



**Wednesday, October 20, 2010**

7:00 am – 8:00 am

**Continental Breakfast**

8:00 am – 3:30 pm

**Exhibits Open (Grand Ballroom A)**

8:00 am – 8:05 am

**Opening Remarks & Welcome**

8:05 am – 8:30 am

**Plenary Session**

**The Medical Examiner and Toxicologist – An Exercise in Teamwork**

**Marcella Fierro, MD**

Retired Chief Medical Examiner  
Commonwealth of Virginia

8:30 am – 9:30 am

**Scientific Session #1 (S01-S04) ERA and YMSA Awards**

**Moderators:**

8:30 am – 8:45 am

S01 **Postmortem Redistribution of  $\Delta^9$ -Tetrahydrocannabinol (THC), 11-hydroxy-THC (11-OH-THC), and 11-nor-9-carboxy-THC (THCCOOH)**

**David M. Schwoppe**<sup>\*1</sup>, Michael G. Holland<sup>2</sup>, Shane Gillen<sup>3</sup>, Robert Stoppacher<sup>3</sup> and Marilyn A. Huestis<sup>1</sup>. <sup>1</sup>Chemistry and Drug Metabolism, Intramural Research Program, National Institute on Drug Abuse, NIH, Baltimore, MD; <sup>2</sup>Department of Emergency Medicine, SUNY Upstate Medical University, Syracuse, NY; <sup>3</sup>Onondaga County Medical Examiner's Office, Syracuse, NY

8:45 am – 9:00 am

S02 **Linkage between Methadone Fatality and *OPRM1* and *CYP2B6* Gene Variants**

**Hannah Bunten**<sup>\*1</sup>, Wei-Jun, Liang<sup>1</sup>, Derrick J. Pounder<sup>2</sup> and David Osselton<sup>1</sup>. <sup>1</sup>Centre for Forensic Sciences, Bournemouth University, Dorset and <sup>2</sup>Centre for Forensic and Legal Medicine, University of Dundee, Scotland

9:00 am – 9:15 am

S03 **Evaluating the Relationship between Postmortem and Antemortem Morphine and Codeine Concentrations in Whole Blood**

**Samantha S. Tolliver**<sup>\*1,2</sup>, W. Lee Hearn<sup>1</sup> and Kenneth G. Furton<sup>2</sup>.  
<sup>1</sup>Miami-Dade County Medical Examiner Department, Miami, FL and  
<sup>2</sup>Florida International University, Department of Chemistry and Biochemistry, Miami, FL



- 9:15 am – 9:30 am            S04    **Evaluation of Drug Recognition Expert Reports in Marijuana Cases**
- Brianna L. Peterson\*** and Rod L. Gullberg. Washington State Patrol, Seattle, WA
- 9:30 am – 9:45 am            **Morning Break**
- 9:45 am – 11:00 am           **Scientific Session #2 (S05-S09) Postmortem Toxicology**
- Moderators: Jim Kuhlman**
- 9:45 am – 10:00 am           S05    **Detection of Methamphetamine; But Do You Really Know Which One?**
- Julie Elbogen\***, Dan Anderson, Oscar Pleitez and Jaime Lintemoot. Los Angeles County Department of Coroner, Los Angeles, CA
- 10:00 am – 10:15 am           S06    **The Arrival of the Next Big Thing – Mephedrone and other Cathinone Derivatives in Fatalities**
- Simon Elliott\***<sup>1</sup>, Julie Evans<sup>1</sup>, Christopher Smith<sup>1</sup> and Frances Mahon<sup>2</sup>. <sup>1</sup>(ROAR) Forensics Ltd, Malvern, UK and <sup>2</sup>State Laboratory, Celbridge, Ireland
- 10:15 am – 10:30 am           S07    **Postmortem Cases involving Buprenorphine**
- Justin O. Brower\***, Jered A. Brown and Ruth E. Winecker. North Carolina Office of the Chief Medical Examiner, Chapel Hill, NC
- 10:30 am – 10:45 am           S08    **Simple Metabolic Investigations – The Underused Arrow in the Forensic Toxicologist’s Quiver?**
- A Robert W. Forrest\***. Office of HM Coroner, East Riding of Yorkshire & Kingston - upon – Hull and Centre For Analytical Sciences, University of Sheffield, Yorkshire, UK
- 10:45 am – 11:00 am           S09    **Mephedrone Fatalities in Scotland**
- Hazel Torrance\*** and Gail Cooper. Forensic Medicine and Science, University of Glasgow, UK
- 11:00 am – 12:00 pm           **Poster Session # 1 (P01 – P37)**
- Posters should be displayed 8 am - 1 pm and attended 11 am – 12 pm.**
- Posters marked with <sup>s</sup> are entrants in the Young Forensic Toxicologist Poster Competition.**



