

YFSF POSTERS

Wednesday

Poster Session

- 11:30 am – 1:00 pm **Y1** **Assessing the Accuracy and Precision of Crime Scene Measurements Obtained From Apple LiDAR Scans**
*Jason Ang**
(FSF Emerging Forensic Scientist Award Poster Presentation)
- 11:30 am – 1:00 pm **Y2** **Utilizing Honey Bees (*Apis Mellifera*) as a Surveillance and Monitoring Technique for Bacterial Pathogens in Specific Environments**
Jordan Walter, BSc; James Creecy, PhD*
- 11:30 am – 1:00 pm **Y3** **Human Profiling: The Application of the Oral Microbiome in the Prediction of Geographic Origin**
Nengi Ogbanga, PhD; Andrew Nelson, PhD; Darren Smith, PhD; Noemi Procopio, PhD*
- 11:30 am – 1:00 pm **Y4** **Understanding Postmortem Changes in the Porcine Muscle Metabolome for Postmortem Interval Estimation**
Maria Elena Chiappetta, MSc; Sara Locorriere, BSc; Peter Cross, MSc; Andrea Bonicelli, PhD; Noemi Procopio, PhD*
- 11:30 am – 1:00 pm **Y5** **The Rearing and Forensic Use of *Calliphora Vomitoria* Blow Fly Larvae**
Isabelle Cucinotta, BS; Heather Coyle, PhD*
- 11:30 am – 1:00 pm **Y6** **Psychiatry Resident Compliance With the Informed Consent Process for Voluntary Psychiatric Hospitalization**
Cecilia Zemanek, MD; James Knoll, MD*
- 11:30 am – 1:00 pm **Y7** **Detecting Peri- and Post-Menopausal Bone Changes Utilizing Micro-CT for Forensic Anthropology**
Theresa De Cree, MS; Shelby Garza, MA; Emily Brooks, MS; Emma Giacomello, MA*
(FSF Emerging Forensic Scientist Award Poster Presentation)
- 11:30 am – 1:00 pm **Y8** **Breaking the Silence: A Study of the Efficacy of Diverse Interrogation Methods**
*Rayna Yang**
- 11:30 am – 1:00 pm **Y9** **Visualizing Risk Factors of Missingness: How Spatial Software Can Illuminate Structural Violence**
Sarajane Smith-Escudero, BA; Jesse Goliath, PhD*
(FSF Emerging Forensic Scientist Award Poster Presentation)
- 11:30 am – 1:00 pm **Y10** **Gendered Language Discourse in Forensic Sciences Proceedings**
Samantha Unwin, BA; Samantha Blatt, PhD; Jose Sanchez, BS; Elizabeth Redd, PhD*
- 11:30 am – 1:00 pm **Y11** **A Quantitative Analysis of Explosive Taggants in Forensic Samples Using Total Vaporization-Headspace/Gas Chromatography/Mass Spectrometry (TV-HS/GC/MS)**
Alexis Hecker, MS; John Goodpaster, PhD; Jacqueline Boulet*

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- 11:30 am – 1:00 pm **Y12** **Fingerprint Age Determination Using Spectrometry Imaging by Analyzing and Comparing the Degradation of Specific Compounds Within the Fingerprint Residue in Crime Scene and Surrounding Areas**
*Esmael Mahmud, BSc**
- 11:30 am – 1:00 pm **Y13** **Non-Human Proxies in Human Skeletal Research: Some Sampling and Treatment Considerations**
Dakota Bell, MS; Luis Cabo, MS; Francisco Medina Paz, PhD; Sara C. Zapico, PhD; Joe Adserias-Garriga, PhD*
- 11:30 am – 1:00 pm **Y14** **To Scale or Not to Scale: The Accuracy and Impact Behind Scaling Three-Dimensional (3D) Models**
Ashley Paris, BS; Micki Besse, MS; Savanna Agilar, MS; Heather Walsh-Haney, PhD*
- 11:30 am – 1:00 pm **Y15** **A Composition of Decomposition in Three Varying Conditions Involving Body Coverage Using Pig Carcasses**
Greta Zahn, BA; Teja Vayuvegula, BAS; Emily Rancourt, MSFS; An-Di Yim, PhD; Joseph Dizinno, DDS*
- 11:30 am – 1:00 pm **Y16** **Designing Cerium-Doped Copper Oxide-Based Nanozymes for Microfluidic Sensing of Pesticides**
*Aditi Kishor Dhamne, MSc**
- 11:30 am – 1:00 pm **Y17** **An Evaluation of Optimal Pretreatment and Quantitative Method Pairings for the Analysis of GC/MS Data From Weathered Gasoline**
Grace Boyer; Mary Gregg, PhD*
- 11:30 am – 1:00 pm **Y18** **Integrating Machine Learning and ATR/FTIR Spectroscopy for Geographical Origin Identification to Combat Illegal Wood Trafficking**
Akanksha Sharma, MS; Vishal Sharma, PhD*
- 11:30 am – 1:00 pm **Y19** **Optimizing OdoPlex Primers for Use in Pennsylvania Elk**
Tianna Warner, BS; Mitchell Holland, PhD; Nicole Chinnici, DHSc; Jason Brooks, PhD*
- 11:30 am – 1:00 pm **Y20** **An Investigation Into the Feasibility of ICP/OES With Discriminant Function Analysis for the Forensic Characterization of Red Lipstick Samples**
Caroline Wisler, BS; Ellen Hondrogiannis, PhD*
- 11:30 am – 1:00 pm **Y21** **Transforming Bioarchaeology: Computer Vision for Sex Identification in Skeletal Remains**
*Kate Collette, BA**
- 11:30 am – 1:00 pm **Y22** **Investigating the Limits of Low-Input DNA Libraries for Genome Sequencing of Cryptosporidium**
Katherine Hshieh, BS; Jenny Maloney, PhD; Aleksey Molokin, MSc*

