

# TOXICOLOGY

## Wednesday

### Poster Session

7:30 PM – 9:00 PM	L1	<b>WITHDRAWN</b>
7:30 PM – 9:00 PM	L2	<b>The Quantitation of Five Benzodiazepines and Zolpidem in Whole Blood Using Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)</b> <i>Ivana Antunovic, MSc*; Sandra Mudrić, MSc; Tomislav Houra, MSc; Elizabeta Stojaković, MSc; Maja Jelena Čop, PhD</i>
7:30 PM – 9:00 PM	L3	<b>The Quantitation of Fentanyl, P-Fluorofentanyl, and Xylazine in Postmortem Blood by Using Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)</b> <i>Michael Truver, PhD*; Sara Brogan, BS; Amy Kinsey, MS; Jennifer Hoyer, MS; Chris Chronister, PhD; Bruce Goldberger, PhD</i>
7:30 PM – 9:00 PM	L4	<b>A New Approach for Identifying the Postmortem Formation of Ethanol: The Development and Validation of a Salt-Assisted Headspace/Gas Chromatograph/Flame Ionization Detector (HS/GC/FID) Method for the Determination of Ethanol in Vitreous Humor</b> <i>Giacomo Musile, PhD*; Nicola Pigaiani, MD; Emma Pasetto, BSc; Marco Ballotari, MSc; Federica Bortolotti, PhD; Franco Tagliaro, MD</i>
7:30 PM – 9:00 PM	L5	<b>The Differentiation of Structurally Similar Fentanyl Analogs With Theoretical and Experimental Analysis by Surface-Enhanced Raman Spectroscopy (SERS)</b> <i>Sevde Dogruer Erkok, PhDc*; Emily Hernandez, BS*; Bruce McCord, PhD</i>
7:30 PM – 9:00 PM	L6	<b>The Simultaneous Determination of 24 Designer Benzodiazepines in Hair Using Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)</b> <i>Jongsook Rhee, PhD*; Byungsook Cho, MS; Hyewon Baik, MS; Yujin Park, PhD; Ilchung Shin, PhD; Jihyun Kim, PhD; Sanggil Choe, PhD; Suncheun Kim, PhD; Eunmi Kim, PhD</i>
7:30 PM – 9:00 PM	L7	<b>Evaluating Cannabinoid Stability in Different Conditions and Validating THC-O and THC-P for Oral Fluid Analysis</b> <i>Cody Passeur, MSFS*; Curt Harper, PhD; Elizabeth Gardner, BS, PhD</i>
7:30 PM – 9:00 PM	L8	<b>Substance-Related Pediatric Deaths Examined at the West Tennessee Regional Forensic Center: An Analysis of the Past 16 Years</b> <i>Ibrahim Ortanca, MD*; Danielle Harrell, DO</i>
7:30 PM – 9:00 PM	L9	<b>Is a Subdural a Time Capsule?</b> <i>Brianna Smyth, BS*; Dina Swanson, MS; Julia Pearson, PhD</i>
7:30 PM – 9:00 PM	L10	<b>The Detection of Ethanol Consumption Markers and Drugs in Urine Samples From Inmates of Two German Prisons</b> <i>Vanessa Thoma, MD*; Anette Franz, MD; Laura Huppertz, BS; Volker Auwärter, MD; Annette Thierauf-Emberger, MD</i>
7:30 PM – 9:00 PM	L11	<b>Quantitative and Qualitative Analysis of Fentanyl and Its Analogs in Urine Using Disposable Pipette Extraction</b> <i>Dominic Minasi-Tapia, MS*; Ihouma Igwilo, MBBS, MSFS; G. Brent Dawson, PhD; Tara Arends, MS; Michael Baldwin, BA</i>