**Moderators: Dina Swanson**

- P01 The Importance of Norbuprenorphine Cross-Reactivity in a Buprenorphine Urine Immunoassay**
- Guohong Wang<sup>1</sup>, Kim Huynh<sup>1</sup>, James Bourland<sup>2</sup>, **Michael Vincent**\*<sup>1</sup>, Cynthia Coulter<sup>1</sup> and Christine Moore<sup>1</sup>. <sup>1</sup>Immunalysis Corporation, Pomona, CA and <sup>2</sup>Ameritox LLC, Midland, TX
- P02 The Development of a Methadone Immunoassay for Urine with Significant Cross Reactivity to Methadone Metabolites**
- Kim Huynh, Michael Vincent, Guohong Wang, Christine Moore and James Soares. Immunalysis Corporation, Pomona, CA
- P03 Enzyme Linked Immunosorbant Assay (ELISA) Validation for Detection of Carisoprodol in Blood and Urine**
- Dustin T. Yeatman**\*, Ilene Alford, Nicholas B. Tiscione and Xiaoqin Shan. Palm Beach County Sheriff's Office, West Palm Beach, FL
- P04 An Evaluation of the Neogen Corporation's ELISA Citalopram Kit Using Quantified Postmortem Blood Citalopram Values <sup>s</sup>**
- Phillip Quinton Carter**\*<sup>1</sup>, Laureen Marinetti<sup>1</sup>, and Skyler Colman<sup>2</sup>. <sup>1</sup>Montgomery County Coroner's Office/ Miami Valley Regional Crime Laboratory, Dayton, OH and <sup>2</sup>Neogen Corporation, Lexington, KY
- P05 An Evaluation of the Neogen Corporation's ELISA Trazodone Kit Using Quantified Postmortem Blood Trazodone Values <sup>s</sup>**
- Phillip Quinton Carter**\*<sup>1</sup>, Laureen Marinetti<sup>1</sup> and Skyler Colman<sup>2</sup>. <sup>1</sup>Montgomery County Coroner's Office/ Miami Valley Regional Crime Laboratory, Dayton, OH and <sup>2</sup>Neogen Corporation, Lexington, KY
- P06 Determination of Methadone and its Metabolite EDDP in Urine with Assay Kits Applicable to the RX Series Analysers**
- P. McGivern, E. Donnelly, J. Thompson, **R. Bell**\*, J. Campbell and S.P. Fitzgerald. Radox Laboratories, Crumlin, Co Antrim, UK
- P07 Performance Characteristics of Creatinine Assays**
- Pao-Hsiu Liu<sup>1</sup>, Hei Hwa Lee<sup>2</sup>, Mei-Han Huang<sup>1</sup>, Meng-Yan Wu<sup>1</sup>, Bai Hsiun Chen<sup>2,3,4</sup> and **Ray H. Liu**\*<sup>1</sup>. <sup>1</sup>Department of Medical Technology, Fooyin University, Kaohsiung Hsien, Taiwan; <sup>2</sup>Department of Laboratory



Medicine, Kaohsiung Medical University Hospital, Kaohsiung, Taiwan;  
<sup>3</sup>Graduate Institute of Medicine, College of Medicine; <sup>4</sup>Center of  
Excellence for Environmental Medicine, Kaohsiung Medical University,  
Kaohsiung, Taiwan

**P08 A New Dipstick for Screening GHB in Urine by Enzymatic Method**

**Wai Tak Law\***, Robert Harper and Ronald Moule. PortaScience,  
Moorestown, NJ

**P09 Method Validation of Analysis of Liquid Biological Specimens and  
Matrix Effects: Sympathomimetic Amines, Cocaine/Cocaine  
Metabolites and Other Analytes<sup>s</sup>**

**Sabra Botch\***, Connie Lewis, Joyce Ho, Cheryl Wheeler, Beryl  
Landry and Angela Springfield. Tarrant County Medical Examiner,  
Fort Worth, TX

