

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

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

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

Thursday

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11:30 AM – 1:00 PM	B23	The Effect of Solid Copper Bullets on Barrel Rifling Characteristics <i>Natali Hassett, BS*</i> ; <i>Eric Law, PhD</i>
11:30 AM – 1:00 PM	B35	An Analysis of Improved Methods for the Genetic Identification of Cremated Skeletal Remains <i>Kadir Dastan*</i>
11:30 AM – 1:00 PM	B36	An Examination of the EZ2 Connect Fx for Extra-Large Volume DNA Extraction and Purification From Skeletal Samples <i>Jennifer L. Snedeker, BS*</i> ; <i>Sheree R. Hughes, BSc, PhD</i> ; <i>Rachel Houston, PhD</i>
11:30 AM – 1:00 PM	B37	The Development of a Custom qPCR Multiplex to Quantify Human and Microbial DNA <i>Miriam Foster*</i> ; <i>Mitchell M. Holland, PhD</i> ; <i>Jennifer McElhoe</i>
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 <i>Sierra Laveroni*</i> ; <i>Andrea Malchow*</i> ; <i>Daniela Frausto, MS</i> ; <i>Michelle M. Woo, MS, BS</i> ; <i>Baneshwar Singh, PhD</i> ; <i>Filipa Simao</i> ; <i>Tal Simmons, PhD</i>

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11:30 AM – 1:00 PM	B39	An Overview of Cannabis Seizures and Methods for Distinguishing Between Cannabis and Hemp in Croatia <i>Slavena Cukrov Bezbradica, PhD*</i> ; Lucija Barbarić, PhD; Kristina Jurković, PhD; Adela Makar, PhD; Maja Jelena Čop, PhD; Andrea Ledić
11:30 AM – 1:00 PM	B40	An Efficient Alternative to the Conventional Bone Pulverization Step for Personal Identification in 11 Real Forensic Caseworks <i>Chiara Della Rocca, PhD*</i> ; Gavino Piras; Alessandro Mameli
11:30 AM – 1:00 PM	B41	Investigative Single Cell Genetics: Determining the Probability of a Genotype After Observing Single-Cell Data Enables Robust Database Searches Regardless of Mixture Complexity <i>Qhawe A. Bhembé, MS*</i> ; Nidhi Sheth, MS; Leah M. O'Donnell, BSc, MSc; Ken R. Duffy, PhD; Desmond S. Lun, PhD; Catherine M. Grgicak, PhD
11:30 AM – 1:00 PM	B42	Locus Abundance Variation by ForenSeq™ DNA Signature Prep Kit Lot <i>Kim Eskey, MS, BS*</i> ; Kyleen Elwick, PhD; Sana Enke; Claire Levy; Marie Lovett; April Manzella, BA; Christina Scott, MS, BA; Rebecca S. Just, PhD
11:30 AM – 1:00 PM	B43	Genotyping Strategies for Tissues Fixed With Various Embalming Fluids for Human Identification, Databasing, and Traceability <i>Cassidy Callaway*</i> ; Madeline Ashton, BSc; Natalia Czado, BS, MSFS; Sheree R. Hughes, BSc, PhD
11:30 AM – 1:00 PM	B44	The Development of a Facial Phenotype Prediction Method Using Korean 3D Craniofacial Images and SNPs <i>Won Joon Lee; Joon Yeol Ryu*</i> ; Hyobong Jang*; Eunseo Park; Eunsoon Shin; Sohee Cho, PhD; Jong Eun Lee; Soong Deok Lee, MD, PhD
11:30 AM – 1:00 PM	B45	The Development of Reagents, Software, and a Database for Kinship Determination in Missing Persons, Disaster Victims, and Human Rights Violation Cases <i>Gothami A. Padmabandu, MS*</i> ; Joana Antunes, PhD; Sarah M. Radecke; Michaela Russo; Erin McCarthy, BS; Juan Carlos Perez, BS; Kathryn M. Stephens, PhD
11:30 AM – 1:00 PM	B46	A 353-Plex Panel for Forensic Identification Based on Massively Parallel Sequencing Technology <i>Yingying Cheng*</i> ; Qiujuan Wang, PhD; Dong Li; Bowen Li; Shengjie Gao; Kunjie Pang, MS, BS; Xianhua Jiang; Hongqi Wang; Xiaosen Guo*
11:30 AM – 1:00 PM	B47	Differentiating Marijuana From Hemp Using an NGS Panel and Rapid Genotyping Assays Targeting Cannabinoid Synthase Genes <i>Ya-Chih (Jessica) Cheng, MS*</i> ; Rachel Houston, PhD
11:30 AM – 1:00 PM	B48	Challenges of DNA Profiling After Firefighting Plane Crash: The Influence of Kerosene Biodegradation on Human Remains <i>Francesco Sessa, MS, PhD*</i> ; Martina Francaviglia, MD; Giuseppe Cocimano, MD; Salvatore Rocuzzo, MD
11:30 AM – 1:00 PM	B49	The Development of a Multiplex SNP Genotyping RT-PCR Kit for Screening of Non-Koreans <i>Seyoung Nam*</i> ; Si-Keun Lim; Yukyoung Sin
11:30 AM – 1:00 PM	B50	The Utilization of a Single Nucleotide Variant (SNV) Panel for the Confirmation of Sample Identity in Two Clinical Genomics Applications <i>Mariana Voudouri, MD*</i> ; Donald Green, BS; Sophie Deharvengt; Joel Lefferts, PhD; Wahab A. Khan, PhD; Parth Shah, MD