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7:30 PM – 9:00 PM	<b>L12</b>	<b>Machine Learning Approaches to Make Data Driven Decisions in Forensic Science Application by Using Fourier Transform Infrared (FTIR) Spectroscopy</b> <i>Bilkis Mitu, PhD*</i> ; <i>Lenka Halamkova, PhD</i>
7:30 PM – 9:00 PM	<b>L13</b>	<b>The Analysis of Depressants and Psychedelic Drugs From Vitreous Humor Using Liquid-Liquid Extraction (LLE) and High-Performance Thin-Layer Chromatography (HTPLC) Plates</b> <i>Neha Afaria, PhD*</i> ; <i>Ashok Kumar Jaiswal, PhD</i>
7:30 PM – 9:00 PM	<b>L14</b>	<b>Comparing the Performance of Liquid Chromatography/Triple Quadrupole/Mass Spectrometry (LC/QqQ/MS) vs. Liquid Chromatography/Quadrupole Time-Of-Flight/Mass Spectrometry (LC/QTOF/MS) for Targeted Analysis of NPS With a Test Mixture of 40 New Psychoactive</b> <i>Rebecca Smith, MS*</i> ; <i>Anthony DeCaprio, PhD</i> ; <i>Anamary Tarifa, PhD</i>
7:30 PM – 9:00 PM	<b>L15</b>	<b>Evaluating Cannabidiol (CBD) for Potential Interference in Six Commercial Homogeneous Cannabinoid Urine Screening Kits</b> <i>Ashley Pokhai, BA*</i> ; <i>Justin Poklis, BS</i> ; <i>Grace Williams, PhD</i> ; <i>Carl Wolf, PhD, MS</i>
7:30 PM – 9:00 PM	<b>L16</b>	<b>The Revival of Opioids Among Young People: An Overview on Toxicological, Epidemiological, and Social Aspects</b> <i>Simona Nicoli, MD</i> ; <i>Cristina Caterino, MD</i> ; <i>Marcello Benevento, MD</i> ; <i>Giampiero Bottari, MD</i> ; <i>Francesco Clemente, MD</i> ; <i>Francesco Carravetta, MD</i> ; <i>Biagio Solarino, PhD*</i>
7:30 PM – 9:00 PM	<b>L17</b>	<b>A Combined Death by Food Aspiration and Acute Citalopram Intoxication</b> <i>Pietro Zuccarello, PhD*</i> ; <i>Giulia Carnazza, Msc</i> ; <i>Francesco Sessa, MS, PhD</i> ; <i>Monica Salerno, MD, PhD</i> ; <i>Cristoforo Pomara, MD</i> ; <i>Nunziata Barbera, MD</i>
7:30 PM – 9:00 PM	<b>L18</b>	<b>Donepezil Concentrations in Postmortem Toxicology</b> <i>Jolene Bierly, MSFS*</i>
7:30 PM – 9:00 PM	<b>L19</b>	<b>The Development of an Extraction Method for the Analysis of Synthetic Opioids in Bone Samples Using the Bead Ruptor</b> <i>Kala Babb, BS*</i> ; <i>David Cohen, MD</i> ; <i>Justin Poklis, BS</i> ; <i>Emanuele Alves, PhD</i>
7:30 PM – 9:00 PM	<b>L20</b>	<b>The Chemical Characterization of Cannabidiol-Based Products Using Attenuated Total Reflectance/Fourier Transform Infrared (ATR/FTIR), Gas Chromatography/Mass Spectrometry (GC/MS) and Gas Chromatography/Tandem Mass Spectrometry (GC/MS/MS)</b> <i>Eduardo De Campos, PhD*</i> ; <i>Dehlia Lang, BS*</i>
7:30 PM – 9:00 PM	<b>L21</b>	<b>A Report of Isolated Para-Fluorofentanyl Deaths in Allegheny County, Pennsylvania</b> <i>Courtney Healy, DO*</i> ; <i>Todd Luckasevic, DO</i> ; <i>Jennifer Janssen, BS, MS</i> ; <i>Ariel Goldschmidt, MD</i> ; <i>Karl Williams, MD, NPH</i>
7:30 PM – 9:00 PM	<b>L22</b>	<b>Color Me Stable: Choosing an Adequate Blood Collection Tube for Venous Blood Toxicological Analyses</b> <i>Gabrielle Daigneault</i> ; <i>Anabelle Carbonneau, BSc</i> ; <i>Elizabeth Charron, BSc</i> ; <i>Genevieve Dube, BSc</i> ; <i>Stephanie Savard</i> ; <i>Brigitte Desharnais, PhD</i> ; <i>Edith Viel, BSc</i> ; <i>Alexandra Doyon, MSc*</i> ; <i>Souryvanh Nirasay, PhD</i> ; <i>Pascal Mireault, MSc</i>
7:30 PM – 9:00 PM	<b>L23</b>	<b>Solid Phase Extraction of Novel Synthetic 2-Benzylbenzimidazole Opioid Compounds: "Nitazenes"</b> <i>Emily Eng, MSFS*</i> ; <i>Stephanie Reichardt, MSFS*</i>

