Contact in a Mock Physical Assault Scenario**  
*McKenna Bonn-Savage, BS\**; *Bas Kokshoorn, PhD*; *Megan Foley, MSFS*; *Fabio Oldoni, PhD*

11:00 AM – 11:15 AM    **B81**    **Direct PCR Amplification for Forensic DNA Profiling From Adhesive Tape-Lift Samples**  
*Kevin W.Y. Chong, PhD\**; *Hui Yin Tan*

11:15 AM – 11:30 AM    **B82**    **The Success Rate of Touch DNA**  
*Jill Snyder\**; *Kaitlyn M. Adams\**

11:30 AM – 11:45 AM    **B83**    **Total Human DNA Sampling**  
*Colino Neves\**; *Martin Zieger, PhD*

11:45 AM – 12:00 PM    **B84**    **A Combined Method to Locate and Improve DNA Recovery From Fabrics**  
*Makenzie Michelle Driever, BS\**; *Rhonda Williams, PhD*

12:00 PM – 1:00 PM    **BREAK**

## Body Fluid ID

---

Moderator: Amy Brodeur, MFS

1:00 PM – 1:15 PM    **B85**    **The Identification of MicroRNAs for Forensic Biofluid Detection Using a MicroRNA Expression Profiling Method**  
*Xiaomeng Yang, MS\**; *Amy N. Brodeur, MFS*; *Robin W. Cotton, PhD*; *Isabel Luisa Tan Palanca, MS*

1:15 PM – 1:30 PM    **B86**    **A Microfluidic Approach Toward Automated Forensic Differential Extraction of DNA-Based Sexual Assault Evidence**  
*Larissa L. Cunha, BS\**; *M. Shane Woolf*; *Sadie Kiendzior, BS*; *Kelsey O'Neill, BS*; *Ellaha Momand, BS*; *James P. Landers, PhD*

1:30 PM – 1:45 PM    **B87**    **A Comparative Analysis of Swabbing Solutions for Sexual Assault Evidence: The Direct Impact on Spermatozoa and DNA Recovery**  
*Olivia Quinn Kassie, BS\**; *Sarah Seashols Williams, PhD*; *Laura Gaydosh Combs, PhD*

1:45 PM – 2:00 PM    **B88**    **The Discovery of Additional Male-Specific Protein Markers in Semen: Potential Applications for the Processing of Sexual Assault Evidence**  
*Glendon Parker, PhD\**; *Kyle Burk, MSc*; *Mirna Ghemrawi, PhD, MSFS*

# CRIMINALISTICS

---

2:00 PM – 2:15 PM	<b>B89</b>	<b>A Portable Microfluidic System for Rapid Serological Analysis of Forensically Relevant Body Fluids</b> <i>Taylor Grace Chambers, PhD*</i> ; Larissa L. Cunha, BS; Renna L. Nouwairi, BS; Tiffany Layne, PhD; Liam Barry, MS; Rachel Flemming, PhD; James P. Landers, PhD
2:15 PM – 2:30 PM	<b>B90</b>	<b>To Test or Not to Test for Body Fluids: The Integration of Body Fluid Identification and Direct PCR in One Workflow</b> <i>Sara C. Zapico, PhD*</i> ; Francisco Medina Paz, PhD; Christian Stadler, PhD; M. Gabriela Roca, MSc, PhD; Santina Castriciano, BS
2:30 PM – 2:45 PM	<b>B91</b>	<b>The Development of a Novel Multiomic Assay for Biofluid Identification</b> <i>Amy N. Brodeur, MFS*</i> ; Angela Proctor, PhD; David Korest, BS
2:45 PM – 3:00 PM	<b>B92</b>	<b>A Comparison of Traditional Serological Techniques and DNA Methylation for the Identification of Body Fluids</b> <i>Mirna Ghemrawi, PhD, MSFS*</i> ; Justin Frye, MSFB; Lindsay Loughner Kotchey, MS; Leah Nangeroni, BS
3:00 PM – 3:15 PM	<b>B93</b>	<b>Alternative Direct-to-Amplification Cell Lysis Techniques for Forensically Relevant Non-Sperm Cells</b> <i>Rhea Arya*</i> ; Brittany C. Hudson; Tracey Dawson Green, PhD
3:15 PM – 3:30 PM		<b>BREAK</b>