**P10 A TurboFlow™ on Line Extraction LC-MS/MS Method for  
Quantitation of THC Metabolites in Urine**

**Kristine Van Natta\***<sup>1</sup>, Marta Kozak<sup>1</sup> and James Byrd<sup>2</sup>. <sup>1</sup>Thermo Fisher  
Scientific, San Jose, CA and <sup>2</sup>Thermo Fisher Scientific, Franklin, MA

**P11 Development of a Fast Extraction and LC/MS/MS Analysis Method  
for Benzodiazepines and Metabolites in Blood and Urine<sup>s</sup>**

**Amanda Rigdon\***<sup>1</sup> and Michael Coyer<sup>2</sup>. <sup>1</sup>Restek, Bellefonte, PA and  
<sup>2</sup>Northern Tier Research, Mayfield, PA

**P12 Determination of Buprenorphine and Norbuprenorphine Benzoyl  
Chloride Derivatives in Urine by HPLC/MS/MS<sup>s</sup>**

**Katherine N. Moore\***<sup>1</sup>, Justin L. Poklis<sup>2</sup>, Carl E. Wolf<sup>1</sup> and  
Alphonse Poklis<sup>1,2,3</sup>. Departments of <sup>1</sup>Forensic Science, <sup>2</sup>Pharmacology &  
Toxicology and <sup>3</sup>Pathology, Virginia Commonwealth University,  
Richmond, VA

**P13 Analysis of Tricyclic Antidepressants in Urine by LCMS<sup>s</sup>**

**M. Lauren Wolfe\***<sup>1</sup>, Carl E. Wolf<sup>1</sup>, Justin L. Poklis<sup>2</sup> and Alphonse  
Poklis<sup>1,2,3</sup>. Departments of <sup>1</sup>Forensic Science, <sup>2</sup>Pharmacology &  
Toxicology and <sup>3</sup>Pathology, Virginia Commonwealth University,  
Richmond, VA



- P14 Method Validation of the Combined Analysis of Liquid Biological Specimens and Matrix Effects: Tricyclics Antidepressants, SSRIs, Antipsychotics and Other Basic Drugs <sup>s</sup>**
- Connie Lewis\*, Sabra Botch, Joyce Ho, Cheryl Wheeler, Beryl Landry and Angela Springfield. Tarrant County Medical Examiner's Office, Fort Worth, TX
- P15 Analysis of Psilocybin and Psilocin in Urine using SPE and LC-MS/MS**
- Jeffery Hackett<sup>1\*</sup>, Albert A. Elian<sup>2</sup> and Michael J. Telepchak<sup>1</sup>. <sup>1</sup>UCT, Bristol, PA and <sup>2</sup>Massachusetts Police State Crime Laboratory, Sudbury, MA
- P16 An LC-MS/MS Analytical Method for Pregabalin and Tapentadol Analysis in Urine and Plasma**
- Theresa Lee\* and Hua-Fen Liu. AB SCIEX, Foster City, CA
- P17 Catchin' Some ZZZ's: LC-MS/MS Analysis of Zolpidem, Zopiclone, Zaleplon, and Ramelteon <sup>s</sup>**
- Tracy A. McKinnon\*, Dustin W. Smith and Wendy C. Bell. South Carolina Law Enforcement Division, Columbia, SC
- P18 LC-MS/MS Screening via Spectra Library Search in a Large Scale Forensic Toxicology Study**
- Pierre-Alain Binz<sup>\*1,2</sup>, Annette Jordan<sup>3</sup>, Roman Mylonas<sup>2</sup>, Yann Mauron<sup>2</sup>, Bernard Favrat<sup>3</sup>, Marc Augsburger<sup>3,4</sup>, Alexandre Masselot<sup>1,2</sup>, Nicolas Budin<sup>2</sup>. <sup>1</sup>Swiss Institute of Bioinformatics; <sup>2</sup>Geneva Bioinformatics (GeneBio); <sup>3</sup>University Centre of Legal Medicine; <sup>4</sup>Swiss Center for Human Applied Toxicology, Geneva, Switzerland
- P19 Increasing Throughput by Multiplexing an LC/MS/MS Drug Screening Method**
- Adrian M. Taylor\*, Min Yang, David M. Cox and Doina Caraiman. AB SCIEX, Concord, Ontario, Canada
- P20 A Dual Quantitative/Qualitative Screening Analysis for 32 Antidepressants and Metabolites in Human Urine by UPLC/TOF <sup>s</sup>**
- Kevin G. Shanks\*, Tim Dahn and Andrea R. Terrell. AIT Laboratories, Indianapolis, IN