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- 7:30 PM – 9:00 PM    **L24**    **The Quantitative Analysis of Cadmium in Blood Using Flame Atomic Absorption Spectrometry (FAAS)**  
*Jatin Kumar Drall\*; Ashok Kumar Jaiswal, PhD; Ajay Kumar Kataria, MTech*
- 7:30 PM – 9:00 PM    **L25**    **The Evaluation of Spontaneous Overtime Methaemoglobin Production in Postmortem Blood Samples From Real Cases in Critical Storage Conditions for an Application in Cases of Suspected Nitrate Poisoning**  
*Sara Gariglio, BS\*; Maria Chiara David, PhD; Alessandro Mattia, MS; Matteo Scopetti, MD; Alessandro Santurro, MD, PhD; Stefano D’Errico, MD, PhD*
- 7:30 PM – 9:00 PM    **L26**    **A New Assay for Phosphatidylethanol (PEth) in Blood Via Gas Chromatography/Electron Impact/Mass Spectrometry (GC/EI/MS)**  
*James DeFrancesco, PhD\**
- 7:30 PM – 9:00 PM    **L27**    **Death Following the Accidental Ingestion of E-liquid**  
*Mihaela Georgieva, MD\*; Martin Angelov, MD; Kamen Peev, MD; Iliana Brainova, MD, PhD; Verzhiniya Stefanova, MD; Alexandar Alexandrov, MD, PhD; Metodi Goshev, MD, PhD; Biliana Mileva, MD; Lorenzo Gitto, MD; Vesela Ivanova, MD, PhD; Tihomir Dikov, MD; Vasil Atanasov, MD, PhD*
- 7:30 PM – 9:00 PM    **L28**    **The Evaluation of the Cross-Reactivity of Cannabidiol (CBD), Delta-Tetrahydrocannabinols (Delta-THCs), Olivetol, and Metabolites in Whole Blood Using a THC Enzyme-Linked Immuno-Sorbent Assay (ELISA) Kit**  
*Carl E. Wolf, PhD\*; Jade Smith, BS; Grace Williams, PhD; Emanuele Alves, PhD; Justin Poklis, BS*
- 7:30 PM – 9:00 PM    **L29**    **A Review of Illicit Substances Detected in Homicidal Deaths in Memphis, Tennessee, Over a Three-Year Period**  
*Latifah Ahmad, BS\*; Danielle Harrell, DO*
- 7:30 PM – 9:00 PM    **L30**    **WITHDRAWN**
- 7:30 PM – 9:00 PM    **L31**    **The Development of New Solvent Systems for the Analysis of Clonazepam in Blood Using High-Performance Thin-Layer Chromatography (HPTLC) Plates**  
*Naagar Sunil, MD\*; Rohit Kanojia, PhDc*
- 7:30 PM – 9:00 PM    **L32**    **The Analysis of Vitreous Humor: Enhanced Toxicological Testing Potential in Postmortem Examination**  
*Jennifer Vosters, BS\*; Noelle Fukuda, BS\*; Tiffany Hangse, BA\*; Rubie Villela, BS; Prentiss Jones, Jr., PhD*
- 7:30 PM – 9:00 PM    **L33**    **The Generation of Methamphetamine From Amphetamine by N-Methyltransferase in Human Cytosol: Implications for Therapeutic Amphetamine Patients**  
*Abby Veaser, MSFS\*; Robert Powers, PhD*
- 7:30 PM – 9:00 PM    **L34**    **Molecular Dynamics Simulations of Novel Synthetic Opiates Binding to the Opioid Receptors (ORs)**  
*Uzoma Okafor, PhD\**
- 7:30 PM – 9:00 PM    **L35**    **The Detection of  $\Delta^9$ -Tetrahydrocannabinol (THC) in Oral Fluid Using the Fast Blue BB (FBBB) Test**  
*Roberta Gorziza, PhD\*; Nicole Valdes, MS; Marilyn Tinoco, MS; Jose Almirall, PhD*

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- 7:30 PM – 9:00 PM    **L36**    **The Elution and Recovery of Cannabinoids From an Impaction Filter Device**  
*Jennifer Berry, PhD\**; *Kavita Jeerage, PhD*; *Mary Gregg, PhD*; *Cheryle Beuning, PhD*
- 7:30 PM – 9:00 PM    **L37**    **The Characterization of Spice Products: Barely Legal, Voodoo Child, Brainstorm and Their Effects on Human A549 Lung Cells**  
*Oluseyi Vanderpuye, PhD\**; *Miron Gilbert, PhD*
- 7:30 PM – 9:00 PM    **L38**    **A Sip of Blue Wine: Fatal Intoxication by Dimethoate**  
*Andrea Costantino, MD\**; *Giacomo Visi, MD*; *Julia Lazzari, MD*; *Fabio Stefanelli, PhD*; *Silvio Chericoni, PhD*; *Marco Di Paolo, MD*