## FIGG, Ancestry, Predictive Modeling

---

Moderator: Baneshwar Singh, PhD

Co-Moderator: Amelia Bussell, MSFS

3:30 PM – 3:45 PM	<b>B94</b>	<b>Decoding the Ocular Region From DNA: Building Predictive Models in Forensic Contexts</b> <i>Belen Navarro Lopez, MS*</i> ; Victoria Suarez-Ulloa, PhD; Ruben Martos-Fernandez, PhD; Miriam Baeta Bafalluy, PhD; Oscar Ibáñez Panizo, PhD; Rebeca Guerrero; Begoña Martínez Jarreta, MD; Susana Jimenez Moreno, MD; Marian M. de Pancorbo, PhD
3:45 PM – 4:00 PM	<b>B95</b>	<b>Targeted SNP Typing for Forensic Genetic Genealogy Using Hybridization Capture</b> <i>Rebecca S. Just, PhD*</i> ; Sana Enke; Karla Y. Garcia, PSM, BS; Rebecca Mitchell, PhD; Michelle P. Ackermann, MS
4:00 PM – 4:15 PM	<b>B96</b>	<b>Genetic Ancestry of the Unidentified Human Remains From the East Marshall Street Well</b> <i>Filipa Simao*</i> ; Baneshwar Singh, PhD; Tal Simmons, PhD
4:15 PM – 4:30 PM	<b>B97</b>	<b>Estimating the Return on Investment on Forensic Investigative Genetic Genealogy: Using the Golden State Killer and the University of Idaho Cases as Case Models</b> <i>Ray A. Wickenheiser, DPS, MBA*</i> ; Rachel H. Oefelein, MSc; Swathi A. Kumar, PhD
4:30 PM – 4:45 PM	<b>B98</b>	<b>A Comparative Evaluation of Illumina® Global Screening Array BeadChip, Whole Genome Sequencing, and Verogen™ ForenSeq™ Kintelligence to Analyze Degraded and Low Template DNA Extracted From Semen</b> <i>Sarah Cavanaugh, MSFS*</i> ; Madalyn Bowers, BS; Robert Bever, PhD; Jonathan Davoren, MSc

# CRIMINALISTICS

---

## Thursday—Session II

### Standards Development and Related Activities Strengthening Forensic Science

---

Moderator: Carmen Masters, MSFS

8:30 AM – 8:45 AM	<b>B99</b>	<b>Advances in Canine Science and the Implementation of National Standards</b> <i>Kelvin J. Frank, PhD, MSFS*</i> ; <i>Kenneth G. Furton, PhD</i>
8:45 AM – 9:00 AM	<b>B100</b>	<b>Current and Future Standards Development Activities Related to the Analysis of Seized Drugs</b> <i>Agnes D. Winokur, MS*</i>
9:00 AM – 9:15 AM	<b>B101</b>	<b>Firearms and Toolmarks Standards and Best Practices: A Collaboration of the NIST OSAC and AAFS Standards Board</b> <i>Robert M. Sanger, BA, JD*</i> ; <i>Xiaoyu A. Zheng, MS</i>
9:15 AM – 9:30 AM	<b>B102</b>	<b>OSAC Is Ten Years Old—What Will the Next Decade Bring?</b> <i>Mark D. Stolorow, MS, MBA*</i> ; <i>John Paul Jones, BS, MBA*</i>
9:30 AM – 9:45 AM	<b>B103</b>	<b>Results From an Interlaboratory Study to Evaluate Analytical Schemes in ASTM E2329—Standard Practice for Identification of Seized Drugs</b> <i>Jeremy S. Triplett, MS, BS*</i> ; <i>Michael J. Salyards, PhD, MFS</i> ; <i>Sandra E. Rodriguez-Cruz, PhD</i> ; <i>Jeremiah Morris, BS</i> ; <i>Megan Grabenauer, PhD</i> ; <i>Darryl Creel, MS</i>
9:45 AM – 10:00 AM	<b>B104</b>	<b>Standards Development Activities in Trace Materials</b> <i>Celeste M. Grover, MSFS</i> ; <i>Sandra Koch, PhD*</i>
10:00 AM – 10:15 AM	<b>B105</b>	<b>Standards Development Activities Related to Friction Ridge Examination</b> <i>Heidi Eldridge, PhD, MS*</i> ; <i>Henry Swofford, PhD*</i>
10:15 AM – 10:30 AM	<b>B106</b>	<b>Standards Development Activities Related to Ignitable Liquids, Explosives, and Gunshot Residue</b> <i>Brenda B. Christy, MS*</i>
10:30 AM – 10:45 AM		<b>BREAK</b>