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11:30 AM – 1:00 PM	B51	Examining the Risk Associated With Qualitative Exclusions in Forensic DNA Casework <i>Samantha Orans Wandzek, MS*</i>
11:30 AM – 1:00 PM	B52	STRBase Moving Forward <i>Lisa A. Borsuk*; Angela Lee; Peter Vallone, PhD</i>
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 <i>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</i>
11:30 AM – 1:00 PM	B54	A Longitudinal Study on the Odor Stability of Decomposition Simulated Training Aids Under Freezing Conditions <i>Jonathan Bateman Locke*; Andrea Medrano, MS, BS; Paola A. Prada-Tiedemann, MS, BS; Chris Holleyman</i>
11:30 AM – 1:00 PM	B55	A Pre-Concentrating Polymer Coating for Improved Detection of Fentanyl and Fentanyl Analogs <i>Galpayage Dona Thouli Lochana Jayawardana, BSc*; Lauryn DeGreeff, PhD; Ashley Fulton, PhD; Braden C. Giordano, PhD</i>
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 <i>Suzuha Kurosugi*; Yoshinori Nishiwaki; Masanobu Mori</i>
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 <i>Keita Miyazaki, BA*; Yoshinori Nishiwaki; Masanobu Mori</i>
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) <i>Glen P. Jackson, PhD*; Alexandra I. Adeoye, MS; Jessica Orris, BS; Clarissa McQuain; Stephen P. Hokanson, BS</i>
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 <i>Christina Chang, BS*; Geraldine Monjardez, PhD; J. Tyler Davidson, PhD</i>
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 <i>Kayla Hogan, BS*; Katherine Dias Castro, BS; Janet M. Crespo Cajigas, MS, BS; Lauryn DeGreeff, PhD; Kenneth G. Furton, PhD</i>
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 <i>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</i>
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) <i>Gemma L. Kerry*; Emma J. Kuhn, BSc, Jackie Wright, PhD; Kirstin E. Ross, PhD, BSc; Stewart Walker, PhD, BSc</i>

