

# TOXICOLOGY

## Wednesday

### Poster Session

7:30 pm—9:00 pm	<b>L1</b>	<b>A Complete and Optimized Toxicological Database Solution for Investigative and Routine Testing on GC/MS</b> Jeremy Smith, MSc*
7:30 pm—9:00 pm	<b>L2</b>	<b>WITHDRAWN</b>
7:30 pm—9:00 pm	<b>L3</b>	<b>A Toxic Relationship: Advanced Analytical Screening Techniques for Decomposed Specimens</b> Rachel Lindenberger, PhD*; Paul Crowley, BS; Sandra Bishop-Freeman, PhD
7:30 pm—9:00 pm	<b>L4</b>	<b>Advancing Forensic Sample Preparation: Capsule Phase Microextraction (CPME) as an Efficient Tool for Trace Evidence Analysis</b> Abuzar Kabir, PhD*; Kenneth Furton, PhD
7:30 pm—9:00 pm	<b>L5</b>	<b>Analytical Challenges in the Detection of <math>\Delta 8</math>-Tetrahydrocannabinol and Its Metabolites in Dried Urine Spots</b> R. Deanna Brambila, MSFS; Eduardo Geraldo de Campos, PhD*
7:30 pm—9:00 pm	<b>L6</b>	<b>Benzodope and Beyond: The Detection of Benzodiazepine and Opioid Mixtures in Blood and Alternative Matrices Using LC/MS/MS</b> Elizabeth Greco, BS*; Meredith Robbins, MS; Britni Skillman, PhD (FSF Emerging Forensic Scientist Award Poster Presentation)
7:30 pm—9:00 pm	<b>L7</b>	<b>Can <i>Lucilia Sericata</i> Larvae Produce Ethyl Glucuronide? An Experimental Study for Forensic Implications</b> Erika Buratti, PhD*; Giulia Ricchezza; Alice Cerioni, PhD; Marta Cippitelli, PhD; Roberto Scendonì, MD, PhD; Gianmario Miettì, PhD
7:30 pm—9:00 pm	<b>L8</b>	<b>The Classification of Mitragynine and 7-Hydroxymitragynine of Commercial Online Kratom Products, Local Kratom Bars, and Smoke Shops Via LC/MS/MS</b> Michaela Clarke, MS*; Anthony DeCaprio, PhD; Leonardo Maya, PhD; Kenneth Furton, PhD
7:30 pm—9:00 pm	<b>L9</b>	<b>Designing an Analytical Method to Screen for Contaminants in Amanita Muscaria Gummies Using Triple Quadrupole LC/MS/MS</b> Abigail Van de Water, BS*; Marisia Fikiet, PhD; Robert Powers, PhD
7:30 pm—9:00 pm	<b>L10</b>	<b>The Development and Validation of a Method for the Quantitative and Qualitative Analysis of Psychedelic Compounds in Antemortem and Postmortem Blood Using Liquid Chromatography/Tandem Mass Spectrometry</b> Paige Riley-Carrier, MS*; Rebecca Wagner, PhD
7:30 pm—9:00 pm	<b>L11</b>	<b>Dissociation by Design: LC/MS/MS Detection and Validation of Phencyclidine, Ketamine, Metabolites, and Novel Structural Analogs in Blood and Urine</b> Andrea Bernal, BS*; Britni Skillman, PhD
7:30 pm—9:00 pm	<b>L12</b>	<b>Ethanol Inhibition of Morphine Glucuronidation</b> Supraja Regunathan, BS*; Na Liu, PhD; Robert Powers, PhD (FSF Emerging Forensic Scientist Award Poster Presentation)

