Wednesday

Toxicology Section Awardees Recognition *(by invitation only)*

6:30 p.m. - 7:30 p.m.  
Supported by: Cayman Chemical Company  
Center for Forensic Science Research and Education at the  
Fredric Rieders Foundation

Poster Session

**Moderator:** Jeff Walterscheid, PhD  
**Co-Moderator:** Laureen J. Marinetti, PhD  
Armed Forces Medical Examiner System  
Division of Forensic Toxicology  
Dover AFB, DE  
Alere Forensics USA  
Redwood Toxicology Laboratory, Inc  
Santa Rosa, CA

7:30 p.m. - 9:00 p.m.  
**K1** Drivers Under the Influence of Alcohol and Drugs: An Eight-Year Retrospective Analysis in a Southern Italian Region  
Anna Carfora*; Carlo P. Campobasso, MD, PhD; Raffaella Petrella; Paola Carrasso; Renata Borriello

7:30 p.m. - 9:00 p.m.  
**K2** Surface-Enhanced Raman Spectroscopy (SERS) -Based Screening Test for Synthetic Cannabinoids in Oral Fluid  
Irene Conticello, BS; Chiara Deriu, MS*; Thaddeus Mostowt, MFS; Bruce R. McCord, PhD

7:30 p.m. - 9:00 p.m.  
**K3** Will the Real “Molly” Please Stand Up? N-Ethyl Pentylone-Related Deaths in Alabama  
Rachel C. Beck, PhD; Susan Kloda; Jennifer Whidden, BS; Daniel W. Dye, MD; Daniel Atherton, MD; C. Andrew Robinson, Jr., PhD*

7:30 p.m. - 9:00 p.m.  
**K4** Carfentanil-Induced Fatalities: A Case Series  
Nicholas J. Corsi, BSc*; Prashanti Boinapally, PhD; James C. Anthony, PhD; L.J. Dragovic, MD

7:30 p.m. - 9:00 p.m.  
**K5** An Assessment of the Incorporation of Amphetamine and Diazepam Into Human Head Hair for the Preparation of Hair Reference Material  
Jennett M. Chenevert, BS*; Ashley N. Kimble, BS; Anthony P. DeCaprio, PhD

7:30 p.m. - 9:00 p.m.  
**K6** A Mass Spectrometric Approach to the Analysis of Covalent Modifications of Blood Proteins by Drugs of Abuse  
Richard A. Gilliland, MSFS*; Anthony P. DeCaprio, PhD

7:30 p.m. - 9:00 p.m.  
**K7** Hydrogen Sulfide (H₂S) Poisoning in the Workplace: Toxicological Investigations in a Fatal and Non-Fatal Accident  
Elvira Ventura Spagnolo, MD*; Antonina Argo; Cristina Mondello, MD*; Stefania Zerbo, MD; Luigi Cardia*; Alberto Marchese; Aurora Vesto, PhD; Nunziata Barbera, MD