- P21 Improved Blood Alcohol Analysis by Resolution of Previously Undetected Co-elution of Propanal with Ethanol**
- Chris Fernandez\***, Matthew Trass, Kory Kelly, Ngoc Nguyen and Sky Countryman. Phenomenex, Torrance, CA
- P22 Improved Method for the Analysis of Tramadol and its N and O-desmethyl Metabolites in Urine by GC/MS<sup>S</sup>**
- Paul N. Dooley\***, Carl E. Wolf and Alphonse Poklis. Department of Pathology, Virginia Commonwealth University, Richmond, VA
- P23 Multi-dimensional GC/MS Analysis of  $\Delta$ -9-THC and Primary Metabolites in Human Whole Blood, Serum, and Plasma<sup>S</sup>**
- Alex Maggitti\***, Matthew McMullin and William Ofsa. NMS Labs, Willow Grove, PA
- P24 Revalidation of Sympathomimetic Amines and Bezoylecgonine due to SAMHSA's 2010 Revised Workplace Drug Testing Program Guidelines**
- Matthew Lambing\***, Eric Phillips and Fergus Keenan. Thermo Fisher Scientific, Austin, TX
- P25 Rapid and Reliable TOF Screening using the Novel Data Acquisition Mode - MS<sup>E</sup>**
- Michelle Wood\***. Waters Corporation, MS Technologies Centre, Manchester, UK
- P26 Analysis of Case Study Urine Samples for Presence of Drug Facilitated Sexual Assault (DFSA) Drugs by Gas Chromatography-Time of Flight Mass Spectrometry (GC-TOFMS)**
- Joe Binkley\*** and John Heim. Life Science and Chemical Analysis Centre, LECO Corporation, St. Joseph, MI
- P27 Determination of Illicit Drug Cutoff Values in a Pain Patient Population**
- Robert West\***, Bridgit Crews, Sergey Latyshev, Charles Mikel, Perla Almazan, Amadeo Pesce, Cameron West and Murray Rosenthal. Millennium Research Institute, San Diego, CA



- P28 A Comparison of the Linearity, Precision, and Accuracy from the Analysis of Drugs of Abuse in Urine Using Two LC-MS-MS Platforms<sup>s</sup>**
- Nichole D. Bynum, **Cynthia M. Lewallen\***, Peter R. Stout, Melanie A. Rehder Silinski, John M. Mitchell, Michael R. Baylor and Jeri D. Roper-Miller. RTI International, Research Triangle Park, NC
- P29 Utility of “Wrong-Way-Round” ESI-MS/MS in the Quantification of Amphetamine, Methamphetamine, MDMA, Ephedrine, and Pseudoephedrine in Human Whole Blood and Serum Samples**
- Joseph F. Ervin\***, Tim Dahn and Andrea R. Terrell. AIT Laboratories, Indianapolis, IN
- P30 A Quantitative UPLC/MS/MS Assay for 21 Benzodiazepine Drugs, Zolpidem and Zopiclone in Serum**
- Mark Roberts\***<sup>1</sup>, Stephanie J. Marin<sup>2</sup>, Gwen A. McMillin<sup>2,3</sup>, Michelle Wood<sup>1</sup>. <sup>1</sup>Waters Corporation, MS Technologies Centre, Manchester, UK; <sup>2</sup>ARUP Institute for Clinical and Experimental Pathology, Salt Lake City, UT; <sup>3</sup>Department of Pathology, University of Utah School of Medicine, Salt Lake City, UT
- P31 Simultaneous Determination of Xylazine, Morphine, Codeine, 6-Monoacetylmorphine, Cocaine and Benzoylcegonine in Postmortem Blood by Ultra Performance Liquid Chromatography/Tandem Mass Spectrometry (UPLC-MS/MS)<sup>s</sup>**
- Kazandra Ruiz Colón\***<sup>1</sup>, Margarita Meléndez<sup>2</sup>, María S. Conte Miller<sup>2</sup> and Joseph Bloom Oquendo<sup>1</sup>. <sup>1</sup>Medical Sciences Campus-University of Puerto Rico, <sup>2</sup>Institute of Forensic Sciences of Puerto Rico, San Juan, Puerto Rico
- P32 An UPLC-HILIC-MS/MS Method for the Quantitative Analysis of Nicotine, Five Nicotine Metabolites and Two Minor Tobacco Alkaloids in Neonatal Serum<sup>s</sup>**
- Gordon J. Murray\***<sup>1</sup>, Shannon M. Nielsen<sup>1</sup>, Robert M. Silver<sup>2</sup>, Michael W. Varner<sup>2</sup> and Diana G. Wilkins<sup>1</sup>. <sup>1</sup>University of Utah, Center for Human Toxicology, Salt Lake City, UT and <sup>2</sup>University at Utah Hospital, Department of Obstetrics and Gynecology, Salt Lake City, UT
- P33 Simultaneous Determination of Zolpidem, Zopiclone and Zaleplon in Urine by UPLC-MS/MS<sup>s</sup>**