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- 11:30 am – 1:00 pm **Y23** **A Civil War Field Hospital: STR Analysis of Samples Collected From a Bloody Surgical Table**
Alyssa Spillar, BS;* *Natalie Spencer, BS;* *Kristin Mossé, MS;* *J. McClintock, PhD*
- 11:30 am – 1:00 pm **Y24** **Cartridge Casings in Forensic Science: An Analyzation and Comparison of Cartridge Casings Fired From Unknown and Known Firearms**
Anna Sommerville, BS;* *Kristin Mossé, MS*
- 11:30 am – 1:00 pm **Y25** **Pen Ink Analysis Via Raman Spectroscopy**
Alex Potter, BSc;* *Ellen Hondrogiannis, PhD;* *Mary Sanjini Devadas, PhD*
- 11:30 am – 1:00 pm **Y26** **A Gas Chromatography/Mass Spectrometry and Pyrolysis Gas Chromatography/Mass Spectrometry Analysis of Lubricant and Spermicide in Condoms and Personal Lubricants**
*Laura Cross**
- 11:30 am – 1:00 pm **Y27** **Evaluating the General Acceptance of Race-Neutral Statistical Analyses of CODIS Loci**
Isabelle Reed;* *James Creecy, PhD*
- 11:30 am – 1:00 pm **Y28** **Utilizing Fragmentation of the Gentueri CollectEject Swab for CODIS Upload**
Hannah Schaeffer, BS;* *Pamela Marshall, PhD*
(FSF Emerging Forensic Scientist Award Poster Presentation)
- 11:30 am – 1:00 pm **Y29** **Evaluating the Reliability of the Megyesi Total Body Scoring Method on People of Color**
Eliana Gutierrez, MA;* *Danny Wescott, PhD*
- 11:30 am – 1:00 pm **Y30** **The Characterization and Quantification of Cell-Free DNA in Touch Samples**
Veronica Poole;* *Michael Marciano, PhD*
- 11:30 am – 1:00 pm **Y31** **A Robustness Analysis of High-Dimensional Consensus (HDC) Mass Spectra in Forensic Drug Identification**
Briana Capistran, PhD; *Wencheng Zhong, MEng*;*
Amudhan Krishnaswamy Usha, PhD; *Anthony Kearsley, PhD*
- 11:30 am – 1:00 pm **Y32** **Maximum Likelihood Techniques for Discriminating Mass Spectra of Isomers**
Amudhan Krishnaswamy Usha, PhD;* *Briana Capistran, PhD;* *Anthony Kearsley, PhD*
- 11:30 am – 1:00 pm **Y33** **The Persistence of Trace DNA Samples in a Carjacked Scenario**
Daniel Leitholf, BS;* *Fabio Oldoni, PhD;* *Bas Kokshoorn, PhD*
(FSF Emerging Forensic Scientist Award Poster Presentation)
- 11:30 am – 1:00 pm **Y34** **The Effect of Ethanol on GHB UDP-Glucuronosyltransferase Activity**
Julie Loison, BS;* *Robert Powers, PhD*