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7:30 pm—9:00 pm	<b>L13</b>	<b>The Extraction of Novel and Traditional Stimulants From Blood Using Protein Precipitation and Dispersive Pipette XTRaction for Liquid Chromatography/Triple Quadrupole Mass Spectrometry Analysis</b> Alexus Ceasar-Walker, BS*; Eduardo Geraldo de Campos, PhD
7:30 pm—9:00 pm	<b>L14</b>	<b>Fluorescent Detection of Heroin Using a Molecularly Imprinted Chitosan–UiO66 Metal Organic Framework (MOF)–Carbon Dot Hybrid Sensor</b> Somayeh Mohammadi, PhD*; Hamidreza Sharifan, PhD
7:30 pm—9:00 pm	<b>L15</b>	<b>Forensic Toxicology on a Pre-Skeletonized Body: A Case Report on the Use of Multiple Biological Matrices</b> Anna Antonia Capurso, MD*; Domenico Urso, MD; Valeria Santoro, MD, PhD; Francesco Introna, MD, PhD; Francesco Paolo Busardò, MD, PhD
7:30 pm—9:00 pm	<b>L16</b>	<b>The Identification of the Novel Non-Opioid Analgesic Suzetrigine in Whole Blood and Urine using Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)</b> Isabelle Parry, BS*; Britni Skillman, PhD <i>(FSF Emerging Forensic Scientist Award Poster Presentation)</i>
7:30 pm—9:00 pm	<b>L17</b>	<b>An LC/MS/MS Analysis of Nitazenes</b> Hannah Kruse, MPS*; William Campbell, PhD; Lucas Madak, BS
7:30 pm—9:00 pm	<b>L18</b>	<b>A Lethal Intake of Cocaine: Accidental or Suicide? The Presentation of a Case After a Review of the Literature</b> Giulia Ricchezza*; Alice Cerioni, PhD; Erika Buratti, PhD; Rino Foldi, MS; Roberto Scendonì, MD, PhD; Gianmario Mietti, PhD
7:30 pm—9:00 pm	<b>L19</b>	<b>Lethal Sodium Nitrite Intoxication: The Contribution of Immunoistochemical Markers</b> Roberta Bibbò, MD*; Stefania De Simone, PhD; Alessandro Santurro, MD, PhD; Giovanni Pollice, MD; Maria Antonella Bosco, MD; Francesco Orsini, MD
7:30 pm—9:00 pm	<b>L20</b>	<b>Liquid Chromatography-Tandem Mass Spectrometry Analysis of Natural and Semi-Synthetic Cannabinoids in Authentic Postmortem Blood Samples</b> Marco Ballotari, PhD*; Michael T. Truver, PhD; Jennifer Hoyer, MS; Chris Chronister, PhD; Bruce Goldberger, PhD
7:30 pm—9:00 pm	<b>L21</b>	<b>Methods of Separating Isomers of Fentanyl Analogs Via High-Performance Liquid Chromatography</b> David Cirota, MPS*; William Campbell, PhD; Margaret Frohnhoefer, BSc
7:30 pm—9:00 pm	<b>L22</b>	<b>WITHDRAWN</b>
7:30 pm—9:00 pm	<b>L23</b>	<b>Postmortem Electrolyte Profiling as a Forensic Biomarker: Differentiating Causes of Death</b> Ji Eun Jung, PhD*; Songhie An, PhD; Wooyong Park, MSc; Geum Mun Nam, PhD; Eunhui Park, MSc
7:30 pm—9:00 pm	<b>L24</b>	<b>Potency Testing for 24 Cannabinoids in Hemp and Cannabis-Infused Products</b> Mingjing Sun, PhD*
7:30 pm—9:00 pm	<b>L25</b>	<b>Quadrupole Time-Of-Flight vs. Orbitrap: Scoring High Resolution Mass Spectrometry Performance for New Psychoactive Substance Screening in Human Matrices</b> Akshita Verma, MS*; Anthony DeCaprio, PhD; Natalia Soares Quinete, PhD <i>(FSF Emerging Forensic Scientist Award Poster Presentation)</i>