*Presenting Author*
<table>
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<tr>
<th>Session</th>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>K8</td>
<td>7:30 p.m. - 9:00 p.m.</td>
<td>The Development of a Rapid Multi-Target Screening Method for Emergency Toxicology by Gas Chromatography/Mass Spectrometry (GC/MS) and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)</td>
<td>Hee-Sun Chung, PhD*</td>
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<td>K9</td>
<td>7:30 p.m. - 9:00 p.m.</td>
<td>A Concentration of Biomarkers in Vitreous Humor for the Estimation of Postmortem Interval (PMI) in South Korea</td>
<td>Hee-Sun Chung, PhD*</td>
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<td>K10</td>
<td>7:30 p.m. - 9:00 p.m.</td>
<td>Quick, Easy, Cheap, Effective, Rugged, and Safe (QuEChERS) Extraction of Novel Psychoactive Substances (NPS) From Biological Matrices</td>
<td>Ashley N. Kimble, BS*; Anthony P. DeCaprio, PhD</td>
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<td>K11</td>
<td>7:30 p.m. - 9:00 p.m.</td>
<td>A Validated Method for the Quantitative Determination of Zolpidem, Zopiclone, and Zaleplon (ZZZ Drugs) in Blood, Stomach Contents, and Liver by Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)</td>
<td>Madison R. Schackmuth, BS*; Rachel Marvin, PhD; Erica Bakota, PhD</td>
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<td>K12</td>
<td>7:30 p.m. - 9:00 p.m.</td>
<td>Performing Retrograde Extrapolation of Blood Alcohol in Driving Under the Influence (DUI) Trials</td>
<td>Jennifer O. Rattanaprasit, MS*; Michael P. Stypa, MS*; Marliisa Collins, MSFS; Denise K. Heineman, BS; Darby A. Lanz, MSFS; Christine Maloney; Nastasha Ortiz, BS; Dana C. Russell, BS; Theresa A. Suffecool, BS; Nicole L. Van Aken, BS; Stacy A. Wilkinson</td>
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<td>K13</td>
<td>7:30 p.m. - 9:00 p.m.</td>
<td>The Identification of Five Kratom Alkaloids Using High Resolution Mass Spectrometry</td>
<td>Stephanie Basiliere, BS*; Kelsie Bryand, MS; Sarah Kerrigan, PhD</td>
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<td>K14</td>
<td>7:30 p.m. - 9:00 p.m.</td>
<td>Conformational Considerations of Ethylenediamine Opioids AH-7921 and U-47700</td>
<td>John L. Krstenansky, PhD*; Alexander Zambon, PhD; Thomas Hsu, PhD; Jayapal Mallareddy, PhD; Lauren L. Richards-Waugh, PhD</td>
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<td>K15</td>
<td>7:30 p.m. - 9:00 p.m.</td>
<td>The Transformation of Drug/Metabolite Ratios: An Objective Assessment of Toxicity</td>
<td>Oneka T. Cummings, PhD; Frank Wallace, BA; Erin C. Strickland, PhD; Ronald C. Backer, PhD; Gregory L. McIntire, PhD*</td>
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<td>K16</td>
<td>7:30 p.m. - 9:00 p.m.</td>
<td>The Electroanalytical Identification of 25I-NBOH and 2C-I Via Differential Pulse Voltammetry: A Rapid and Sensitive Screening Method to Avoid Misidentification</td>
<td>Jose Gonzalez-Rodriguez, PhD; Ana B. Andrade, PhD*</td>
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<td>K17</td>
<td>7:30 p.m. - 9:00 p.m.</td>
<td>Death From Poppy Tea Consumption</td>
<td>Lauren N. Fox, MSFS*; Ruth E. Winecker, PhD; Sandra C. Bishop-Freeman, PhD</td>
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<td>K18</td>
<td>7:30 p.m. - 9:00 p.m.</td>
<td>The Impact of Storage Temperature, Glucose, and Microorganisms on Blood Alcohol Concentration in Non-Decomposed Whole Blood</td>
<td>S. Sharee Lambert*; Melissa M. Bailey, PhD; Carrie Hodges, MLS</td>
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7:30 p.m. - 9:00 p.m.  **K19**  An Analysis of Drugs and Their Metabolites in Saliva and Urine Using Various Swabs in Conjunction With Direct Analysis in Real-Time Mass Spectrometry (DART*-MS)
*Presenting Author*
Nicholas L. Drury, BSc*; Nicholas T. Lappas, PhD; Mehdi Moini, PhD

7:30 p.m. - 9:00 p.m.  **K20**  The Concentration and Distribution of Methamphetamine (MA) and Amphetamine (AM) in MA-Related Postmortems
Seung Kyung Baek, PhD*; Heejin Yang; Yujin Park, PhD; Heesang Lee; Ji-young Jo

7:30 p.m. - 9:00 p.m.  **K21**  The Effects of Kambo: The First Case of Sudden Death in Forensic Literature
Isabella Aquila, MD*; Santo Gratteri, MD*; Matteo Antonio Sacco, MD; Vittorio Fineschi, MD, PhD; Simona Magi, PhD; Pasqualina Castaldo, PhD; Graziella Viscomi; Salvatore Amoroso; Pietrantonio Ricci