## Thursday

### Annual Lectureship in Toxicology

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Moderator: TBD

Co-Moderator: TBD

- 8:15 AM – 8:30 AM    **Welcome and Introductions**
- 8:30 AM – 9:30 AM    **Annual Lectureship in Toxicology**  
*Karen McDonald, MS*  
*Lead for Toronto's Drug Checking Service*  
*Centre on Drug Policy and Evaluation*
- 9:30 AM – 10:00 AM    **L39**    **Standards Development Activities in Forensic Toxicology**  
*Marc LeBeau, PhD\**
- 10:00 AM – 10:15 AM    **L40**    **2021 National Forensic Laboratory Information System (NFLIS) Toxicology Laboratory Survey Findings**  
*DeMia Pressley, MS\**; *BeLinda Weimer, MS*; *David Heller, BS*; *Jeffrey Ancheta, BS*; *Neelima Kunta, BS*; *Kelly Keyes, BS*; *Megan Grabenauer, PhD*; *Katherine Bollinger, MS*; *Hope Smiley-McDonald, PhD*; *Jeri Roper-Miller, PhD*
- 10:15 AM – 10:30 AM    **BREAK**

### Novel Psychoactive Substances

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Moderator: TBD

Co-Moderator: TBD

- 10:30 AM – 10:45 AM    **L41**    **The Continually Expanding World of Designer Benzodiazepines**  
*Donna Papsun, MS\**; *Alex Krotulski, PhD*; *Barry Logan, PhD*
- 10:45 AM – 11:00 AM    **L42**    **Mixed Intoxications Involving the Novel Synthetic Opioids Methoxyacetylfentanyl and U-47700: A Study of Three Cases**  
*Arianna Giorgetti, MD\**; *Giorgia Franchetti, MD*; *Rebecca Pircher-Berchtold, MD*; *Markus Große Perdekamp, MD*; *Stefan Pollak, MD*; *Susi Pelotti, MD*; *Volker Auwärter, MD*
- 11:00 AM – 11:15 AM    **L43**    **Phase I Metabolism of New Psychoactive Substances Via Alternative In Vitro Methods**  
*Leonardo Maya, MS\**; *Anthony DeCaprio, PhD*

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- 11:15 AM – 11:30 AM    **L44**    **N-Pyrrolidino Etonitazene: A Newly Emerging Nitazene Compound in the Synthetic Opioid Landscape**  
*Amanda Hersh, MD\**; *Meredith Frank, MD*; *James Caruso, MD*; *Ian Puffenberger, MD*;  
*Sterling McLaren, MD*; *Daniel Anderson, MS*
- 11:30 AM – 11:45 AM    **L45**    **Temperature and pH-Dependent Stability: Identifying Fentanyl Degradation Pathways**  
*Madison Schackmuth, BS\**; *Sarah Kerrigan, PhD*
- 11:45 AM – 1:00 PM        **BREAK**

