

# YFSF POSTERS

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## Wednesday

### Poster Session

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- 11:30 am – 1:00 pm      **Y1**      **Assessing the Accuracy and Precision of Crime Scene Measurements Obtained From iPhone LiDAR Scans**  
*Jason Ang\**
- 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*
- 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*
- 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*
- 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*
- 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  $\Delta$ 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\**; *Fabio Oldoni, PhD*; *Bas Kokshoorn, PhD*; *Mechthild Prinz, PhD*
- 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

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- 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*
- 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 Wetzal, 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

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- 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*
- 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*