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7:30 pm—9:00 pm	<b>L26</b>	<b>A Rapid LC/MS/MS Analysis of EtG and EtS in Urine</b> Samantha Herbick, MFS*; Jamie York, PhD; Jared Burkhart, BSc
7:30 pm—9:00 pm	<b>L27</b>	<b>WITHDRAWN</b>
7:30 pm—9:00 pm	<b>L28</b>	<b>A Review of Xylazine-Related Deaths Over a Two-Year Period at the West Tennessee Regional Forensic Center</b> Anfisa Baiandurova, MD*; Danielle Harrell, DO
7:30 pm—9:00 pm	<b>L29</b>	<b>Screening for Nitazene Analogs Using Neutral Losses and Common Fragments by Liquid Chromatography/Quadrupole Time-of-Flight/Mass Spectrometry</b> Angelique McDowell, BS*; Barry Logan, PhD; Alex Krotulski, PhD; Joshua DeBord, PhD
7:30 pm—9:00 pm	<b>L30</b>	<b>Semi-Synthetic Cannabinoids: The Newest Challenge in Analyzing THC Isomers</b> Jared Burkhart, BSc; Haley Berkland, MSFS*
7:30 pm—9:00 pm	<b>L31</b>	<b>A Stability Assessment of Nitazenes in Aqueous Solutions for the Development of Sample Preparation Procedures</b> Sara Kuberski, BS*; Britni Skillman, PhD
7:30 pm—9:00 pm	<b>L32</b>	<b>Substance Consumption Informative Research (SCIRe): Testing Hair From Electronic Music Festivals</b> Ana Pego, PhD*; Bruno Pereira dos Santos, MSc; Marta Concheiro-Guisan, PhD; Joao Pedro Matias, MS; Sarah Eller, PhD; Tiago Franco de Oliveira, PhD
7:30 pm—9:00 pm	<b>L33</b>	<b>Teaching Undergraduates Toxicology Skills Via a Mock Urinalysis LC/MS/MS Protocol</b> George Cattani*; Nina Ratusznik, BS; Anna Duggar, PhD; CJ Stephenson, PhD; Michael Sosin, MSc
7:30 pm—9:00 pm	<b>L34</b>	<b>The Chiral Separation of Hexahydrocannabinol (HHC) Metabolites Reveals 9S-4'OH-HHC as Major Urinary Side-Chain Hydroxylation</b> Markus Roman, BSc; Wu Xiongyu, PhD; Henrik Gréen, PhD; Robert Kronstrand, PhD*
7:30 pm—9:00 pm	<b>L35</b>	<b>Tracking Toxicity: A Preliminary Forensic-Epidemiological Overview of Drug-Related Deaths in Northwestern Italy (2012–2024)</b> Federica Trevisoi, MD*; Valentina Martini, MSc; Guido Viel, MD, PhD; Luca Morini, PhD; Camilla Torriani, MSc; Maria Cristina Monti, PhD
7:30 pm—9:00 pm	<b>L36</b>	<b>Urine Drug Testing in a Few Drops: Assessing Dried Urine Spots for the Detection of Synthetic Cathinones Using Liquid Chromatography/Triple Quadrupole/Mass Spectrometry</b> Julia Hintermeister, BA*; Eduardo Geraldo de Campos, PhD (FSF Emerging Forensic Scientist Award Poster Presentation)
7:30 pm—9:00 pm	<b>L37</b>	<b>Using the New Stellar Mass Spectrometer and Automated Extraction for Drugs of Abuse Testing in Whole Blood</b> Courtney Patterson, MS*; Jingshu Guo, PhD; Kerry Hassell, PhD
7:30 pm—9:00 pm	<b>L38</b>	<b><math>\Delta^9</math>-THCP and <math>\Delta^9</math>-THCH Biomarkers Formed by Human Liver Microsomes</b> Kathryn James, BS*; Alaina Holt, PhD; Michelle Peace, PhD; Justin Poklis, BS (FSF Emerging Forensic Scientist Award Poster Presentation)

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## Thursday

### Annual Lectureship in Toxicology

Moderator: Svante Vikingsson, PhD

Co-Moderator: Curt Harper, PhD

8:30 am—8:35 am		<b>Welcome &amp; Introductions</b>
8:35 am—9:45 am		<b>Invited Lectureship: Cannabis and Cannabinoids Landscape in Recent Years</b>
9:45 am—10:15 am	<b>L39</b>	<b>An Update on Standards Development Activities in Forensic Toxicology</b> Marc LeBeau, PhD*
	<b>L40</b>	<b>WITHDRAWN</b>
10:15 am—10:30 am		<b>BREAK</b>

### Drugs and Driving

Moderator: Kayla Neuman, MS

Co-Moderator: Curt Harper, PhD

10:30 am—10:45 am	<b>L41</b>	<b>Expiration, Collection, and Storage: A Multi-Factor Investigation of Blood Alcohol Testing</b> Sarah Douglas, MS; Roth Woolley, BS* (FSF Emerging Forensic Scientist Award Oral Presentation)
10:45 am—11:00 am	<b>L42</b>	<b>Behind the Calm: Benzodiazepines in Blood and Oral Fluid Samples in Alabama</b> Kristin Umstead, BS*; Curt Harper, PhD
11:00 am—11:15 am	<b>L43</b>	<b>Bromazolam in Driving Investigations: An Update</b> Jolene Bierly, MSFS*; Donna Papsun, MS; Barry Logan, PhD
11:15 am—11:30 am	<b>L44</b>	<b>The Detection of Fluorofentanyl in Urine Driving Under the Influence (DUI) Cases</b> Kenson Jean, BS*; Kristin Kahl, MS; Lisa Reidy, PhD
11:30 am—1:15 pm		<b>BREAK</b>