**Wei-Hsin Lo\***, Da-Kong Huang, Chiareiy Liu, Hwei-Fang Cheng and Jaw-Jou Kang. Food and Drug Administration, Department of Health, Executive Yuan, Taipei, Taiwan

**P34 Extraction of THC and Metabolites from Urine and Plasma using Supported Liquid Extraction (SLE) prior to UPLC-MS/MS Analysis**

Rhys Jones, **Lee Williams\***, Helen Lodder, Geoff Davies, Steve Jordan, Richard Calverley, Claire Desbrow and Gary Dowthwaite. Biotage GB Limited, Ystrad Mynach, Hengoed, UK

**P35 Extraction of Ethyl Glucuronide (EtG) using a New Resin-based Mixed-mode Strong Anion Exchange SPE Sorbent Prior to UPLC-MS/MS Analysis**

Rhys Jones, **Lee Williams\***, Helen Lodder, Steve Jordan, Steve Plant, Richard Calverley, Claire Desbrow and Gary Dowthwaite. Biotage GB Limited, Ystrad Mynach, Hengoed, UK

**P36 Mephedrone: Evaluation of Extraction using Mixed-mode Cation Exchange SPE with UPLC-MS/MS Analysis.**

Rhys Jones, **Lee Williams\***, Helen Lodder, Steve Jordan, Steve Plant, Richard Calverley, Claire Desbrow and Gary Dowthwaite. Biotage GB Limited, Ystrad Mynach, Hengoed, UK

**P37 Extraction of Tamoxifen and Metabolites from Urine and Plasma using Supported Liquid Extraction (SLE) prior to LC-MS/MS Analysis**

**Lee Williams\***, Rhys Jones, Helen Lodder, Geoff Davies, Steve Jordan, Richard Calverley, Claire Desbrow and Gary Dowthwaite. Biotage GB Limited, Ystrad Mynach, Hengoed, UK