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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 <i>Alexa Mehlman*</i> ; Alexandra Evans, MFS, BS; Ashley N. Stallworth, MS
11:30 AM – 1:00 PM	B65	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 <i>Ting-Yu Huang, MS*</i> ; Jorn Yu, PhD
11:30 AM – 1:00 PM	B66	Enhanced Ignitable Liquid and Substrate Database Functionality for Improved Casework and Research <i>Michael E. Sigman, PhD*</i> ; Nikhil Prakash, MS*; Mary R. Williams, MSc; Larry Tang, PhD
11:30 AM – 1:00 PM	B67	An Estimation of Dyeing Methods From Wool Single Fibers by Nanobeam X-Ray Fluorescence Imaging Utilizing Synchrotron Radiation <i>Yoshinori Nishiwaki*</i>
11:30 AM – 1:00 PM	B68	How to Minimize the Presence of Drug Residues on the Exterior of Drug Evidence Packaging After Analysis <i>Elizabeth Robinson, MS*</i> ; Edward Sisco, PhD; Rebecca Mead, MS
11:30 AM – 1:00 PM	B69	The Identification and Classification of Major Cannabinoids Using Raman Microscopy, Chemometrics, and a Novel Artificial Intelligence Approach <i>John Hugo Laetsch, BS*</i> ; Jose Grijalva, MS; Ting-Yu Huang, MS; Patrick Buzzini, PhD; Jorn Yu, PhD; J. Tyler Davidson, PhD; Geraldine Monjardez, PhD
11:30 AM – 1:00 PM	B70	One Gunshot Is Not Enough: A Case of Suicide by Double Gunshot Wound to the Head and a Literature Review <i>Eleonora Mezzetti, MD*</i> ; Federica Spina, MD; Laura Panata, MD; Isabella Mercurio, MD; Massimo Lancia, MD; Marco Di Paolo, MD
11:30 AM – 1:00 PM	B71	The Optimization of Sample Preparation Procedures for the Determination of Δ9-THC and It's Isomers in Seized Cannabis Oils, Concentrates, and Vapes by LC-PDA <i>Walter B. Wilson, PhD*</i>
11:30 AM – 1:00 PM	B72	WITHDRAWN

Thursday—Session I

Standards, Policies, and Surveys

8:45 AM – 9:00 AM	B73	Standards Development Activities in Human Forensic Biology <i>Jillian Conte, PhD*</i>
9:00 AM – 9:15 AM	B74	Human Factors in Forensic DNA Handbook Recommendations in Practice <i>Tiffany A. Roy, BS, JD, MSFS*</i> ; Sasha B. Colvin, BS*
9:15 AM – 9:30 AM	B75	Speak Now: To Be a Part of the People That Make Meaning <i>Nancy Dinh, BS, MS*</i>

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9:30 AM – 9:45 AM	B76	Processing Gun Crimes in NYC: How the Department of Forensic Biology Was Able to Meet a 30-Day Turnaround Time <i>Craig O. O'Connor, PhD*</i> ; <i>Katey Nori, MSFS</i>
9:45 AM – 10:00 AM	B77	A Global Survey on Activity-Level DNA Evaluative Reporting <i>Devyn Pirtle, BS*</i> ; <i>Mechthild Prinz, MS, PhD</i> ; <i>Fabio Oldoni, PhD</i>
10:00 AM – 10:15 AM		BREAK

Trace and Touch DNA

10:15 AM – 10:30 AM	B78	An Investigation of Handling Time on the Deposition and Persistence of Trace DNA in Pickpocket Scenarios <i>Lauren Hoopes, BS*</i> ; <i>Tiffany A. Kreidler, BS</i> ; <i>Bas Kokshoorn, PhD</i> ; <i>Fabio Oldoni, PhD</i>
10:30 AM – 10:45 AM	B79	An Evaluation of Transfer, Persistence, and Recovery of Touch DNA From Mobile Phones <i>Ashley J. Moo-Choy, MSc*</i> ; <i>Jamie E. McGregor, HBSc</i> ; <i>Nicole Novroski</i>
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 <i>McKenna Bonn-Savage, BS*</i> ; <i>Bas Kokshoorn, PhD</i> ; <i>Megan Foley, MSFS</i> ; <i>Fabio Oldoni, PhD</i>
11:00 AM – 11:15 AM	B81	Direct PCR Amplification for Forensic DNA Profiling From Adhesive Tape-Lift Samples <i>Kevin W.Y. Chong, PhD*</i> ; <i>Hui Yin Tan</i>
11:15 AM – 11:30 AM	B82	The Success Rate of Touch DNA <i>Jill Snyder*</i> ; <i>Kaitlyn M. Adams*</i>
11:30 AM – 11:45 AM	B83	Total Human DNA Sampling <i>Colino Neves*</i> ; <i>Martin Zieger, PhD</i>
11:45 AM – 12:00 PM	B84	A Combined Method to Locate and Improve DNA Recovery From Fabrics <i>Makenzie Michelle Driever, BS*</i> ; <i>Rhonda Williams, PhD</i>
12:00 PM – 1:00 PM		BREAK