## Multidisciplinary Session: Pathology/Biology and Toxicology

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Moderator: TBD

Co-Moderator: TBD

- 1:00 PM – 1:15 PM    **L46**    **An Unusual Case of Misrepresented Cocaine Powder That Resulted in Fatal and Non-Fatal Intoxications Involving the Novel Synthetic Opioid Etodesnitazene**  
*Alex Krotulski, PhD\**; *Stephany Fiore, MD*; *Daniel Anderson, MS*; *Sara Walton, MS*;  
*Brianna Peterson, PhD*; *Donna Papsun, MS*; *Joshua DeBord, PhD*; *Barry Logan, PhD*
- 1:15 PM – 1:30 PM    **L47**    **I Believe I Can Fly: Hallucinogenic/Psychedelic Drugs Found in Fall-From-Height Cases in Miami-Dade County, Florida**  
*Marissa Finkelstein, MS\**; *George Hime, MS*; *Diane Boland, PhD*
- 1:30 PM – 1:45 PM    **L48**    **Synthetic Cannabinoids Adulterated With Brodifacoum—Part II: The Florida Experience**  
*Robert Middleberg, PhD\**; *Justin Arnold, DO, MPH*; *Alexandra Funk, PharmD*
- 1:45 PM – 2:00 PM    **L49**    **Adverse Effects of Veterinary Pharmaceuticals as Toxic Adulterating Agents in Illicit Drug Deaths**  
*Barry Logan, PhD\**; *Alex Krotulski, PhD*; *Amanda Mohr, MS*; *Thom Browne, Jr., MA*
- 2:00 PM – 2:15 PM    **L50**    **A Compilation of Postmortem Vitreous Fluid Data for Pediatric Cases**  
*Breanne Vance, BA\**; *Kari Midthun, PhD*; *Jennifer Swatek, MS*; *Fabio Oldoni, PhD*
- 2:15 PM – 2:30 PM    **L51**    **Postmortem Formation of Ethanol: Is N-Propanol a Reliable Marker? A Proof-of-Concept Study Using a Real-Environment Experimental Set-Up**  
*Nicola Pigaiani, MD\**; *Giacomo Musile, PhD*; *Francesco Ausania, MD, PhD*; *Daniel Dye, MD*;  
*Gregory Davis, MD*; *Franco Tagliaro, MD*; *Antonio Oliva, MD, PhD*; *Federica Bortolotti, PhD*
- 2:30 PM – 2:45 PM    **L52**    **A Quantitative Analysis of Fentanyl and Major Metabolites From Empty Puparia and Adult Blow Flies Via QuEChERS Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) Analysis**  
*Joseph Cox, PhD\**; *Katherine Davis*; *Kylea Morris, BS*; *Rachel Mohr, PhD*; *Joseph DeTondo, DO*;  
*Luis Arroyo, PhD*
- 2:45 PM – 3:00 PM    **L53**    **Toxicology Laboratory Findings From the 2018 Census of Medical Examiner and Coroner Offices**  
*Jeri Roper-Miller, PhD\**; *Hope Smiley-McDonald, PhD*; *Katherine Bollinger, MS*
- 3:00 PM – 3:15 PM        **BREAK**
- 3:15 PM – 3:30 PM    **I71**    **An Alleged Patricide by Americium-241 Poisoning**  
*Wendy Gunther, MD\**

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3:30 PM – 3:45 PM	<b>I72</b>	<b>Fatal Butane Acute Intoxication in Custody—Pitfalls and Recommendations: An Analysis of Six Cases</b> <i>Michela Peruch, BS*</i> ; <i>Luigi Cipolloni, MD</i> ; <i>Stefania De Simone, MD</i> ; <i>Maria Chiara David, PhD</i> ; <i>Monica Concato, BS</i> ; <i>Martina Zanon, BS</i> ; <i>Riccardo Addobbati, BS</i>
3:45 PM – 4:00 PM	<b>I73</b>	<b>Death as a Consequence of Cardiorespiratory Arrest Caused by a Cocaine-Induced Generalized Seizure: Toxicological Data in a Case Report</b> <i>Isabella Mercurio, MD*</i> ; <i>Laura Panata, MD</i> ; <i>Michela Ferrara, MD</i> ; <i>Mauro Bacci, MD</i> ; <i>Cristina Gambelunghe, MD</i> ; <i>Massimo Lancia, MD</i>
4:00 PM – 4:15 PM	<b>I74</b>	<b>Sodium Nitrite Poisoning: A Case Series of an Emerging Suicide Mechanism</b> <i>Ethan Blocher-Smith, MS, DO*</i> ; <i>Elizabeth Douglas, MD</i> ; <i>Joseph Prahlow, MD</i>
4:15 PM – 4:30 PM	<b>I75</b>	<b>The Use of Over-the-Counter Tests to Detect Pregnancy in Postmortem Urine and Vitreous Fluid</b> <i>Marianne Hamel, MD, PhD*</i> ; <i>Andrew Falzon, DM</i>