7:30 p.m. - 9:00 p.m.  **K22**  An Evaluation of Alcohol Concentrations in Samples Referred to the Forensic Laboratory in Baghdad
Atheer Jawad Al-Saffar; Haider K. Al-Rubai, MSc; Enas Muataz Al-Qazzaz, BPharm; Muataz Abdulmajeed Al-Qazzaz, PhD*

7:30 p.m. - 9:00 p.m.  **K23**  The Evaluation of Direct and Indirect Biomarkers of Ethanol Consumption: A Likelihood Ratio (LR) Approach to Identify Chronic Alcohol Misusers for Forensic Purposes
Eugenio Alladio, PhD*; Marco Vincenti, MS; Agnieszka Martyna, PhD; Alberto Salomone, PhD; Valentina Pirro, PhD; Grzegorz Zadorz; Paolo Garofano, MD, PhD

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**Thursday**

**Multidisciplinary Session: Criminalistics II/General II/Pathology/Biology I/Toxicology — The Synthetic Opioids Epidemic and Forensic Science**

**Moderator:** Vincent J. Desiderio, MS  
United States Postal Inspection Service  
Dulles, VA  

**Co-Moderator:** Michael F. Rieders, PhD  
NMS Labs  
Willow Grove, PA

8:30 a.m. - 10:45 a.m. **B81**  The Growing Phenomenon of the Epidemic of Synthetic Opioids and Forensic Science: Impact and Response
Vincent J. Desiderio, Jr., MS; Michael F. Rieders, PhD; Brandon Callahan, BA*; Agnes D. Winokur, MS*; Erin M. Worrell, BSc*; John F. Casale, BS*; Karl E. Williams, MD*; Sherri L. Kacinko, PhD*; Patrick Buzzini, PhD

10:45 a.m. - 11:00 a.m.  **Break**
Opioids

Moderator: Kayla N. Ellefsen, PhD
Travis County Medical Examiner’s Office
Austin, TX

Co-Moderator: Michael P. Stypa, MS
Las Vegas Metropolitan Police Department
Las Vegas, NV

11:00 a.m. - 11:15 a.m. K24 2017 Novel Illicit Opioids: Trends and Toxicological Insights
Donna M. Papsun, MS*; Melissa Frisica, MSFS; Jennifer L. Turri, MS;
Sherri L. Kacinko, PhD; Barry K. Logan, PhD

11:15 a.m. - 11:30 a.m. K25 The Morphine in Your Pantry — Understanding the Overdose Risk of Home-Brewed Poppy Seed Tea
Deborah L. Powers, BA*; Stephen A. Erickson, MD; Madeleine J. Swortwood, PhD

11:30 a.m. - 11:45 a.m. K26 Carfentanil-Related Deaths in Wayne County, Michigan: Epidemiology and Toxicology
Denice M. Teem, BS*; Daniel S. Isenschmid, PhD; Carl J. Schmidt, MD;
Barry K. Logan, PhD

11:45 a.m. - 1:00 p.m. Lunch

Drugs and Driving

Moderator: Amy Miles, BS
Madison, WI

Co-Moderator: Dayong Lee, PhD
Houston Forensic Science Center
Houston, TX

1:00 p.m. - 1:15 p.m. K27 A Field Performance of the DrugTest 5000® and DDS*2 Onsite Oral Fluid (OF) Devices by Oregon and Vermont Drug Recognition Experts (DREs)
Marilyn A. Huestis, PhD*; Amanda L.A. Mohr, MSFS; Alex J. Krotulski, MS;
Barry K. Logan, PhD

1:15 p.m. - 1:30 p.m. K28 An Analysis of Ethanol in Blood and Oral Fluid Samples From Dosed Individuals by Headspace Gas Chromatography
Emily R. Parchuke, BS*; Matthew R. Wood, PhD; Marianne E. Staretz, PhD;
Thomas A. Brettell, PhD

