

YFSF POSTER SESSION

Wednesday

Digital & Multimedia Sciences

- 11:30 AM – 1:00 PM **Y1** **The Forensic Acquisition and Inspection of Aftermarket Vehicle Infotainment Systems**
*Jett Brandes, MD**; Andrew Clark; Robert Boggs, APS
- 11:30 AM – 1:00 PM **Y2** **The Impact of Zoom on Smart Phone Camera Identification**
*Gavin Norton**; Stephanie Reinders, PhD
- 11:30 AM – 1:00 PM **Y3** **Known Hash Filtering: An Efficient Way to Eliminate Irrelevant Files and Show Files of Interest in Digital Examinations**
*Jessica A. Smith, BS**; Lyndsay Haak, MS; Timothy G. Suggs, BS; James Trevillian, BS; Josh Brunty, ScD
- 11:30 AM – 1:00 PM **Y4** **Producing Datasets: Capturing Images on Multi-Camera Smart Phones for Source Camera Identification**
*Megan McGuire**; Stephanie Reinders, PhD

Toxicology

- 11:30 AM – 1:00 PM **Y5** **The Quantification of Alcohols and Acetaldehyde in Hand Sanitizers Using Headspace/Gas Chromatography/Mass Spectrometry**
*Chessa To, BS**; Jacob A. Theruvathu
- 11:30 AM – 1:00 PM **Y6** **The Development and Validation of a Biotage® Extrahera™ Automated Extraction Method of Opioids and Their Metabolites in Human Urine Using LC/MS/MS**
*Jessica M. Braeunle, BS**; Marianne Staretz, PhD; Nadine M. Koenig; Dean Fritch, PhD; Thomas A. Brettell, MS, PhD
- 11:30 AM – 1:00 PM **Y7** **The Death of an Accused Person in a Court After the Announcement of the Verdict**
*Massinissa Benyagoub**; Mohamed Oualid; Djamil Azzouz; Redouane Benazzouz
- 11:30 AM – 1:00 PM **Y8** **The Use of Novel Psychoactive Substances (NPS) in Italy: A Comprehensive Meta-Analysis**
*Muhammad Usman, PhD, MS**; Donatella Nardiello; Christian Pallante; Donatella Curtotti; Maurizio Quinto
- 11:30 AM – 1:00 PM **Y9** **Monitoring the New England Drug Supply Through Novel Drug Checking Methods**
*Max T. Denn, MS**; Joshua S. DeBord, PhD; Alexis D. Quinter, MS; Barry K. Logan, PhD; Alex J. Krotulski, PhD
- 11:30 AM – 1:00 PM **Y10** **An Evaluation of Postmortem Redistribution of Δ^9 -Tetrahydrocannabinol (THC) and 11-Nor-9-Carboxy-THC (THC-COOH)**
*Isabelle Chevrier, BSc**; Betty Chow, MSc; Brent Cahill, MSc; James Watterson, PhD
- 11:30 AM – 1:00 PM **Y11** **Chemiluminescent Detection Limitations of Cannabinoids in Edibles and Urine Samples**
*Cristina Elisabeth Lemus**
- 11:30 AM – 1:00 PM **Y12** **Method Development for a Quantitative Panel of Psychoactive Adulterants in Biological Matrices using LC/MS/MS**
*Shayna R. Kasher, BS**