Body Fluid ID

1:00 PM – 1:15 PM	B85	The Identification of MicroRNAs for Forensic Biofluid Detection Using a MicroRNA Expression Profiling Method <i>Xiaomeng Yang, MS*</i> ; <i>Amy N. Brodeur, MFS</i> ; <i>Robin W. Cotton, PhD</i> ; <i>Isabel Luisa Tan Palanca, MS</i>
1:15 PM – 1:30 PM	B86	A Microfluidic Approach Toward Automated Forensic Differential Extraction of DNA-Based Sexual Assault Evidence <i>Larissa L. Cunha, BS*</i> ; <i>M. Shane Woolf</i> ; <i>Sadie Kiendzior, BS</i> ; <i>Kelsey O'Neill, BS</i> ; <i>Ellaha Momand, BS</i> ; <i>James P. Landers, PhD</i>
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 <i>Olivia Quinn Kassie, BS*</i> ; <i>Sarah Seashols Williams, PhD</i> ; <i>Laura Gaydosh Combs, PhD</i>

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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 <i>Glendon Parker, PhD*</i> ; Kyle Burk, MSc; Mirna Ghemrawi, PhD, MSFS
2:00 PM – 2:15 PM	B89	A Portable Microfluidic System for Rapid Serological Analysis of Forensically Relevant Body Fluids <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	B90	To Test or Not to Test for Body Fluids: The Integration of Body Fluid Identification and Direct PCR in One Workflow <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	B91	The Development of a Novel Multiomic Assay for Biofluid Identification <i>Amy N. Brodeur, MFS*</i> ; Angela Proctor, PhD; David Korest, BS
2:45 PM – 3:00 PM	B92	A Comparison of Traditional Serological Techniques and DNA Methylation for the Identification of Body Fluids <i>Mirna Ghemrawi, PhD, MSFS*</i> ; Justin Frye, MSFB; Lindsay Loughner Kotchey, MS; Leah Nangeroni, BS
3:00 PM – 3:15 PM	B93	Alternative Direct-to-Amplification Cell Lysis Techniques for Forensically Relevant Non-Sperm Cells <i>Rhea Arya*</i> ; Brittany C. Hudson; Tracey Dawson Green, PhD
3:15 PM – 3:30 PM		BREAK

FIGG, Ancestry, Predictive Modeling

3:30 PM – 3:45 PM	B94	Decoding the Ocular Region From DNA: Building Predictive Models in Forensic Contexts <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 Martinez Jarreta, MD; Susana Jimenez Moreno, MD; Marian M. de Pancorbo, PhD
3:45 PM – 4:00 PM	B95	Targeted SNP Typing for Forensic Genetic Genealogy Using Hybridization Capture <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	B96	Genetic Ancestry of the Unidentified Human Remains From the East Marshall Street Well <i>Filipa Simao*</i> ; Baneshwar Singh, PhD; Tal Simmons, PhD
4:15 PM – 4:30 PM	B97	Estimating the Return on Investment on Forensic Investigative Genetic Genealogy: Using the Golden State Killer and the University of Idaho Cases as Case Models <i>Ray A. Wickenheiser, DPS, MBA*</i> ; Rachel H. Oefelein, MSc; Swathi A. Kumar, PhD
4:30 PM – 4:45 PM	B98	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 <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