### Forensic Science Principles

---

Moderator: Thaddeus Mostowtt, PhD

10:45 AM – 11:00 AM	<b>B107</b>	<b>A 2024 Update From the Scientific Working Group for the Analysis of Seized Drugs (SWGDRUG)</b> <i>Jaclyn Iera*</i>
11:00 AM – 11:15 AM	<b>B108</b>	<b>The Forensic Science Initiative (FSI): A Pathway to College and STEM Education</b> <i>David Fisher, MS*</i> ; <i>Barbara Elder Weller, EdD*</i> ; <i>Kevin D. Belfield, PhD</i> ; <i>Jacqueline L. Cusack, EdD</i>
11:15 AM – 11:30 AM	<b>B109</b>	<b>What Is the Probability That a True Match Will Appear in the Top K Correlations After a Database Search?</b> <i>Alicia Laura Carriquiry, PhD*</i> ; <i>Heike Hofmann, PhD</i> ; <i>Blanca I. Parker, BS</i> ; <i>Cathryn Barbour, BS</i>
11:30 AM – 11:45 AM	<b>B110</b>	<b>The European Network of Forensic Science Institutes (ENFSI) Guideline for the Calculation of Measurement Uncertainty in Quantitative Forensic Investigation</b> <i>Ivo Alberink, PhD*</i> ; <i>Rosario García-Repetto, PhD</i> ; <i>Maria Luisa Soria Sánchez, PhD</i> ; <i>Jos Tóth, BSc</i>

# CRIMINALISTICS

---

11:45 AM – 1:00 PM

**BREAK**

## Fire Debris and Explosives

---

Moderator: Tiffany Rodriguez, MS

1:00 PM – 1:15 PM

**B111** **A Comparison of Computational and Laboratory-Generated Fire Debris Data**  
*Larry Tang, PhD\**; *Mary R. Williams, MSc*; *Michael E. Sigman, PhD*

1:15 PM – 1:30 PM

**B112** **A Fire Debris Interpretation Using Quantitative Measures of Chromatographic Features in Medium-Range Ignitable Liquids and the Use of Graphical Display to Demonstrate Data Sufficiency**  
*Kelsey R. Winters, MSFS\**; *Brenda B. Christy, MS*

1:30 PM – 1:45 PM

**B113** **An Evaluation of Headspace Solid Phase Microextraction of Diesel Fuel From Cotton Swabs for Forensic Analysis**  
*Ting-Yu Huang, MS\**; *Jorn Yu, PhD*

1:45 PM – 2:00 PM

**B114** **An Evaluation of Tape for the Collection of Ignitable Liquid Residues From Non-Porous and Porous Surfaces**  
*Laird Jarrett\**; *Cynthia J. Kaeser Tran*

2:00 PM – 2:15 PM

**B115** **Expert and AI Opinions: Machine-Assisted Analysis of Fire Debris**  
*Michael E. Sigman, PhD\**; *Mary R. Williams, MSc*; *Frances A. Whitehead, MS*

2:15 PM – 2:30 PM

**B116** **Investigating the Capability of DART®-MS for the Analysis of Common Homemade Explosives**  
*Jared Estevanes, BS\**; *J. Tyler Davidson, PhD*; *Geraldine Monjardez, PhD*; *Alleigh Couch, BS*