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Thursday

Criminalistics

- 11:30 AM – 1:00 PM **Y13** **Body Fluid Identification From Mixed Samples and Male DNA Confirmation Utilizing SERATEC® PSA and PMB Tests**
*Scarlet Tabitha Neilson, BS**; *Lindsay Loughner Kotchey, MS*; *Mirna Ghemrawi, PhD, MSFS*;
M. Gabriela Roca, MSc, PhD; *Leah Nangeroni, BS*
- 11:30 AM – 1:00 PM **Y14** **Exploring the Performance of an Initial Set of DIP-STR Markers for Biogeographic Ancestry Prediction in United States Populations**
*Lauren Hoopes, BS**; *Diana Hall, MA*; *Fabio Oldoni, MS*
- 11:30 AM – 1:00 PM **Y15** **An Internal Validation of the Janovsky Color Test and Testing the Platinum Chloride Microcrystalline Method for Benzodiazepines**
*Allison M. Swigart, BS**; *Lauren L. Richards-Waugh, PhD*; *Kathleen Schell*;
Rebecca Barlag, PhD, MS; *Lyndsay B. Cone, MS, BS*
- 11:30 AM – 1:00 PM **Y16** **The Use of Leaf Spray PSI-MS for the Detection of Kratom (*Mitragyna Speciosa*) Leaf**
*Macenzie Hope Powell, MS, BA**; *Michael Van Stipdonk, BA, PhD*; *Stephanie J. Wetzel, PhD*;
Theodore A. Corcovilos, PhD; *Hannah Zimmerman-Federle, MS*
- 11:30 AM – 1:00 PM **Y17** **The Effects of Fingerprint Development Techniques on Forensic Cartridge Case Identification**
*Sasha L. Valentino, BA**; *Lyndsie N. Ferrara, PhD*; *Missy Meredith*; *Sarah Varhola, MS*;
Stephanie J. Wetzel, PhD
- 11:30 AM – 1:00 PM **Y18** **The Impact of Age on Strength and Fracture Patterns of the Human Hyoid Bone**
*Olivia DePergola, BA**; *Pamela Marshall, PhD*; *John A. Viator, PhD*; *Suvendra Vijayan, BDS, MS*;
Jennifer L. Hammers, DO
- 11:30 AM – 1:00 PM **Y19** **Surveillance Efforts to Track Drug Market Changes in Philadelphia, Pennsylvania**
*Alexis D. Quinter, MS**; *Joshua S. DeBord, PhD*; *Max T. Denn, MS*; *Barry K. Logan, PhD*;
Alex J. Krotulski, PhD
- 11:30 AM – 1:00 PM **Y20** **The Detection of Low Concentration Ignitable Liquid Residues From Fire Debris Using Gas Chromatography/Mass Spectrometry and an Ignitable Liquid Detection Canine**
*Abigail V. Burke, BA**; *Nancy A. Love, BS*; *Matthew Regentin, MS*; *Stephanie J. Wetzel, PhD*
- 11:30 AM – 1:00 PM **Y21** **An Analysis of Drug Content Distribution on Paper Using Both Soak and Spray Methods by Gas Chromatography/Mass Spectrometry (GC/MS)**
*Aizlynn M. Michel, BA**; *Hannah J. Spitzer, MS*; *Ashley N. Ebert, PhD, BS*;
Stephanie J. Wetzel, PhD
- 11:30 AM – 1:00 PM **Y22** **Examining the Effects of Thermal Stress on the Structure and Downstream DNA Analysis of Human Teeth**
*Michael Allie Brivchik, BA**; *Pamela Marshall, PhD*; *Jennifer L. Hammers, DO*;
Rhonda K.K. Roby, PhD, MPH; *Lisa R. Ludvico, PhD*; *Angie Ambers, PhD*
- 11:30 AM – 1:00 PM **Y23** **An Analysis of the Transfer of Drugs to the Envelope in Mail Over Time and Varying Conditions**
*Madison Ann Eidemueller, BS**; *Erica Maney, MSc*; *Christopher Merrill, BA, MS*;
Stephanie J. Wetzel, PhD

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- 11:30 AM – 1:00 PM **Y24** **Investigation and Detection Methods for Digital and Penile Penetration With No Ejaculation**
*Brianna Gregory, BS**; *Janine M. Kishbaugh, MS*; *Lawrence Quarino, PhD*; *Amrita Lal-Paterson*
- 11:30 AM – 1:00 PM **Y25** **Identifying the Presence of Semen Through the Detection of Fructose**
*Taylor M. McClure, BS**; *Emily Chadwick, MS*; *Pamela Marshall, PhD*;
Michael I. Jensen-Seaman, PhD
- 11:30 AM – 1:00 PM **Y26** **Addressing Sexual Assault in Pakistan: Insights From an Analysis of Female Survivors at Lahore General Hospital**
*Muhammad Ahmad Faraz, MBBS**
- 11:30 AM – 1:00 PM **Y27** **A Gunshot Residue Analysis: The Development of a Combined Procedure for the Detection of Inorganic Elements and Organic Compounds in Traditional and Clean Range Ammunitions Using Spectroscopic Methods**
*Zaire Elijah Fabian, BS**
- 11:30 AM – 1:00 PM **Y28** **The Recovery of Human DNA in an Aqueous Environment Using Novel Technology**
*Halle E. Saf, BS**; *Pamela Marshall, PhD*; *Lisa R. Ludvico, PhD*; *Samantha Border*
- 11:30 AM – 1:00 PM **Y29** **The Optimization of DNA Extraction Methods From Alternative Reference Materials**
*Sophie S. Lee, BS**; *Leah Nangeroni, BS*; *Lindsay Loughner Kotchey, MS*;
Mirna Ghemrawi, PhD, MSFS
- 11:30 AM – 1:00 PM **Y30** **Assessing the Impact Dynamics of Less Lethal Bean Bag Ammunition**
*Brook Fontaine**
- 11:30 AM – 1:00 PM **Y31** **A Comprehensive Examination of STR and Y-STR Profiling in Samples With Limited or Negligible DNA Quantities**
*Chih-Wen Su**
- 11:30 AM – 1:00 PM **Y32** **A Landscape Study: Investigating Potential Links Between Adoption and Serial Killers**
*Amanda F. Piccirilli, BA**; *Pamela Marshall, PhD*; *Lyndsie N. Ferrara, PhD*;
Colleen M. Fitzpatrick, PhD
- 11:30 AM – 1:00 PM **Y33** **The Recovery of Nuclear DNA From Skeletal Remains Decomposed in Freshwater**
*Zoe L. Sikon, BS**; *Ashley G. Morgan, PhD*