1:30 p.m. - 1:45 p.m. K29 Alcohol Extrapolations: Scientific, Legal, and Ethical Considerations
Ashraf Mozayani, PharmD, PhD*

1:45 p.m. - 2:00 p.m. K30 Quantification of Minor Blood Cannabinoids and Their Utility as Recent Cannabis Use Markers in Driving Under the Influence of Drugs (DUID) Investigation Cases
Ayako Chan-Hosokawa, MS*; Marykathryn Tynon Moody, MSFS; Loan Nguyen, BS;
Bingfang Yue, PhD; Barry K. Logan, PhD; Marilyn A. Huestis, PhD

*Presenting Author
TOXICOLOGY

2:00 p.m. - 2:15 p.m. K31 A Study of an Active-State CB1 Receptor Model and JWH Synthetic Cannabinoids
Caroline Spencer, BS*; Pankaj Pandey, PhD; Robert J. Doerksen, PhD; Murrell Godfrey, PhD

2:15 p.m. - 2:30 p.m. K32 The Evaluation and Preservation of Urine Specimens in Forensic Toxicology
Meaghan Ringel, BS*; Shanan S. Tobe, PhD; Gail Audrey Ann Cooper, PhD;
Karen S. Scott, PhD

2:30 p.m. - 2:45 p.m. K33 Novel Stimulants N-Ethyl Pentylone and Dibutylone: Case Reports, Quantitative
Confirmation, and Metabolic Profile Determination
Alex J. Krotulski, MS*; Donna M. Papsun, MS; Bruno De Martinis, PhD;
Amanda L.A. Mohr, MSFS; Barry K. Logan, PhD

2:45 p.m. - 3:00 p.m. Break
Supported by: Immunalysis Corporation

Analytical Methods in Toxicology

Moderator: Erin A. Spargo, PhD
Dallas, TX
Co-Moderator: Alex J. Krotulski, MS
Center for Forensic Science Research & Education
Willow Grove, PA

3:00 p.m. - 3:15 p.m. K34 Pharmacokinetic and Pharmacodynamic Differences Between
Paramethoxymethamphetamine (PMMA), Paramethoxyamphetamine (PMA),
3,4-Methylenedioxymethamphetamine (MDMA), and Amphetamine in a
Mouse Model
Robert Kronstrand, PhD*; Mikael Andersson, PhLic; Hanna Göthe, MSc

3:15 p.m. - 3:30 p.m. K35 The Development of a High Resolution Mass Spectrometry (HRMS) Library
and Method Validation for Screening and Confirmation of 800+ Novel
Psychoactive Substances (NPS) by Liquid Chromatography/Quadrupole
Time-Of-Flight/Mass Spectrometry (LC/qTOF/MS)
Melanie Eckberg, MSFS*; Anthony P. DeCaprio, PhD

3:30 p.m. - 3:45 p.m. K36 6-Monoacetylmorphine (6-MAM) Positivity: A Comparison of Two Methods
Jolene Bierly, MSFS*; Laura M. Labay, PhD; Barry K. Logan, PhD

3:45 p.m. - 4:00 p.m. K37 The Development and Validation of a Method for the Analysis of Novel
Emerging Opioids
Marykathryn Tynon Moody, MSFS*; Stephanie Kumor, MA; Parul Shah, BS;
Donna M. Papsun, MS; Barry K. Logan, PhD

4:00 p.m. - 4:15 p.m. K38 A Semi-Quantitative Retrospective Method Validation for Three Synthetic
Cannabinoids With Analytical Confirmation in Toxicology Casework
Stephanie Kumor, MA*; Kristopher W. Graf, BS; Sherri L. Kacinko, PhD

*Presenting Author
Presenting Author 209

TOXICOLOGY

4:15 p.m. - 4:30 p.m. K39 Fully Automated Detection and Quantification of Insulin Analogs by Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) in Postmortem Vitreous Humor
Kevin M. Legg, PhD*; Laura M. Labay, PhD; Barry K. Logan, PhD