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

Forensic Science Principles

10:45 AM – 11:00 AM	B107	A 2024 Update From the Scientific Working Group for the Analysis of Seized Drugs (SWGDRUG) <i>Jaclyn Iera*</i>
11:00 AM – 11:15 AM	B108	The Forensic Science Initiative (FSI): A Pathway to College and STEM Education <i>David Fisher, MS*; Barbara Elder Weller, EdD*; Kevin D. Belfield, PhD; Jacqueline L. Cusack, EdD</i>
11:15 AM – 11:30 AM	B109	What Is the Probability That a True Match Will Appear in the Top K Correlations After a Database Search? <i>Alicia Laura Carriquiry, PhD*; Heike Hofmann, PhD; Blanca I. Parker, BS; Cathryn Barbour, BS</i>
11:30 AM – 11:45 AM	B110	The European Network of Forensic Science Institutes (ENFSI) Guideline for the Calculation of Measurement Uncertainty in Quantitative Forensic Investigation <i>Ivo Alberink, PhD*; Rosario García-Repetto, PhD; Maria Luisa Soria Sánchez, PhD; Jos Tóth, BSc</i>
11:45 AM – 1:00 PM		BREAK

CRIMINALISTICS

Fire Debris and Explosives

1:00 PM – 1:15 PM	B111	A Comparison of Computational and Laboratory-Generated Fire Debris Data <i>Larry Tang, PhD*</i> ; <i>Mary R. Williams, MSc</i> ; <i>Michael E. Sigman, PhD</i>
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 <i>Kelsey R. Winters, MSFS*</i> ; <i>Brenda B. Christy, MS</i>
1:30 PM – 1:45 PM	B113	An Evaluation of Headspace Solid Phase Microextraction of Diesel Fuel From Cotton Swabs for Forensic Analysis <i>Ting-Yu Huang, MS*</i> ; <i>Jorn Yu, PhD</i>
1:45 PM – 2:00 PM	B114	An Evaluation of Tape for the Collection of Ignitable Liquid Residues From Non-Porous and Porous Surfaces <i>Laird Jarrett*</i> ; <i>Cynthia J. Kaeser Tran</i>
2:00 PM – 2:15 PM	B115	Expert and AI Opinions: Machine-Assisted Analysis of Fire Debris <i>Michael E. Sigman, PhD*</i> ; <i>Mary R. Williams, MSc</i> ; <i>Frances A. Whitehead, MS</i>
2:15 PM – 2:30 PM	B116	Investigating the Capability of DART®-MS for the Analysis of Common Homemade Explosives <i>Jared Esteves, BS*</i> ; <i>J. Tyler Davidson, PhD</i> ; <i>Geraldine Monjardez, PhD</i>
2:30 PM – 3:00 PM		BREAK

Drugs

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 <i>Sevde Dogruer Erkok, MSc*</i> ; <i>Roxanne Gallois</i> ; <i>Leon Leegwater</i> ; <i>Pascal Camoiras Gonzalez, MSc</i> ; <i>Arian van Asten, PhD</i> ; <i>Bruce R. McCord, PhD</i>
3:15 PM – 3:30 PM	B118	Evaluating the Sensitivity, Stability, and Cross-Reactivity of Commercial Fentanyl Immunoassay Test Strips <i>Sandra E. Rodriguez-Cruz, PhD*</i>
3:30 PM – 3:45 PM	B119	Exploring Evidence of Common Origin of Recreational Drug Exhibits by GC/MS <i>Joshua S. DeBord, PhD*</i> ; <i>Barry K. Logan, PhD</i> ; <i>Alex J. Krotulski, PhD</i>
3:45 PM – 4:00 PM	B120	GC Derivative VUV Spectroscopy of JWH-018 Positional Isomers and Select Synthetic Cannabinoid Diastereomers <i>Annika Dombrowski, BS*</i> ; <i>Ira Saul Lurie, PhD</i>
4:00 PM – 4:15 PM	B121	The Effect of Spectral Intensity on Mass Spectral Discrimination of Fentanyl Positional Isomers <i>Isaac C. Willis, BS*</i> ; <i>Victoria L. McGuffin, PhD</i> ; <i>Ruth Waddell Smith, PhD</i>
4:15 PM – 4:30 PM	B122	The Classification of Cannabinoids Using Mass Spectral Data for the Identification of Novel Synthetic Cannabinoids <i>Kristopher Charles Evans-Newman, AAS*</i> ; <i>Nuwan T. Perera, PhD</i> ; <i>Garion Schneider</i>
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 <i>Edward Sisco, PhD*</i> ; <i>Matthew Staymates, MS</i> ; <i>Luis E. Arroyo, PhD</i>