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- 11:30 am – 1:00 pm **Y35** **Problematic Exclusionary Differences: The Tyranny of Universal Standards for Determining Exclusionary Differences**
Janean Hanka, MS; JoAnn Buscaglia, PhD; Jack Hietpas, PhD; Danica Ommen, PhD; Christopher Saunders, PhD*
- 11:30 am – 1:00 pm **Y36** **An Investigation of the Impact of the Fire Debris Sample Extraction Process on Latent Fingerprints**
Hope Hardman, BS; Robyn Lewis, BS; Derek Hardy, BA; Kimberly Kunkler, PhD*
- 11:30 am – 1:00 pm **Y37** **Using Historical Biocultural Variables and Vitamin D Deficiency to Assist With Biological Profiles**
*Kristy Henson, MS**
- 11:30 am – 1:00 pm **Y38** **The Impact of Different Environments on DNA Degradation in Decomposing Mammalian Specimens**
McKenzie Lamm; Kristy Henson, MS*
- 11:30 am – 1:00 pm **Y39** **An LC/MS/MS Analysis of Novel Psychoactive Arylcyclohexylamines in Blood**
Sean Lordo, BS; Sara Walton, MS; Michael Truver, PhD; Alex Krotulski, PhD; Anthony Costantino, PhD*
- 11:30 am – 1:00 pm **Y40** **Investigating the Ability to Generate DNA Profiles From Swabs of the Body Surface Utilizing Rapid DNA Technology: A Pilot Study**
Nicole Clayton, BS; Kaitlyn Glavee, BA; Krista Latham, PhD; Jami Sego, MS; Stephen Nawrocki, PhD*
- 11:30 am – 1:00 pm **Y41** **The Development of a Quantitative Method for the Analysis of Illicit and Novel Benzodiazepines in Tablets Using Ultra-Performance Liquid Chromatography Coupled With Triple Quadrupole Mass Spectrometry**
Brielle Etze, BS; Joshua DeBord, PhD; Alex Krotulski, PhD; Heather Harris, JD*
- 11:30 am – 1:00 pm **Y42** **DNA in Drugs: An Interdisciplinary Approach to Identify Drugs and the DNA Within**
Jaycie Esteban, BS; Lindsay Kotchey, MS; Joshua DeBord, PhD; Joshua Kotchey, MSFS; Fabio Oldoni, PhD; Heather Harris, JD*
- 11:30 am – 1:00 pm **Y43** **LC/QqQ/MS Method Development and Validation for the Quantitative Analysis of Drugs and Their Metabolites in Postmortem Blood**
Allison Blocker, BS; Amanda Mohr, MS; Brittany Casey, PhD; Anthony Costantino, PhD*
- 11:30 am – 1:00 pm **Y44** **A 12-Month Study on the Storage Conditions of Ignitable Liquids on Carbon Strips Used for Forensic Fire Debris Analysis**
Imani Peat; Amanda Burkhart, PhD*

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- 11:30 am – 1:00 pm **Y45** **An Analysis of Locally Purchased Δ 8-Tetrahydrocannabinol Products Via Gas and Liquid Chromatography**
*Austin Vest**; *Amanda Burkhart, PhD*
- 11:30 am – 1:00 pm **Y46** **An Investigation of DNA Contribution From Trace Samples Recovered From a Hammer Used in a Simulated Assault Scenario**
*Hope Rozycki, BS**; *Fabio Oldoni, PhD*; *Bas Kokshoorn, PhD*; *Mechthild Prinz, PhD*
(FSF Emerging Forensic Scientist Award Poster Presentation)
- 11:30 am – 1:00 pm **Y47** **The People Who Do Forensic Anthropology: Inferences From Interviews With Ten Forensic Anthropologists**
*Valerie Arroyo, BA**
- 11:30 am – 1:00 pm **Y48** **Mapping Mortality: A Decade’s Review of Drug Usage in Maryland (2014–2024)**
*Nicholas Boire, MD**; *Stephanie Dean, MD*; *Rebecca Phipps, PhD*
- 11:30 am – 1:00 pm **Y49** **Forensic Analysis of PDFs: The Role of Peritus in Standardization and Reproducibility**
*Dineusa Maria do Amaral**; *Cristiane Barbosa**
- 11:30 am – 1:00 pm **Y50** **Echoes of a Shotgun: Unraveling the Forensic and Clinical Mystery of Multiple Gunshot Wounds in a 26-Year-Old Male**
*Treasa James, MBBS**; *Akhilesh Pathak, MD*