2:30 PM – 3:00 PM

**BREAK**

## Drugs

---

Moderator: Beth Saucier Goodspeed, MS

3:00 PM – 3:15 PM

**B117** **Combining Surface-Enhanced Raman Spectroscopy (SERS) and Paper Spray-Mass Spectrometry (PS-MS) for Illicit Drug Detection and Identification**  
*Sevde Dogruer Erkok, MSc*; *Roxanne Gallois*; *Leon Leegwater*; *Pascal Camoiras Gonzalez, MSc*; *Arian van Asten, PhD\**; *Bruce R. McCord, PhD*

3:15 PM – 3:30 PM

**B118** **Evaluating the Sensitivity, Stability, and Cross-Reactivity of Commercial Fentanyl Immunoassay Test Strips**  
*Sandra E. Rodriguez-Cruz, PhD\**

3:30 PM – 3:45 PM

**B119** **Exploring Evidence of Common Origin of Recreational Drug Exhibits by GC/MS**  
*Joshua S. DeBord, PhD\**; *Barry K. Logan, PhD*; *Alex J. Krotulski, PhD*

3:45 PM – 4:00 PM

**B120** **GC Derivative VUV Spectroscopy of JWH-018 Positional Isomers and Select Synthetic Cannabinoid Diastereomers**  
*Annika Dombrowski, BS\**; *Ira Saul Lurie, PhD*

4:00 PM – 4:15 PM

**B121** **The Effect of Spectral Intensity on Mass Spectral Discrimination of Fentanyl Positional Isomers**  
*Isaac C. Willis, BS\**; *Victoria L. McGuffin, PhD*; *Ruth Waddell Smith, PhD*

# CRIMINALISTICS

---

- 4:15 PM – 4:30 PM    **B122**    **The Classification of Cannabinoids Using Mass Spectral Data for the Identification of Novel Synthetic Cannabinoids**  
*Kristopher Charles Evans-Newman, AAS\*; Nuwan T. Perera, PhD; Garion Schneider*
- 4:30 PM – 4:45 PM    **B123**    **A Qualitative and Quantitative Analysis of Particulate Spread During Simulated Illicit Drug Manufacturing: Implications for Collection of Evidence and Crime Scene Safety**  
*Edward Sisco, PhD\*; Matthew Staymates, MS; Luis E. Arroyo, PhD*

## Friday—Session I

### Challenging Samples

---

Moderator: Sheree Hughes, PhD

- 9:00 AM – 9:15 AM    **B124**    **Streamlining the Extraction of Challenging Samples Using the HID NIMBUS® Presto**  
*Kayli Carrillo, BS\*; Jennifer Snedeker, BS; Natalia Czado, BS, MSFS; Sheree R. Hughes, BSc, PhD*
- 9:15 AM – 9:30 AM    **B125**    **The Effects of Oily Contaminants on DNA Extraction Efficiency Using DNA IQ™**  
*Elizabeth Grace Gillece, BS\*; Susan A. Greenspoon, PhD; William Eggleston, PhD*
- 9:30 AM – 9:45 AM    **B126**    **The Development of a Method for Complete Collagenase I Digestion of *Bos Taurus* Bone Samples**  
*Reilly Elizabeth Price, BA\*; Ciara Rhodes, BS; Sarah Seashols Williams, PhD*
- 9:45 AM – 10:00 AM    **B127**    **A Simple Tooth Preparation Method for the Applied Biosystems® RapidHIT™ ID Instrument**  
*Morgan Elizabeth Eaton, BS\*; Shane Woolf, MSFS, PhD; Samyuktha Pemmasani; Tracey Dawson Green, PhD*
- 10:00 AM – 10:15 AM    **B128**    **The Application of Ancient DNA Methodologies to Badly Burned Forensic Samples**  
*Cody E. Parker, PhD\*; Amber Coffman, BS; Erin M. Rawls, BS; Adam B. Rohrlach, PhD; Katelyn L. Bolhofner, PhD; Laura C. Fulginiti, PhD; Giovanna Vidoli, PhD; Joanne Devlin, PhD; Sree Kanthaswamy, PhD; Robert F. Oldt, BS; Anne Stone, PhD*
- 10:15 AM – 10:30 AM    **B129**    **A DNA Analysis of Degraded Skeletal Remains Obtained From the Petrous Bone, Tooth, Femur, Tibia, and Humerus: A Comparison Study**  
*Kadir Dastan\**
- 10:30 AM – 10:45 AM    **BREAK**