## Friday

### Drugs and Driving Special Session

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Moderator: TBD

Co-Moderator: TBD

8:30 AM – 8:45 AM	<b>L54</b>	<b>Acute Psychotic Episodes in Impaired Driving Cases Involving Tetrahydrocannabinols (<math>\Delta 8</math> and <math>\Delta 9</math>)</b> <i>Nicholas Tiscione, MS*</i>
8:45 AM – 9:00 AM	<b>L55</b>	<b>Drug Testing and Traffic Safety: What You Need to Know</b> <i>Amy Berning, MA, PhDc*</i> ; <i>Ryan Smith, PhD</i> ; <i>Kathryn Wochinger</i> ; <i>Morgan Drexler, MPH</i>
9:00 AM – 9:15 AM	<b>L56</b>	<b>1,1-Difluoroethane in Driving Under the Influence (DUI) Cases—Intoximeter® DMT Dual Sensor and Draeger Alcotest 7110 Aiding Officers in Inhalant Cases</b> <i>Jasmine Maxwell, MSFS*</i> ; <i>Greg Turner, PhD</i> ; <i>Curt Harper, PhD</i>
9:15 AM – 9:30 AM	<b>L57</b>	<b>A Standardized Method for Analyzing Toxicology Data in Drugged Driving Research</b> <i>Ryan Smith, PhD*</i> ; <i>Mary Pat McKay, MD, MPH</i> ; <i>Jana Price, PhD</i>
9:30 AM – 9:45 AM	<b>L58</b>	<b>Impaired Driving Drug Trends and Stop Limit Testing Evaluation</b> <i>Grace Cieri, BS*</i> ; <i>Amanda Mohr, MS</i> ; <i>Melissa Fogarty, MSFS</i> ; <i>Barry Logan, PhD</i>
9:45 AM – 10:00 AM	<b>L59</b>	<b><math>\alpha</math>-Pyrrolidinoisohexanophenone (<math>\alpha</math>-PiHP) in Driving Under the Influence (DUI) Cases</b> <i>Kristin Kahl, MS*</i> ; <i>Lisa Reidy, PhD</i>
10:00 AM – 10:15 AM	<b>L60</b>	<b>Blood Alcohol Concentration and Road Accidents—A Significant Underestimation Due to Delay in Blood Sampling: A Four-Year Retrospective Study in Rome</b> <i>Giovanni Aulino, MD*</i> ; <i>Nadia De Giovanni, PhD</i> ; <i>Gianluca Lentini, MD</i> ; <i>Giuseppe Vetrugno, MD</i> ; <i>Sabina Strano-Rossi, MD</i> ; <i>Marcello Covino, MD</i> ; <i>Francesca Cittadini, MD</i>
10:15 AM – 10:30 AM		<b>BREAK</b>

# TOXICOLOGY

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## General Toxicology

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Moderator: TBD

Co-Moderator: TBD

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| 10:30 AM – 10:45 AM | <b>L61</b> | <b>Oxycodone Pharmacokinetics in Whole Blood After a Single Dose of Immediate and Controlled Release Formulations</b><br><i>Gerd Jakobsson, MSc*; Michael Truver, PhD; Maria Cherma, PhD; Madeleine Swortwood, PhD; Henrik Green, PhD; Robert Kronstrand, PhD</i>  |
| 10:45 AM – 11:00 AM | <b>L62</b> | <b>The Extraction and Quantification of Toxic Heavy Metals From Calliphoridae Larvae</b><br><i>Daniela Bermeo Grajales*; Stephanie Urias; Cathleen Doherty, PhD; Denise Gemmellaro, PhD*</i>   |
| 11:00 AM – 11:15 AM | <b>L63</b> | <b>A Cost Benefit Analysis of High Resolution Mass Spectrometry (HRMS) -Based Drug Screening in Forensic Toxicology</b><br><i>Jessica Ayala, PhD*; Sarah Kerrigan, PhD</i>   |
| 11:15 AM – 11:30 AM | <b>L64</b> | <b>Assessing Relative Levels of Ionic and Non-Ionic Binding of Drugs and Metabolites in Authentic Hair Reference Material (HRM)</b><br><i>Brianna Spear, MS*; Anthony DeCaprio, PhD</i>  |
| 11:30 AM – 11:45 AM | <b>L65</b> | <b>Toxicological Surveillance of Clinical Patients Presenting to the Emergency Department After Suspected Opioid Overdoses: Geographical Trends and Impacts on Forensic Toxicology</b><br><i>Sara Walton, MS*; Alex Krotulski, PhD; Alex Manini, MD, MS; Lindsey Domonoski, BS; Alyssa Reyes, BS; Barry Logan, PhD</i> |
| 11:45 AM – 1:00 PM  |            | <b>BREAK</b>   |

## Special Session—Pediatric Toxicology

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| 1:00 PM – 5:00 PM | <b>L66</b> | <b>The 22nd Annual Postmortem Pediatric Forensic Toxicology Session</b><br><i>Robbert A. Middleberg, PhD*; Nikolas Lemos, PhD*; Andrew Baker, MD*; Christopher Milroy, MD, LLB*; Brianna Peterson, PhD*; Kari Midthun, PhD*; Jennifer Swatek, MS*</i> |
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