

YFSF POSTER SESSION

Wednesday

Poster Session

- 11:30 am – 1:00 pm **Y1** **Assessing the Accuracy and Precision of Crime Scene Measurements Obtained From Apple LiDAR Scans**
(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*
- 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**

*Presenting Author

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- 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*
- 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**

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- 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**; Bas Kokshoorn, PhD; Fabio Oldoni, 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
- 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

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- 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*
- 11:30 am – 1:00 pm **Y45** **An Analysis of Locally Purchased $\Delta 8$ -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;* *Bas Kokshoorn, PhD;* *Mechthild Prinz, PhD;* *Fabio Oldoni, 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*

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11:30 am – 1:00 pm	Y53	CODIS-Eligible DNA Collection From Sexual Assault Victims <i>Ella Noha*</i> ; 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) <i>Ingrid Knochenhauer de Souza Mendes, MEng*</i> ; Túlio Leal Corrêa
11:30 am – 1:00 pm	Y55	The Early Identification of Respiratory Illnesses in Infants Through Medicolegal Death Investigative Practices <i>Carletta Dunn, MS*</i>
11:30 am – 1:00 pm	Y56	Analyzing the Photo-Oxidation Effects of UV on the Physical Structure and Optical Properties of Synthetic Fibers <i>Vicky Wang, BS*</i> ; Walter Rowe, PhD <i>(FSF Emerging Forensic Scientist Award Poster Presentation)</i>
11:30 am – 1:00 pm	Y57	A Comparison of Confiscated Vaping Products From Virginia Schools From 2019–2020 to 2022–2024 <i>Meredith Buckmire*</i> ; 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 <i>Dakota Dickerson, BA*</i>
11:30 am – 1:00 pm	Y59	A Novel Technique to Identify Impurities Recovered With DNA Swabbing From Unfired Brass Ammunition <i>AJ Troyer, BSFS*</i> ; Desiree Bliss, BS; Sangeetha Balabhadra, PhD; Khalid Lodhi, DSc; Zhiping Luo, PhD
11:30 am – 1:00 pm	Y60	A Comprehensive Study of 3D Scanning and Mapping Technology in Forensic Investigations: Accuracy, Efficiency, and Volume <i>Emma Mancuso, BS (expected May 2025)*</i> ; 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 <i>Dylan Borchert, MS*</i> ; 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 <i>Sarah Murphy, BS*</i> ; 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 <i>Abigail Noll, BS*</i> ; 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 <i>Maria Castagnola, MA*</i> ; Mayaas Hassan, BA; Alixs Pujols, BS; Shelby Feirstein, MS; Luis Cabo, MS; Joe Adserias-Garriga, PhD; Sara C. Zapico, PhD

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11:30 am – 1:00 pm	Y65	The Influence of Heat on Animal Fiber Transformation: Macroscopical and Microscopical Approaches <i>Hwan Hee Lee, BS*; Walter Rowe, PhD</i>
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 <i>Angel Gutierrez Ruiz*; Ariana Almanza*; Xiujun Li, PhD</i>
11:30 am – 1:00 pm	Y67	Investigating Without A Badge: How Civilian Detectives Influence Forensic Science and Law Enforcement <i>Emily Lentsch, BS*</i>
11:30 am – 1:00 pm	Y68	The Effects of Anxiety and Depression on Adolescent Offender Behavior <i>Maylynn Burns*; Rose Danek, PhD</i>
11:30 am – 1:00 pm	Y69	Posthumous Sperm Viability: Exploring the Impact of Time Since Death for Forensic and Reproductive Applications in India <i>Mrinal Patnaik, MD*; Raghvendra Vidua, MD; Arneet Arora, MD; Ashwani Tandon, MD</i>
11:30 am – 1:00 pm	Y70	Isolating Novel DNA Methylomic Bone Signatures for Age Estimation in Fresh and Forensic Samples <i>Luke W. Gent, Mrs, BSc*; Edward Schwalbe, PhD; Dean Thompson, PhD; Noemi Procopio, PhD</i>
11:30 am – 1:00 pm	Y81	Volatile Organic Compounds (VOC) of Decomposition of Tissues Exposed to Diphenhydramine and Ibuprofen Influence on Fly Attraction <i>Mei Conlon*; Ashley Almeida, BS; Jovina Monteiro, BS; Samantha Sawyer, PhD</i>
11:30 am – 1:00 pm	Y82	How Do Muzzle Velocity, Bullet Mass, and Overall Kinetic Energy Influence Skeletal Fracture Initiation and Propagation Patterns? <i>Delaney Edwards, MA*; Mariyam Isa, PhD</i>

Friday

Poster Session

11:30 am – 1:00 pm	Y71	The Variation of Aerosolized Nicotine as Ethanol Concentration Increases in E-Cigarette Formulations <i>Jessemia Meekins, BS*; Justin Poklis, BS; Michelle Peace, PhD; Abby Veaser, MFS</i>
11:30 am – 1:00 pm	Y72	An Analysis of the Incidence of Selected Opioids Seized Across Canada, 2018–2022 <i>Bella Lehtamaki-Croiser, BSc*; Matthew Leon, BSc; James Watterson, PhD</i>
11:30 am – 1:00 pm	Y73	The Unsupervised Learning of Individuals in Keystroke Dynamics Via Semi-Supervised Multilayer Mixture Models <i>Andrew Simpson, MS*; Semhar Michael, PhD</i>
11:30 am – 1:00 pm	Y74	An Analysis of Human DNA Extraction From Plants in a Mock Burial <i>Rebecca Sines, BS*; Lyndsie Ferrara, PhD; Sheree Hughes, PhD; Pamela Marshall, PhD</i>
11:30 am – 1:00 pm	Y75	Examining the Presence of Foreign DNA on Neck Swabs <i>Alexa Gonzalez Morales, BS*; Lyndsie Ferrara, PhD</i>

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- 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*