Thursday

Poster Session

- 11:30 am – 1:00 pm **Y51** **An Assessment of Postmortem Interval by Analyzing Cellular Changes in Bone Marrow in Autopsy Cases: An Observational Study**
*Treasa James, MBBS**; *Akhilesh Pathak, MD*
- 11:30 am – 1:00 pm **Y52** **The Extraction, Amplification, and Analysis of Human DNA Recovered From Carrion Larvae and Adult Flies (*Sarcophaga Bullata*)**
*Katie Long, BS**; *Kristy Henson, MS*
- 11:30 am – 1:00 pm **Y53** **CODIS-Eligible DNA Collection From Sexual Assault Victims**
*Ella Noha**; *Abimbola Famurewa, MPH*; *Jenny Black, BSN*; *Rebecca Vieh, MS*; *Nancy Downing, PhD*
- 11:30 am – 1:00 pm **Y54** **Age Dynamics in the Violence Reporting and Examination Process for Female Victims in Santa Catarina, Brazil (2021–2024)**
*Ingrid Knochenhauer de Souza Mendes, MEng**; *Túlio Leal Corrêa*
- 11:30 am – 1:00 pm **Y55** **The Early Identification of Respiratory Illnesses in Infants/Children in Medicolegal Death Investigation Practice**
*Carletta Dunn, MS**

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- 11:30 am – 1:00 pm **Y56** **Analyzing the Photo-Oxidation Effects of UV on the Optical Properties and Vibrational Spectra of Synthetic Fibers**
*Vicky Wang, BS**; *Walter Rowe, PhD*
(FSF Emerging Forensic Scientist Award Poster Presentation)
- 11:30 am – 1:00 pm **Y57** **A Comparison of Confiscated Vaping Products From Virginia Schools From 2019–2020 to 2022–2024**
*Meredith Buckmire**; *Kelsey Moss, BS*; *Alaina Holt, PhD*; *Ashleigh Outhous, MS*; *Justin Poklis, BS*; *Caroline Cobb, PhD*; *Michelle Peace, PhD*
- 11:30 am – 1:00 pm **Y58** **Fetal Pig Decomposition in Western Pennsylvania: A Characterization of Burial Environment and the Decomposition Process in a Western Pennsylvania Non-Human Outdoor Decomposition Facility**
*Dakota Dickerson, BA**
- 11:30 am – 1:00 pm **Y59** **A Novel Technique to Identify Impurities Recovered With DNA Swabbing From Unfired Brass Ammunition**
*AJ Troyer, BSFS**; *Desiree Bliss, BS*; *Sangeetha Balabhadra, PhD*; *Khalid Lodhi, DSc*
- 11:30 am – 1:00 pm **Y60** **A Comprehensive Study of 3D Scanning and Mapping Technology in Forensic Investigations: Accuracy, Efficiency, and Volume**
*Emma Mancuso, BS (expected May 2025)**; *Jessica Abbott, PhD*
- 11:30 am – 1:00 pm **Y61** **Using the Truncated Normal Distribution for Value of Evidence in the Forensic Identification of Source Problems**
*Dylan Borchert, MS**; *Semhar Michael, PhD*; *Christopher Saunders, PhD*
- 11:30 am – 1:00 pm **Y62** **A Qualitative and Quantitative Analysis of Heavy Metals in Topical Cannabis Pain Relief Products**
*Sarah Murphy, BS**; *Marisia Fikiet, PhD*; *Alyssa Marsico, PhD*
- 11:30 am – 1:00 pm **Y63** **The Identification and Quantification of Illicit Drugs in Blood Using Stir Bar Sorptive Extraction and LC/QqQ/MS**
*Abigail Noll, BS**; *Stephanie Wetzel, PhD*; *Sean Fischer, PhD*; *Ashley Ebert, PhD*
- 11:30 am – 1:00 pm **Y64** **Optimizing Simultaneous DNA, RNA, and Protein Extraction From Human Teeth: The Effects of Incubation Time and Environmental Factors**
*Maria Castagnola, MA**; *Mayaas Hassan, BA*; *Alixs Pujols, BS*; *Shelby Feirstein, MS*; *Luis Cabo, MS*; *Joe Adserias-Garriga, PhD*; *Sara C. Zapico, PhD*
- 11:30 am – 1:00 pm **Y65** **The Influence of Heat on Animal Fiber Transformation: Macroscopical and Microscopical Approaches**
*Hwan Hee Lee, BS**; *Walter Rowe, PhD*