### Multidisciplinary Session: Pathology/Biology and Toxicology

Moderator: Laura Labay, PhD

Co-Moderator: Ponni Arunkumar, MD

1:00 pm—1:15 pm	<b>L45</b>	<b>Postmortem Hair Testing for Fentanyl and Analogs: Experimental, Forensic, and Interpretative Aspects</b> Nicola Pigaiani, MD, PhD* Marco Ballotari, PhD; Federica Bortolotti, MD, PhD; Gregory Davis, MD; Rossella Gottardo, PhD; Karen Scott, PhD
1:15 pm—1:35 pm	<b>I92</b>	<b>A Forensic Investigation of Kratom-Related Fatalities: The Mitragynine Paradox</b> Giulia Bambagiotti, MD*; Diletta Berardinelli, PhD*; Eva Montanari, PhD; Prentiss Jones, PhD; Gary W. Kunsman, PhD; Francesco Paolo Busardò, MD, PhD; Marilyn A. Huestis, PhD
1:35 pm—1:50 pm	<b>L46</b>	<b>MDMA Toxicity: A Fatal Case of Ayus-Arieff Syndrome</b> Chiara Carsana, MD*; Bianca Beltrame, MD*; Andrea Verzeletti, MD, PhD; Mauro Minoli, BPharm; Lorenzo Franceschetti, MD, PhD

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1:50 pm—2:05 pm	<b>L47</b>	<b>Positivity of Clonazepam and 7-Aminoclonazepam in DUID Versus Postmortem Casework: Microbial Biotransformation as a Pre-analytical Factor</b> Haley Bibey, MSFS*; Donna Papsun, MS; Brittany Casey, PhD; Shayna Kasher, MSFS (FSF Emerging Forensic Scientist Award Oral Presentation)
2:05 pm—2:20 pm	<b>L48</b>	<b>“The Matrix”: Is the Brain Suitable to Overcome PM Redistribution in Cocaine Overdoses?</b> Pascale Basilicata, PhD; Mariagrazia Marisei, MD*; Maria Pieri, PhD*; Angela Silvestre, PhD; Angela Simonelli, PhD; Rossella Guadagni, PhD
2:20 pm—2:35 pm	<b>L49</b>	<b>Unintentional Fentanyl Overdoses Among Cocaine Users: Investigating “Powder and Rock Confusion” Through a Scene-Integrated Toxicological Model</b> Emily Dalgo, MA; Alana Golding, BS*; Maria Esquivel, BA*; Rhonda Mittenzwei, MD*
2:35 pm—2:55 pm	<b>I93</b>	<b>Trends in Cannabinoid Positivity in Fatal Motor Vehicle Collisions: A Retrospective Toxicological Analysis in Connecticut (2018–2024)</b> Stacy Thomas, MD, PhD*; James Gill, MD; Amanda Mohr, MS; Michelle Clark, MS
2:55 pm—3:10 pm	<b>L50</b>	<b>Ketamine-Induced Nephritis and Cystitis: A Forensic Autopsy Case Report</b> Kanokphun Chaisaksiri, MD*; Peerayuht Phuangphung, MD, PhD; Ngoentra Tantranont, MD; Sakda Sathirareuangchai, MD
3:10 pm—3:30 pm		<b>BREAK</b>

## Cannabinoids

Moderator: Jennifer Limoges, MS

Co-Moderator: Jessemia Meekins, BS

3:30 pm—3:45 pm	<b>L51</b>	<b>The Fog of Regulation: Adverse Events and Cannabinoid Products</b> Kelsey Moss, BS*; Alaina Holt, PhD; Michelle Peace, PhD; Justin Poklis, BS
3:45 pm—4:00 pm	<b>L52</b>	<b>Exploring the Prevalence of Delta-8 THC in the United States: A Comprehensive Review Across Multiple Matrices and Casework Populations</b> Jennifer Swatek, MS*; Samantha Curran, BS; Ayako Chan-Hosokawa, MS
4:00 pm—4:15 pm	<b>L53</b>	<b>High Hopes: Assessing Label Accuracy and Microbiological Contamination of Cannabis E-Liquids</b> Logan Peters, BS*; Ankita Gola, BS; Michelle Peace, PhD; Alaina Holt, PhD; Justin Poklis, BS (FSF Emerging Forensic Scientist Award Oral Presentation)
4:15 pm—4:30 pm	<b>L54</b>	<b>Chemical Roulette: The Safety Gamble of Over-the-Counter Nutraceuticals</b> Lillie Thomas, MS*; Justin Poklis, BS; Michelle Peace, PhD
4:30 pm—4:45 pm	<b>L55</b>	<b>Analysis of <math>\Delta^8</math>-Tetrahydrocannabinol, <math>\Delta^9</math>-Tetrahydrocannabinol, and Cannabidiol Metabolites in Meconium Samples</b> Marco Ballotari, PhD*; Michael T. Truver, PhD; Bruce Goldberger, PhD; Sarah Bartock, PhD; Wen Dui, PhD; Kay Roussos-Ross, MD
4:45 pm—5:00 pm	<b>L56</b>	<b>The Laboratory Impact of a Paradigm Shift in Reporting Postmortem Cannabinoids</b> Shayna Kasher, MSFS*; Daniel Isenschmid, PhD; Donna Papsun, MS; Sherri Kacinko, PhD; Haley Bibey, MSFS