Forensic Nursing Science

- 11:30 AM – 1:00 PM **Y34** **Examining the Presence of Foreign DNA on Neck Swabs**
*Alexa M. Gonzalez Morales**; *Lyndsie N. Ferrara, PhD*; *Lisa R. Ludvico, PhD*

Odontology

- 11:30 AM – 1:00 PM **Y35** **Allied Dental Professionals' Identification Accuracy of Burned Teeth**
*Brenda Tallon Bradshaw, BSDH, MS**; *Marsha A. Voelker, MD*; *Samantha Vest, MS*;
Sinjini Sikdar, PhD

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Psychiatry & Behavioral Science

- 11:30 AM – 1:00 PM **Y36** **Pursuit of Justice: Mapping the Future Landscape of Forensic Psychiatry**
*Bellanirys Acosta Arias, MD**; *Alexandra T. Luna, BS*; *Kishan Shah, MD*
- 11:30 AM – 1:00 PM **Y37** **The Makings of a High-Profile Case: How Media Bias Impacts Forensic Investigations in Missing Person Cases**
*Jennifer Fertel, BA**; *Pamela Marshall, PhD*; *Lyndsie N. Ferrara, PhD*; *Charlene E. Shunick, MS*
- 11:30 AM – 1:00 PM **Y38** **Using an Indirect Personality Assessment to Determine the Psychopathy of Timothy McVeigh**
*Mackenzie Miller**; *John Cencich*; *Lyndsie N. Ferrara, PhD*; *Pamela Marshall, PhD*
- 11:30 AM – 1:00 PM **Y39** **Traumatic Brain Injury and Criminal Behavior**
*Bellanirys Acosta Arias, MD**
- 11:30 AM – 1:00 PM **Y40** **Determining the Viability of Breathwork and Meditation as Intervention Techniques for Stress in the Forensic Science Community**
*Prateek Shetty, BS**; *Keisha Jones*

Questioned Documents

- 11:30 AM – 1:00 PM **Y41** **The Extraction and Subsequent Analysis of Gel Pen Ink**
*Elizabeth M. Knittle, BA**; *Stephanie J. Wetzel, PhD*; *Lyndsie N. Ferrara, PhD*;
Sean M. Fischer, PhD

Friday

Anthropology

- 11:30 AM – 1:00 PM **Y42** **The Ethical Considerations of Teaching Skeletons in West Virginia**
*Kristy Henson, MS**; *Jay Bow*
- 11:30 AM – 1:00 PM **Y43** **Restoring Demographic Information of Antique Teaching Skeletons at Fairmont State University**
*Jay Bow**; *Kristy Henson, MS*
- 11:30 AM – 1:00 PM **Y44** **Injury Recidivism as Embodied Evidence of Structural Violence: A Trauma Analysis Examining Fracture Location, Severity, and Occurrence in a New Mexico Forensic CT Sample**
*Emily Romdenne, BS**; *Allysha P. Winburn, PhD*
- 11:30 AM – 1:00 PM **Y45** **An Evaluation of Calcium Removal During Demineralization of Bone for Stable Isotope Analysis of Collagen: A Determination of Optimal Treatment Time**
*Julianne J. Sarancha, MS**
- 11:30 AM – 1:00 PM **Y46** **Evaluating the Effectiveness of Quantitative Skeletal Age Estimation Methods Compared to Traditional Qualitative Methods**
*Ruizhuo Zhang**; *Krista E. Bennett, MA*
- 11:30 AM – 1:00 PM **Y47** **“Known Only to God”: Rediscovering a Historic Freed Slave Cemetery Through the Use of Fluxgate Gradiometry and Its Application to Forensic Science**
*Hannah E. Matulek, MS, BA**; *Savannah Sass, MS**

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Engineering & Applied Sciences

11:30 AM – 1:00 PM **Y48** **A Digital Microfluidic Approach to Processing Forensic Samples**
*Leticia Bodo, MSc**; *Mohamed Elsayed, MSc*; *Jonathan S. Millman, BSc, PhD*;
Aaron Wheeler, PhD