### Probabilistic Genotyping

---

Moderator: Kelly Knight, MS

- 10:45 AM – 11:00 AM    **B130**    **Comparing Likelihood Ratios of Degraded DNA Mixture Profiles Using DNA-View® Mixture Solution™**  
*Cameron Filipe, MSFS, BSFS\*; Charles H. Brenner, PhD; Robin W. Cotton, PhD*
- 11:00 AM – 11:15 AM    **B131**    **A Picture Is Worth 10,000 LR: The Evaluation and Implementation of Tools to Improve Interpretation and Reporting of Mixtures Using Probabilistic Genotyping**  
*Tim Kalafut, PhD\*; Michael Coble, PhD*
- 11:15 AM – 11:30 AM    **B132**    **A Comparison of the Two Most Widely Used Probabilistic Genotyping Systems Supports Accuracy and Concordance**  
*Susan A. Greenspoon, PhD\*; Brad Jenkins, BA, MS; Lisa Schiermeier-Wood, BS, MS*

# CRIMINALISTICS

---

11:30 AM – 11:45 AM    **B133**    **Beyond STRs: A Snippet Into the Challenges of Interpreting iiSNPs**  
*Kevin Cheng, PhD, MSc\*; Jo-Anne Bright, PhD*

11:45 AM – 1:00 PM                    **BREAK**

## Next Generation Sequencing

---

Moderator: Pamela Marshall, PhD

Co-Moderator: TBD

1:00 PM – 1:15 PM    **B134**    **An Evaluation of the FORCE Panel on Alternative Reference Materials**  
*Sophie S. Lee, BS\*; Lindsay Loughner Kotchey, MS; Leah Nangeroni, BS;*  
*Kimberly Sturk Andreaggi, PhD; Charla Marshall, PhD; Mirna Ghemrawi, PhD, MSFS*

1:15 PM – 1:30 PM    **B135**    **Variant Allele Characterization in STR Markers Using Next Generation Sequencing**  
*Becky Steffen, MS\*; Lauren Mullen, BS; Grace M. Finch; Katherine Gettings, PhD;*  
*Kevin Kiesler, MS*

1:30 PM – 1:45 PM    **B136**    **Streamlining Degraded Sample Processing in Forensic Laboratories: Developing a Decision Tree for Capillary Electrophoresis and Next Generation Sequencing Platforms**  
*Rachel Houston, PhD\*; Natalia Czado, BS, MSFS; Damani Johnson, BS;*  
*Lucio Avellaneda, BS; Cesar E. Cantu, BS; Sheree R. Hughes, BSc, PhD*

1:45 PM – 2:00 PM    **B137**    **Maximum Recovery of DNA From Degraded Remains**  
*Erin M. Rawls, BS\*; Matthew V. Emery, PhD; Amber Coffman, BS; Stevie Winingear, BS, MS;*  
*Amanda Wissler, PhD; Katelyn L. Bolhofner, PhD; Jane E. Buikstra, PhD;*  
*Laura C. Fulginiti, PhD; Adam B. Rohrlach, PhD; Cody E. Parker, PhD; Anne Stone, PhD*

2:00 PM – 2:15 PM    **B138**    **An Assessment and Validation of the IDseek® mYSTR Reverse Complement PCR Technology for Y-Chromosomal STR Profiling Utilizing the MiSeq® FGx System**  
*Lindsay Loughner Kotchey, MS\*; Brian Young, PhD; Leah Nangeroni, BS;*  
*Mirna Ghemrawi, PhD, MSFS*

2:15 PM – 2:30 PM    **B139**    **Visualizing Sequencing Artifacts in ForenSeq™ NGS Data**  
*Yao-Yuan Liu\*; Kevin Cheng, PhD, MSc; Jo-Anne Bright, PhD*