4:30 p.m. - 4:45 p.m. K40 The Effect of Sample Preparation Techniques on Matrix Effects and Absolute Recovery of Opiates in Liver Tissue Using Ultra Performance Liquid Chromatography-Tandem Mass Spectrometry (UPLC-MS/MS): Part 1
Casey Spencer, BS*; Jean A. Heneks, BA; Justin L. Poklis, BS; Carl E. Wolf II, PhD

4:45 p.m. - 5:00 p.m. K41 The Identification of Adulterants in Preliminary Drug Analysis
Bianca Olivieri*; Mark Maric, PhD; Candice Bridge, PhD

Toxicology Open Forum (Not Eligible for CE Credit)

Moderator: William R. Johnson, BA
Wisconsin State Lab of Hygiene
Toxicology Section
Madison, WI

Co-Moderator: Sherri L. Kacinko, PhD
Willow Grove, PA

7:00 p.m. - 9:00 p.m. Toxicology Open Forum
Supported by: Agilent Technologies, Inc.
NMS Labs

Friday

Multidisciplinary Session: Pathology/Biology Session II/Toxicology — Postmortem Forensic Toxicology

Moderator: James Louis Caruso, MD
Office of the Medical Examiner
Denver, CO

Co-Moderator: Karen S. Scott, PhD
Arcadia University
Glenside, PA

8:30 a.m. - 8:45 a.m. K42 Using Medical Examiner Case Narratives to Improve Opioid Overdose Surveillance
Emily Hurstak, MD; Phillip O. Coffin, MD; Nikolas P. Lemos, PhD*

8:45 a.m. - 9:00 a.m. K43 Prescription Drug Degradation in a Simulated Postmortem Blood Model
Jared Castle, BSc*; Danielle Marie Butzbach, PhD; Claire Lenehan, PhD; Stewart Walker, PhD; Frank Reith, PhD; Sam P. Costello, PhD; Paul Kirkbride, PhD

9:00 a.m. - 9:15 a.m. K44 Strange Bedfellows: Fentanyl Mixed With the Antiquated Poison Strychnine
Daniel Atherton, MD*; Rachel C. Beck, PhD; Brandi C. McCleskey, MD

9:15 a.m. - 9:30 a.m. K45 An Investigation Into the Analysis of Fentanyl in Postmortem Blood Using Biocompatible Solid-Phase Microextraction (BioSPME)
Chandler Marie Grant, MS*; Thomas A. Brettell, PhD; Samuel D. Land, MD; Marianne E. Staretz, PhD