CRIMINALISTICS

Friday—Session I

Challenging Samples

9:00 AM – 9:15 AM	B124	Streamlining the Extraction of Challenging Samples Using the HID NIMBUS® Presto <i>Kayli Carrillo, BS*; Jennifer Snedeker, BS; Natalia Czado, BS, MSFS; Sheree R. Hughes, BSc, PhD</i>
9:15 AM – 9:30 AM	B125	The Effects of Oily Contaminants on DNA Extraction Efficiency Using DNA IQ™ <i>Elizabeth Grace Gillece, BS*; Susan A. Greenspoon, PhD; William Eggleston, PhD</i>
9:30 AM – 9:45 AM	B126	The Development of a Method for Complete Collagenase I Digestion of <i>Bos Taurus</i> Bone Samples <i>Reilly Elizabeth Price, BA*; Ciara Rhodes, BS; Sarah Seashols Williams, PhD</i>
9:45 AM – 10:00 AM	B127	A Simple Tooth Preparation Method for the Applied Biosystems® RapidHIT™ ID Instrument <i>Morgan Elizabeth Eaton, BS*; Shane Woolf, MSFS, PhD; Samyuktha Pemmasani; Tracey Dawson Green, PhD</i>
10:00 AM – 10:15 AM	B128	The Application of Ancient DNA Methodologies to Badly Burned Forensic Samples <i>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</i>
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 <i>Kadir Dastan*</i>
10:30 AM – 10:45 AM		BREAK

Probabilistic Genotyping

10:45 AM – 11:00 AM	B130	Comparing Likelihood Ratios of Degraded DNA Mixture Profiles Using DNA-View® Mixture Solution™ <i>Cameron Filipe, MSFS, BSFS*; Charles H. Brenner, PhD; Robin W. Cotton, PhD</i>
11:00 AM – 11:15 AM	B131	A Picture Is Worth 10,000 LRs: The Evaluation and Implementation of Tools to Improve Interpretation and Reporting of Mixtures Using Probabilistic Genotyping <i>Tim Kalafut, PhD*; Michael Coble, PhD</i>
11:15 AM – 11:30 AM	B132	A Comparison of the Two Most Widely Used Probabilistic Genotyping Systems Supports Accuracy and Concordance <i>Susan A. Greenspoon, PhD*; Brad Jenkins, BA, MS; Lisa Schiermeier-Wood, BS, MS</i>
11:30 AM – 11:45 AM	B133	Beyond STRs: A Snippet Into the Challenges of Interpreting iiSNPs <i>Kevin Cheng, PhD, MSc*; Jo-Anne Bright, PhD</i>
11:45 AM – 1:00 PM		BREAK