2:30 PM – 2:45 PM    **B140**    **Expanding the STRSeq BioProject to Support Sequenced-Based STR Nomenclature**  
*Lauren Mullen, BS\*; Katherine Gettings, PhD; Lisa A. Borsuk*

2:45 PM – 3:00 PM    **B141**    **An Exploration of a Sequence-Specific Stutter Model for STR Analysis in Next Generation Sequencing**  
*Damani Johnson, BS\*; Tim Kalafut, PhD*

3:00 PM – 3:15 PM                    **BREAK**

## DNA Potpourri

---

Moderator: Fabio Oldoni, PhD

3:15 PM – 3:30 PM    **B142**    **Using the Chelation Filtration Method to Improve DNA Profile Recovery From Fired Cartridge Casings (FCCs) Prior to DNA Processing**  
*Karin A. Crenshaw; Ariana Harrison\*; Bruce R. McCord, PhD*

# CRIMINALISTICS

---

- 3:30 PM – 3:45 PM    **B143**    **Evaluation of Single Cells Produces Highly Informative Forensic Comparisons Across Multifarious Admixtures**  
*Catherine M. Grgicak, PhD\**; *Desmond S. Lun, PhD*; *Nidhi Sheth, MS*; *Liliana Berrios, BS*;  
*Ken R. Duffy, PhD*
- 3:45 PM – 4:00 PM    **B144**    **Discovering the Mysteries About Degradation of Extracted DNA Stored in Different Conditions: Updates After 400 Days of Testings**  
*Noemi Procopio, PhD, MSc\**; *Luciano Garofano, PhD\**; *Giulia Sguazzi, MA, BA*;  
*Selena Cisana, PhD*; *Paolo Garofano, MD, PhD*; *Pasquale Linarello*; *Monica Omedei, PhD*;  
*Luca Salvaderi, BSc*; *Sarah Gino, MD*
- 4:00 PM – 4:15 PM    **B145**    **Understanding the Stability of Environmental DNA (eDNA) From Four Biological Taxa and Their Association With Soil and Dust Evidence**  
*Teresa Tiedge, MPS\**; *Kelly A. Meiklejohn, PhD*
- 4:15 PM – 4:30 PM    **B146**    **A New Method for Determining Time-Since-Deposition of DNA Samples Containing Saliva and/or “Touch” Epidermal Cells**  
*Thilini M. Chandrasekara, BSc\**; *Dillon S. Ryder*; *Susan A. Greenspoon, PhD*;  
*Christopher Ehrhardt, PhD, BS*
- 4:30 PM – 4:45 PM    **B147**    **A Biological Survey of Nucleated vs. Non-Nucleated Epithelial Cells Within Touch DNA Samples Using Autofluorescence Profiling**  
*Wanyan Cai\**; *Sarah Seashols Williams, PhD*; *Amanda E. Gentry, PhD*;  
*Christopher Ehrhardt, PhD, BS*

## Friday—Session II

### Crime Scene and GSR

---

Moderator: TBD

- 9:00 AM – 9:15 AM    **B148**    **Proactive Crime Scene Response Improves Criminal Investigations**  
*Ray A. Wickenheiser, DPS, MBA\**
- 9:15 AM – 9:30 AM    **B149**    **An Interagency Study of Scene Investigation Using Virtual Reality (VR) Tools**  
*Jaclynn McKay, BS\**; *Kelly Keyes, BS*; *John H. Grassel, MS*; *Edward Hill, BS*;  
*Nicholas Thomas, PhD, MPH*
- 9:30 AM – 9:45 AM    **B150**    **The Presence of Inorganic Gunshot Residue (iGSR) in Police Vehicles: A Study at the Zagreb County Police Administration in Croatia**  
*Sunčica Kuzmić, MChE\**; *Hrvoje Senjes, MS*; *Ivan Jerković, PhD, MSc*
- 9:45 AM – 10:00 AM    **B151**    **The Prevalence of GSR and the Mitigating Quality Procedures at Harris County Institute of Forensic Sciences**  
*Brittany S. Claassen, MS\**; *Audrey Pless*; *Leslie A. Dixon, BS*; *Jason L. Schoeder, MS, MBA*
- 10:00 AM – 10:15 AM    **B152**    **Utilizing Gas Chromatography/Mass Spectrometry (GC/MS) to Determine the Effect of Solvent Extraction Parameters on Forensic Smokeless Powder Analysis**  
*Leighann Rose Weber, BS\**; *Kelli A. Simon, PhD*; *Ryan Bain, PhD*; *Eric Hazelrigg, MS*
- 10:15 AM – 10:30 AM    **BREAK**