*Presenting Author
### TOXICOLOGY

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Presenters</th>
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<tbody>
<tr>
<td>9:30 a.m.</td>
<td>K46</td>
<td>Fatal Hydromorphone Overdose in a Child: A Case Report</td>
<td>Teri L. Martin, MSc*</td>
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<td>9:45 a.m.</td>
<td>K47</td>
<td>An Accidental Death Due to Paraquat Poisoning: An Unusual Case</td>
<td>Erin E. Walsh, MS*; Eliza N. Shoff, BS; Sean Hurst, MD; George W. Hime, MS; Diane Boland, PhD</td>
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<td>10:00 a.m.</td>
<td>K48</td>
<td>Postmortem Tissue Distribution of Synthetic Cathinones</td>
<td>Lindsay Glicksberg, BS*; Ruth E. Winecker, PhD; Caitlin E. Miller, MS; Sarah Kerrigan, PhD</td>
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<td>10:30 a.m.</td>
<td>H122</td>
<td>Immune Responses in Opioid Use</td>
<td>Henry J. Carson, MD*</td>
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<td>10:45 a.m.</td>
<td>H123</td>
<td>Preliminary Findings From the Drug Enforcement Administration’s (DEA’s) National Forensic Laboratory Information System (NFLIS) Medical Examiner/Coroner Office Survey</td>
<td>DeMia P. Pressley, MS; Artisha R. Polk, MPH; Liqun Wong, MS; Terrence Boos, PhD; Hope Smiley-McDonald, PhD; Katherine N. Moore, MS*; Edrina Burnette, MS; Jeffrey M. Ancheta, BS; Neelima Kunta, BS; David Heller, BS; Jeri D. Ropero-Miller, PhD</td>
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<td>11:00 a.m.</td>
<td>H124</td>
<td>Developing “Real-Time” Surveillance for Drug Overdose Deaths in King County, Washington</td>
<td>Nicole A. Yarid*; Julia Hood, PhD; Richard C. Harruff, MD, PhD</td>
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<td>11:15 a.m.</td>
<td>H125</td>
<td>New Psychoactive Substances (NPS) -Related Deaths in Sweden — An Alarming Development</td>
<td>Gisela Pettersson, MD*; Gunilla Thelander, BSc</td>
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<td>11:30 a.m.</td>
<td>H126</td>
<td>Deaths in Denver, Colorado, With the Detection of Cannabinoid Metabolites: 2010-2016</td>
<td>Derek Bumgarner, MD*; Meredith A. Frank, MD; Krista L. Timm, MD; James Louis Caruso, MD</td>
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<td>11:45 a.m.</td>
<td>H127</td>
<td>Levamisole: A High-Performance Cutting Agent</td>
<td>Nadia Solomon, MSc*; Jonathan Hayes, MD</td>
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<td>12:00 p.m.</td>
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<td>Lunch</td>
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*Presenting Author*
TOXICOLOGY

General Forensic Toxicology

Moderator: Robert D. Johnson, PhD
Tarrant County Medical Examiner’s Office
Fort Worth, TX

Co-Moderator: Amanda L.A. Mohr, MSFS
Center for Forensic Science
Research & Education
Willow Grove, PA

1:00 p.m. - 1:15 p.m.  K49  Acute Intoxications With Phenibut (ß-Phenyl-γ-Aminobutyric Acid), an Emergent Psychoactive γ-Aminobutyric Acid (GABA) Agonist
Erin L. Karschner, PhD*; John J. Kristofic, BS; Jeffrey D. Chmiel, MS; Neal C. Goebel, PhD; Jeff Walterscheid, PhD

1:15 p.m. - 1:30 p.m.  K50  A Forensic Characterization of Bacterial and Fungal Organisms in Traditional Chinese Herbs
Julia Grzymkowski*; Justin L. Poklis, BS; Christopher J. Ehrhardt, PhD; Michelle R. Peace, PhD

1:30 p.m. - 1:45 p.m.  K51  The Role of Toxicology in Child Custody Disputes
Sherri L. Kacinko, PhD*

1:45 p.m. - 2:00 p.m.  K52  A Segmental Analysis of Endogenous Gamma-Hydroxybutyric (GHB) Acid in Human Hair
Jennifer Thomas, PhD*; Erin Waddell Lloyd, PhD; Christopher C. Donnelly, BA; Mark L. Miller, PhD; Madeline A. Montgomery, BS; Roman Karas, BS; Marc A. LeBeau, PhD

2:00 p.m. - 2:15 p.m.  K53  A Wastewater Analysis for Tobacco and Drug Detection in New York City
Alethea Jacox, MS; Nicole Centazzo, BS*; Bonnie-Marie Frederick, MS; Jasmine Gayle, MS; Marta Concheiro-Guisan, PhD

2:15 p.m. - 2:30 p.m.  Break
Supported by: Lipomed, Inc.

Pediatric Postmortem Toxicology

Moderator: Robert A. Middleberg, PhD
NMS Labs
Willow Grove, PA

Co-Moderator: Nikolas P. Lemos, PhD
University of California - San Francisco
Palm Springs, CA

2:30 p.m. - 5:00 p.m.  K54  Postmortem Pediatric Toxicology
Robert A. Middleberg, PhD*; Nikolas P. Lemos, PhD; Richard C. Harruff, MD, PhD*; Carl J. Schmidt, MD*; Thomas G. Rosano, PhD*