CRIMINALISTICS

Next Generation Sequencing

1:00 PM – 1:15 PM	B134	An Evaluation of the FORCE Panel on Alternative Reference Materials <i>Sophie S. Lee, BS*</i> ; <i>Lindsay Loughner Kotchey, MS</i> ; <i>Leah Nangeroni, BS</i> ; <i>Kimberly Sturk Andreaggi, PhD</i> ; <i>Charla Marshall, PhD</i> ; <i>Mirna Ghemrawi, PhD, MSFS</i>
1:15 PM – 1:30 PM	B135	Variant Allele Characterization in STR Markers Using Next Generation Sequencing <i>Becky Steffen, MS*</i> ; <i>Lauren Mullen, BS</i> ; <i>Grace M. Finch</i> ; <i>Katherine Gettings, PhD</i> ; <i>Kevin Kiesler, MS</i>
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 <i>Rachel Houston, PhD*</i> ; <i>Natalia Czado, BS, MSFS</i> ; <i>Damani Johnson, BS</i> ; <i>Lucio Avellaneda, BS</i> ; <i>Cesar E. Cantu, BS</i> ; <i>Sheree R. Hughes, BSc, PhD</i>
1:45 PM – 2:00 PM	B137	Maximum Recovery of DNA From Degraded Remains <i>Erin M. Rawls, BS*</i> ; <i>Matthew V. Emery, PhD</i> ; <i>Amber Coffman, BS</i> ; <i>Stevie Winingear, BS, MS</i> ; <i>Amanda Wissler, PhD</i> ; <i>Katelyn L. Bolhofner, PhD</i> ; <i>Jane E. Buikstra, PhD</i> ; <i>Laura C. Fulginiti, PhD</i> ; <i>Adam B. Rohrlach, PhD</i> ; <i>Cody E. Parker, PhD</i> ; <i>Anne Stone, PhD</i>
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 <i>Lindsay Loughner Kotchey, MS*</i> ; <i>Brian Young, PhD</i> ; <i>Leah Nangeroni, BS</i> ; <i>Mirna Ghemrawi, PhD, MSFS</i>
2:15 PM – 2:30 PM	B139	Visualizing Sequencing Artifacts in ForenSeq™ NGS Data <i>Yao-Yuan Liu*</i> ; <i>Kevin Cheng, PhD, MSc</i> ; <i>Jo-Anne Bright, PhD</i>
2:30 PM – 2:45 PM	B140	Expanding the STRSeq BioProject to Support Sequenced-Based STR Nomenclature <i>Lauren Mullen, BS*</i> ; <i>Katherine Gettings, PhD</i> ; <i>Lisa A. Borsuk</i>
2:45 PM – 3:00 PM	B141	An Exploration of a Sequence-Specific Stutter Model for STR Analysis in Next Generation Sequencing <i>Damani Johnson, BS*</i> ; <i>Tim Kalafut, PhD</i>
3:00 PM – 3:15 PM		BREAK

DNA Potpourri

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 <i>Karin A. Crenshaw*</i> ; <i>Ariana Harrison</i> ; <i>Bruce R. McCord, PhD</i>
3:30 PM – 3:45 PM	B143	Evaluation of Single Cells Produces Highly Informative Forensic Comparisons Across Multifarious Admixtures <i>Catherine M. Grgicak, PhD*</i> ; <i>Desmond S. Lun, PhD</i> ; <i>Nidhi Sheth, MS</i> ; <i>Liliana Berrios, BS</i> ; <i>Ken R. Duffy, PhD</i>
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 <i>Noemi Procopio, PhD, MSc*</i> ; <i>Luciano Garofano, PhD*</i> ; <i>Giulia Squazzi, MA, BA</i> ; <i>Selena Cisana, PhD</i> ; <i>Paolo Garofano, MD, PhD</i> ; <i>Pasquale Linarello</i> ; <i>Monica Omedei, PhD</i> ; <i>Luca Salvaderi, BSc</i> ; <i>Sarah Gino, MD</i>
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 <i>Teresa Tiedge, MPS*</i> ; <i>Kelly A. Meiklejohn, PhD</i>

CRIMINALISTICS

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 <i>Thilini M. Chandrasekara, BSc*; Dillon S. Ryder; Susan A. Greenspoon, PhD; Christopher Ehrhardt, PhD, BS</i>
4:30 PM – 4:45 PM	B147	A Biological Survey of Nucleated vs. Non-Nucleated Epithelial Cells Within Touch DNA Samples Using Autofluorescence Profiling <i>Wanyan Cai*; Sarah Seashols Williams, PhD; Amanda E. Gentry, PhD; Christopher Ehrhardt, PhD, BS</i>