# CRIMINALISTICS

---

## Firearms

---

Moderator: TBD

- 10:30 AM – 10:45 AM    **B153**    **Advancements in 3D Technology and Virtual Comparison Microscopy for Ballistic Identification**  
*Logan Eickhoff, BS, BA\**
- 10:45 AM – 11:00 AM    **B154**    **Feature Similarity (FS) and Congruent Matching Features (CMF) Methods for Comparison of Impressed Toolmarks in Firearm Evidence Identification**  
*Junfeng J. Song, PhD\**
- 11:00 AM – 11:15 AM    **B155**    **The Impact Behavior of 9mm Jacketed Hollow Point Bullets on Laminated Glass**  
*Zoe Timothy, BS\* ; Michael Kusluski, MFS*
- 11:15 AM – 11:30 AM    **B156**    **The Interoperability of Firearm Toolmark 3D Measurements on Objective Similarity Metrics**  
*Xiaoyu A. Zheng, MS\* ; Johannes Soons, PhD ; James Yen, PhD*
- 11:30 AM – 11:45 AM    **B157**    **The Effect of Gunshot Angle of Incidence on Distance Determination**  
*Alexander W. Jason, MSFS\* ; Andres Marco, PhD, MS*
- 11:45 AM – 1:00 PM                                    **BREAK**

## Friction Ridge and Canines

---

Moderator: TBD

- 1:00 PM – 1:15 PM    **B158**    **A Needle in a Haystack: Are Those “Rare” Minutiae in Palms Really as Uncommon as You Think?**  
*Heidi Eldridge, PhD, MS\**
- 1:15 PM – 1:30 PM    **B159**    **Interdigital Frequencies of Pattern Types and Their Arrangements as a Key to Palm Print Identification**  
*Angela Tonietto, MS\* ; Jemima Santos*
- 1:30 PM – 1:45 PM    **B160**    **Toward Consistency in Latent Print Examiners’ Naming Conventions and Minutiae Frequency Estimations**  
*Adele Quigley-McBride, PhD\* ; Heidi Eldridge, PhD, MS\* ; Brett Gardner, PhD\**
- 1:45 PM – 2:00 PM    **B161**    **Not Everything Is as It Seems: The Importance of Minutiae**  
*Julia Lazzari, MD\* ; Giulia Berneschi, MD\* ; Chiara Casula, MD ; Arianna Baronti, MD ; David Forni, MD ; Aniello Maiese, PhD ; Andrea Scatena, MD*
- 2:00 PM – 2:15 PM    **B162**    **Dog Bites or Knife Wounds? A Case Report of Atypical Neck Injuries**  
*Eulalie Pefferkorn\* ; Fabrice Dedouit, MD, PhD ; Frederic Savall, MD, PhD ; Agathe Bascou, MD ; Norbert Telmon, MD, PhD ; Pauline Saint Martin, PhD*
- 2:15 PM – 2:30 PM    **B163**    **Odor Contamination in Explosive Canine Training Aids and Steps Toward Contaminant Mitigation Through Off-Gassing**  
*Katherine Dias Castro, BS\* ; Lauryn DeGreeff, PhD ; Tyler Roberts ; Reagan M. Bridges ; Monica Lopez ; Jordi Cruz Sanchez*

# CRIMINALISTICS

---

2:30 PM – 2:45 PM     **B164**     **An Improved Analysis of Nylon Microplastic Trace Evidence Through Enhanced Signal-to-Noise Ratio in Room-Temperature Fluorescence Spectroscopy**  
*Noah Michael Froelich, MS, BS\*; Andres D. Campiglia, PhD*