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- 11:30 am – 1:00 pm **Y66** **A Portable Microfluidic Biochip for the Simultaneous On-Site Detection of *Streptococcus Pneumoniae* and *Bordetella Pertussis* for Forensic Pathology Investigation**
*Angel Gutierrez Ruiz**; *Ariana Almanza**; *Xiujun Li, PhD*
- 11:30 am – 1:00 pm **Y67** **Investigating Without A Badge: How Civilian Detectives Influence Forensic Science and Law Enforcement**
*Emily Lentsch, BS**
- 11:30 am – 1:00 pm **Y68** **The Effects of Anxiety and Depression on Adolescent Offender Behavior**
*Maylynn Burns**; *Rose Danek, PhD*
- 11:30 am – 1:00 pm **Y69** **Posthumous Sperm Viability: Exploring the Impact of Time Since Death for Forensic and Reproductive Applications in India**
*Mrinal Patnaik, MD**; *Raghvendra Vidua, MD*; *Arneet Arora, MD*;
Ashwani Tandon, MD
- 11:30 am – 1:00 pm **Y70** **Isolating Novel DNA Methylomic Bone Signatures for Age Estimation in Fresh and Forensic Samples**
*Luke W. Gent, Mrs, BSc**; *Edward Schwalbe, PhD*; *Dean Thompson, PhD*;
Noemi Procopio, PhD
- 11:30 am – 1:00 pm **Y81** **Volatile Organic Compounds (VOC) of Decomposition of Tissues Exposed to Diphenhydramine and Ibuprofen Influence on Fly Attraction**
*Mei Conlon**; *Ashley Almeida, BS*; *Jovina Monteiro, BS*; *Samantha Sawyer, PhD*
- 11:30 am – 1:00 pm **Y82** **How Do Muzzle Velocity, Bullet Mass, and Overall Kinetic Energy Influence Skeletal Fracture Initiation and Propagation Patterns?**
*Delaney Edwards, MA**; *Mariyam Isa, PhD*

Friday

Poster Session

- 11:30 am – 1:00 pm **Y71** **The Variation of Aerosolized Nicotine as Ethanol Concentration Increases in E-Cigarette Formulations**
*Jessemia Meekins, BS**; *Justin Poklis, BS*; *Michelle Peace, PhD*; *Abby Veaser, MFS*
- 11:30 am – 1:00 pm **Y72** **An Analysis of the Incidence of Selected Opioids Seized Across Canada, 2018–2022**
*Bella Lehtamaki-Croiser, BSc**; *Matthew Leon, BSc*; *James Watterson, PhD*
- 11:30 am – 1:00 pm **Y73** **The Unsupervised Learning of Individuals in Keystroke Dynamics Via Semi-Supervised Multilayer Mixture Models**
*Andrew Simpson, MS**; *Semhar Michael, PhD*
- 11:30 am – 1:00 pm **Y74** **An Analysis of Human DNA Extraction From Plants in a Mock Burial**
*Rebecca Sines, BS**; *Lyndsie Ferrara, PhD*; *Sheree Hughes, PhD*;
Pamela Marshall, PhD

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- 11:30 am – 1:00 pm **Y75** **Examining the Presence of Foreign DNA on Neck Swabs**
*Alexa Gonzalez Morales, BS**; *Lyndsie Ferrara, PhD*
- 11:30 am – 1:00 pm **Y76** **The Persistence of Human eDNA in Air**
Pamela Marshall, PhD; *Lyndsie Ferrara, PhD*; *Kayla Houghton, BS**
- 11:30 am – 1:00 pm **Y77** **The Development of a Multilocus Sequence Typing Scheme for Characterizing Geographically Distributed *Yarrowia Lipolytica* Strains**
*Renea Douglas, BSc**; *James Crill, BAS*
- 11:30 am – 1:00 pm **Y78** **Subjective to Objective: An Investigation of Manual and Digital Qualitative Color Change Tools**
*Giavanna Bassi, BS**; *Savanna Agilar, MS*; *Micki Besse, MS*;
Heather Walsh-Haney, PhD
(FSF Emerging Forensic Scientist Award Poster Presentation)
- 11:30 am – 1:00 pm **Y79** **The Application of ATR/FTIR Spectroscopy for Differentiation of Liquid Cosmetic Foundations**
Kelly Elkins, PhD; *Jaden Force, BS**
- 11:30 am – 1:00 pm **Y80** **The Effect the Distance Between the Sample and Charcoal Strip and the Type of Passive Headspace System Have on Overall Chromatographic Patterns of Ignitable Liquid Residues**
*Emily Gondek, BS**; *Ellen Hondrogiannis, PhD*