Friday—Session II

Crime Scene and GSR

9:00 AM – 9:15 AM	B148	Proactive Crime Scene Response Improves Criminal Investigations <i>Ray A. Wickenheiser, DPS, MBA*</i>
9:15 AM – 9:30 AM	B149	An Interagency Study of Scene Investigation Using Virtual Reality (VR) Tools <i>Jaclynn McKay, BS*; Kelly Keyes, BS; John H. Grassel, MS; Edward Hill, BS; Nicholas Thomas, PhD, MPH</i>
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 <i>Sunčica Kuzmić, MChE*; Hrvoje Senjes, MS; Ivan Jerković, PhD, MSc</i>
9:45 AM – 10:00 AM	B151	The Prevalence of GSR and the Mitigating Quality Procedures at Harris County Institute of Forensic Sciences <i>Brittany S. Claassen, MS*; Audrey Pless; Leslie A. Dixon, BS; Jason L. Schoeder, MS, MBA</i>
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 <i>Leighann Rose Weber, BS*; Kelli A. Simon, PhD; Ryan Bain, PhD; Eric Hazelrigg, MS</i>
10:15 AM – 10:30 AM		BREAK

Firearms

10:30 AM – 10:45 AM	B153	Advancements in 3D Technology and Virtual Comparison Microscopy for Ballistic Identification <i>Logan Eickhoff, BS, BA*</i>
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 <i>Junfeng J. Song, PhD*</i>
11:00 AM – 11:15 AM	B155	The Impact Behavior of 9mm Jacketed Hollow Point Bullets on Laminated Glass <i>Zoe Timothy, BS*; Michael Kusluski, MFS</i>
11:15 AM – 11:30 AM	B156	The Interoperability of Firearm Toolmark 3D Measurements on Objective Similarity Metrics <i>Xiaoyu A. Zheng, MS*; Johannes Soons, PhD; James Yen, PhD</i>

CRIMINALISTICS

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

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*

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

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**

CRIMINALISTICS

3:45 PM – 4:00 PM	B168	The Application of Particle-Related Raman Spectroscopic Analysis of Soils to Mock Casework Scenarios <i>Samantha Gong, BS*; Brooke W. Kammrath, PhD; Marisia A. Fikiet, PhD; Peter R. De Forest, DCrim</i>
4:00 PM – 4:15 PM	B169	The Capabilities and Limitations of Particle-Related Raman Spectroscopy (PCRS) for the Analysis Forensic Soil Minerals <i>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</i>
4:15 PM – 4:30 PM	B170	The Differentiation of Architectural Paint by Sheen Using Reflectance Spectroscopy <i>Alethea Nicole Morris, BS*; Lawrence Quarino, PhD</i>
4:30 PM – 4:45 PM	B171	The NIST Footwear Impression Comparison System <i>Steven Lund, PhD*; Sourabh Yelluru, MS; Adam Pintar, PhD; Hariharan Iyer, PhD</i>

Saturday

Cannabis and Hemp

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 <i>Haley Jensen, BS*; Aaron Urbas, PhD; Walter B. Wilson, PhD; Ira Saul Lurie, PhD</i>
9:15 AM – 9:30 AM	B173	The Development of a $\Delta 9$-THC Colorimetric Breathalyzer Using 3D Printing Manufacture <i>Wagner Pacheco, PhD*; Igor Coreixas, MSc; Rafael Dornellas, PhD; Savanah Allinson; Shakyrh Golden; Justin L. Poklis, BS; Emanuele Alves, PhD</i>
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 <i>Benedetta Garosi, BS*; Rabi A. Musah, PhD</i>
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 <i>Edward Bentil, MPhil, BSc*</i>
10:00 AM – 10:15 AM	B176	Are Smokable Hemp Products Correctly Labeled? <i>Walter B. Wilson, PhD*; Aaron Urbas, PhD</i>
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 <i>Alexandra I. Adeoye, MS*; Jacob King, BS; Glen P. Jackson, PhD</i>