2:45 PM – 3:00 PM     **BREAK**

## Trace Evidence, Fibers, Soil, Paint, and Footwear

---

Moderator: TBD

3:00 PM – 3:15 PM     **B165**     **An Evaluation of a Comprehensive Raman Spectral Library for the Identification of Soil Minerals**  
*Jasmine Kaur\*; Chase Notari, MS; Brooke W. Kammrath, PhD*

3:15 PM – 3:30 PM     **B166**     **Pigment Identification in Solution-Dyed Fibers**  
*Christopher S. Palenik, MS, PhD\*; Kelly Beckert, MS, BS; Otyllia Abraham, MS, BS; Ethan Groves, BS; Skip Palenik, BS*

3:30 PM – 3:45 PM     **B167**     **Polarized Light Microscopy of Vegetable Fibers**  
*Walter Frederick Rowe, PhD\**

3:45 PM – 4:00 PM     **B168**     **The Application of Particle-Correlated Raman Spectroscopic Analysis of Soils to Mock Casework Scenarios**  
*Samantha Gong, BS\*; Brooke W. Kammrath, PhD; Marisia A. Fikiet, PhD; Peter R. De Forest, DCrim*

4:00 PM – 4:15 PM     **B169**     **The Capabilities and Limitations of Particle-Correlated Raman Spectroscopy (PCRS) for the Analysis of Forensic Soil Minerals**  
*Jasmine Kaur\*; Joshua Christensen\*; Ethan Groves, BS; Skip Palenik, BS; Christopher S. Palenik, MS, PhD; Peter R. De Forest, DCrim; Marisia A. Fikiet, PhD; Virginia M. Maxwell, DPhil, BSc; Brooke W. Kammrath, PhD*

4:15 PM – 4:30 PM     **B170**     **The Differentiation of Architectural Paint by Sheen Using Reflectance Spectroscopy**  
*Alethea Nicole Morris, BS\*; Lawrence Quarino, PhD*

4:30 PM – 4:45 PM     **B171**     **The NIST Footwear Impression Comparison System**  
*Steven Lund, PhD\*; Sourabh Yelluru, MS; Adam Pintar, PhD; Hariharan Iyer, PhD*

## Saturday

### Cannabis and Hemp

---

Moderator: Agnes Winokur, MS

9:00 AM – 9:15 AM     **B172**     **An Investigation of Extraction Protocols for the Analysis and Quantitation of Cannabinoids in Gummy Matrices Using Liquid Chromatography and Photodiode Array/Ultraviolet Detection**  
*Haley Jensen, BS\*; Aaron Urbas, PhD; Walter B. Wilson, PhD; Ira Saul Lurie, PhD*

9:15 AM – 9:30 AM     **B173**     **The Development of a  $\Delta^9$ -THC Colorimetric Breathalyzer Using 3D Printing Manufacture**  
*Wagner Pacheco, PhD\*; Igor Coreixas, MSc; Rafael Dornellas, PhD; Savannah Allinson; Shakyrah Golden; Justin L. Poklis, BS; Emanuele Alves, PhD*

# CRIMINALISTICS

---

- 9:30 AM – 9:45 AM    **B174**    **Then vs. Now vs. the Future: An Overview of Extraction Protocols for Cannabis-Derived and Cannabinoid-Infused Products and the Development of a Universal Extraction Method**  
*Benedetta Garosi, BS\**; *Rabi A. Musah, PhD*
- 9:45 AM – 10:00 AM    **B175**    **Trace Metals in Cannabis Seized by Law Enforcement in Ghana and Multivariate Analysis to Distinguish Among Different Cannabis Farms**  
*Edward Bentil, MPhil, BSc\**
- 10:00 AM – 10:15 AM    **B176**    **Are Smokable Hemp Products Correctly Labeled?**  
*Walter B. Wilson, PhD\**; *Aaron Urbas, PhD*
- 10:15 AM – 10:30 AM    **B177**    **The Application of the Expert Algorithm for Substance Identification (EASI) to Resolve THC and CBD ESI-Mass Spectra**  
*Alexandra I. Adeoye, MS\**; *Jacob King, BS*; *Glen P. Jackson, PhD*