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## Friday

### Novel Psychoactive Substances

Moderator: Michele Crosby, PhD

Co-Moderator: Muhammad Taimoor Chaudhary, MPhil

8:30 am—8:45 am	<b>L57</b>	<b>A Comparison of Selectivity and Peak Shape of Forensically Relevant Compounds Between Four Column Types</b> Margaret Frohnhofer, BSc*; William Campbell, PhD
8:45 am—9:00 am	<b>L58</b>	<b>Tiny Samples, Big Impact: Detecting Prenatal Alcohol Exposure Using PEth in Dried Blood Spots and LC/MSMS</b> Stephanie Rodriguez, BS*; Baylee Clore, BS; Marta Concheiro-Guisan, PhD
9:00 am—9:15 am	<b>L59</b>	<b>Sealed Syringe Rotation Saturation Improves Safety and Efficiency in Postmortem CO-Hb Measurement</b> Songhie An, PhD*; Yujeong Kim, PhD; Wooyong Park, MSc
9:15 am—9:30 am	<b>L60</b>	<b>Strategies for Mitigating the Effects of High Gabapentin Concentrations in Urine Specimens</b> Haley Berkland, MSFS*
9:30 am—9:45 am	<b>L61</b>	<b>The Optimization and Validation of a Method for Detecting Single Doses of Diphenhydramine in Hair From a Controlled Dosing Study</b> Kaylyn Keith, MS*; Anthony DeCaprio, PhD
9:45 am—10:00 am	<b>L62</b>	<b>Analyzing the Impact of Centrifugation and Sample Preparation on Drugs of Abuse in Oral Fluids</b> Samantha Herbick, MFS*; Jared Burkhardt, BSc
10:00 am—10:15 am	<b>L63</b>	<b>The Critical Role of Ascorbic Acid and Sodium Fluoride Preservative in the Stability of 4-Pro-DMT in Blood</b> Christopher McGrowder, BS*; Marta Concheiro-Guisan, PhD
10:15 am—10:30 am		<b>BREAK</b>

### Analytical Advancements

Moderator: Amanda Jenkins, PhD

Co-Moderator: Madison Schackmuth, PhD

10:30 am—10:45 am	<b>L64</b>	<b>Nitazene Analogs Placed Under Generic Control in China: Understanding the Framework and Preparing for the Next Novel Synthetic Opioid Wave</b> Alex Krotulski, PhD*; Sara Walton, MS; Donna Papsun, MS; Joshua DeBord, PhD; Barry Logan, PhD
10:45 am—11:00 am	<b>L65</b>	<b>Pharmacodynamic Effects and Plasma Pharmacokinetics of N,N-Dimethyltryptamine (DMT) After Intranasal Versus Subcutaneous Administration in Male Rats</b> Sara Walton, MS*; Michael Baumann, PhD; Alex Krotulski, PhD; Grant Glatfelter, PhD; Christopher Witowski, PhD; Jacqueline von Salm, PhD
11:00 am—11:15 am	<b>L66</b>	<b>The Prevalence of Other Additive Novel Psychoactive Substances and Polydrug Positivity in Clinical Urine Specimens</b> Jillian Neifeld, MS*; Theresa Meli, MS; Sarah Bartock, PhD; Alicia Bland, MS; Michael Smith, PhD

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11:15 am—11:30 am      **L67**      **The Emergence of Synthetic Cannabinoids in Maryland Correctional Facilities: 2023–2025**  
Stephanie Dean, MD\*; Jack Titus, MD; Rebecca Phipps, PhD\*

11:30 am—1:00 pm      **BREAK**

## **Pediatric Toxicology**

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Moderator: Nikolas Lemos, PhD

Co-Moderator: Timothy Rohrig, PhD

1:00 pm—3:00 pm      **L68**      **Pediatric Postmortem Forensic Toxicology: Children Are Not Small Adults**  
Nikolas Lemos, PhD\*; Timothy Rohrig, PhD; Kari Midthun, PhD; Carl Schmidt, MD;  
D. Kimberley Molina, MD; Sarah Riley, PhD