General

11:30 AM – 1:00 PM **Y49** **A Call for Community: Working Toward Humanitarian Solutions to Address Inadequate Indigenous Death Investigations in North America**
*Steff King, MA**; *Gail S. Anderson, PhD*

11:30 AM – 1:00 PM **Y50** **A Probabilistic Genotyping Analysis of Trace DNA and Transfer Evidence**
*Charis Ann Hickey, BS**; *Kelly J. Beatty, MSFS*; *Amy K. Smith, MS*; *Eric Miller, MS*

11:30 AM – 1:00 PM **Y51** **A Semi-Automatic Tool for Footwear Impression Alignment**
*Hana Lee, BS**; *Alicia Laura Carriquiry, PhD*

11:30 AM – 1:00 PM **Y52** **An Interdisciplinary Approach for the Identification of Antique Skeletal Teaching Specimens: DNA Extraction, Forensic Bone Standards, and X-Ray Analysis**
*Cynthia Nichols**

11:30 AM – 1:00 PM **Y53** **Trend Identification in X-Ray Diffraction Peaks of Historic Cartridge Cases From Fort Ord, California**
*Sarina Regis**; *Katelyn K. Huie**; *Madison R. Loewen**; *McKenzie Floyd, MS*

11:30 AM – 1:00 PM **Y54** **A Qualitative Analysis of Xylazine, Nitazenes, and Common Opioids/Analogues by Liquid Chromatography/Tandem Mass Spectroscopy (LC/MS/MS) Following Collection With the M-Vac® Wet-Vacuum System**
*Madeline I. L. Robinson, BS**; *Lauren L. Richards-Waugh, PhD*; *Catherine Rushton, MSFS, EdD*

11:30 AM – 1:00 PM **Y55** **Can the Use of Sharpies® in Forensic Analysis Be a Source of DNA Transfer and Contamination When Examining Difference Fabric Types?**
*Haley Elizabeth Murphy, BS**; *Pamela Marshall, PhD*

Pathology/Biology

11:30 AM – 1:00 PM **Y56** **The Validation of a Manual Selective Degradation Method of Differential Extraction**
*Katelyn Peyton, MS**; *Kelly J. Beatty, MSFS*; *Amy K. Smith, MS*

11:30 AM – 1:00 PM **Y57** **Getting Down and Dirty: Analyzing Changes in Soil Microbiota During Three Stages of Mouse Decomposition**
*Madeline Robinson**; *Emily Nowicki, PhD, BS*; *Samantha J. Sawyer, PhD, BS*

11:30 AM – 1:00 PM **Y58** **A Commotio Cordis Case After a Fall From Height**
Hakan Isik; *Ilkay Kalkanli**; *Gözde Şirin*; *Ahmet Depreli, MD*; *Selçuk Çetin*

11:30 AM – 1:00 PM **Y59** **Comparing 3D Photogrammetry Models Created Using Either Routinely Acquired Autopsy Photographs or Those Taken Specifically for Photogrammetry**
*Malgorzata Pietrzak**; *Anja Petaros*; *Anders Persson, MD, PhD*

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- 11:30 AM – 1:00 PM **Y60** **Fun Run the Bowel: Two Cases of Fatal Gastrointestinal Hemorrhage From Duodenal Ulcers**
*Jessica Schmitt, MD**; *Neil G. Haycocks, MD, PhD*
- 11:30 AM – 1:00 PM **Y61** **Impacts of Desiccants on DNA Quantity and Quality in Sexual Assault Kits Over a One-Year Period**
*Catherine F. Hull, BA**; *Randy Nagy, BS*; *Dana Voris, MS*; *Lisa R. Ludvico, PhD*;
Pamela Marshall, MFS
- 11:30 AM – 1:00 PM **Y62** **The Identification of Biomarkers Associated With Prolonged Starvation in Cat (*Felis Catus*) Bones**
*Annagrace J. Radocaj, BS**; *Lisa R. Ludvico, PhD*; *Becky Morrow, DVM, MS*
- 11:30 AM – 1:00 PM **Y63** **A Low-Cost Microfluidic Biochip Integrated With LAMP for the Rapid Detection of *Streptococcus Pneumoniae* to Aid in Forensic Pathology**
*Angel Gabriel Gutierrez Ruiz**
- 11:30 AM – 1:00 PM **Y64** **An Autopsy Case of an Unusual Association Between the Chiari Network and the Patent Foramen Ovale: An Anatomical Variation or a Risk Factor ? A Case Report**
*Hind Abouzahir, MD, PhD**