12:00 pm – 1:00 pm

**Lunch with Exhibitors**

1:00 pm – 2:00 pm

**Plenary Session: Navigating "The Path Forward"**

**Pete Marone**  
**Director**  
**Virginia Department of Forensic Science**

2:00 pm – 3:15 pm

**Scientific Session #3 (S10 – S14)**

**Moderators:**



- 2:00 pm – 2:15 pm      S10      **Differentiating New Cannabis Use from Residual Urinary Cannabinoid Excretion in Chronic, Frequent Cannabis Users**
- Eugene W. Schwilke<sup>1,2</sup>, Rod G. Gullberg<sup>3</sup>, William D. Darwin<sup>1</sup>, C. Nora Chiang<sup>4</sup>, Jean Lud Cadet<sup>5</sup>, David A. Gorelick<sup>6</sup>, Harrison G. Pope<sup>7</sup> and **Marilyn A. Huestis**\*<sup>1</sup>. <sup>1</sup>Chemistry and Drug Metabolism, <sup>5</sup>Molecular Neuropsychiatry, and <sup>6</sup>Office of the Scientific Director, IRP, National Institute on Drug Abuse (NIDA), NIH, Baltimore, MD; <sup>2</sup>AIT Laboratories, Indianapolis, IN; <sup>3</sup>Washington State Patrol, Seattle, WA; <sup>4</sup>Division of Pharmacotherapies and Medical Consequences of Drug Abuse, NIDA, NIH, Rockville, MD; <sup>7</sup>McLean Hospital/Harvard Medical School, Belmont, MA
- 2:15 pm – 2:30 pm      S11      **The Misuse and Misinterpretation of Drug Testing Results in Managing Prescription Drug Abuse – Legal, Technical and Ethical Concerns**
- Theodore F. Shults**\*. Chairman of the American Association of Medical Review Officers. Research Triangle Park, NC
- 2:30 pm – 2:45 pm      S12      **Mass Spectrometry Methods for the Verification of Human Exposure to the Chemical Warfare Agent Sulfur Mustard**
- J. Richard Smith**\*, Benedict R. Capacio and Richard J. Lawrence. United States Army Medical Research Institute of Chemical Defense, Analytical Toxicology Division, Aberdeen Proving Ground, MD
- 2:45 pm – 3:00 pm      S13      **A Comparison of the Validity of GC-MS and LC-MS-MS Analysis of Urine Samples II: Amphetamine, Methamphetamine, (+/-)-3,4-Methylenedioxyamphetamine, (+/-)-3,4-Methylenedioxymethamphetamine, (+/-)-3,4-Methylenedioxyethylamphetamine, Phencyclidine, and (±)-11-nor-9-carboxy- $\Delta^9$ -Tetrahydrocannabinol**
- Peter Stout, **Nichole Bynum**\*, Cynthia Lewallen, John Mitchell, Michael Baylor and Jeri Roper-Miller. RTI International, Center for Forensic Sciences, Research Triangle Park, NC
- 3:00 pm – 3:15 pm      S14      **Plasma Cannabinoid Pharmacokinetics Following Controlled Sativex<sup>®</sup> and Oral THC Administration**
- Erin L. Karschner**\*<sup>1</sup>, W. David Darwin<sup>1</sup>, Robert S. Goodwin<sup>1</sup>, Stephen Wright<sup>2</sup> and Marilyn A. Huestis.<sup>1</sup> <sup>1</sup>Chemistry and Drug Metabolism, Intramural Research Program, National Institute on Drug Abuse, National Institutes of Health, Baltimore, MD and <sup>2</sup>GW Pharma Ltd., Salisbury, Wiltshire, UK



3:15 pm – 3:30 pm

**Afternoon Break**

3:30 pm – 5:30 pm

**SOFT Business Meeting**

5:30 pm – 6:30 pm

**Exhibitor Happy Hour**

6:30 pm – 8:00 pm

**Dinner w/ Exhibitors**

8:30 pm – 10:00 pm

**Medicine Show Festival**

**Thursday, October 21, 2010**

7:00 am – 8:00 am

**Continental Breakfast**

8:00 am – 1:00 pm

**Exhibits Open (Grand Ballroom A)**

8:00 am – 9:30 am

**Scientific Session #4 (S15 – S20) Postmortem Toxicology**

**Moderators:**

8:00 am – 8:15 am

S15

**Postmortem Analysis of Ethylene Glycols after Brake Fluid Ingestion**

**Wendy R. Adams\***, Edward J. Barbieri and Michael Keppel. NMS Labs, Willow Grove, PA

8:15 am – 8:30 am

S16

**Evaluation of the Randox Whole Blood Drugs of Abuse Arrays I and II for the Analysis of Alternative Postmortem Toxicology Samples**

**Poppy A. McLaughlin\***<sup>1</sup>, Derrick J. Pounder<sup>2</sup> and M. David Osselton<sup>1</sup>.  
<sup>1</sup>Centre for Forensic Sciences, Bournemouth University, Poole, UK and  
<sup>2</sup>Centre for Forensic and Legal Medicine, Dundee, UK

8:30 am – 8:45 am

S17

**Chlordiazepoxide: A New Twist on an Old Drug**

**Laura M. Labay\***<sup>1</sup>, Francis X. Diamond<sup>1</sup>, Sarah B. DeQuintana<sup>2</sup> and Dan T. Anderson<sup>2</sup>. <sup>1</sup>NMS Labs, Willow Grove, PA and <sup>2</sup>Los Angeles Department of the Coroner, Los Angeles, CA

8:45 am – 9:00 am

S18

**The Effect of Preservative and Antioxidant Reagents on the Stability of Volatiles in Blood**

**Huda Hassan\*** and Gail Cooper. Forensic Medicine and Science, University of Glasgow, UK

9:00 am – 9:15 am

S19

**Volatile Organic Compound Contamination of Vacutainer Blood Collection Tubes in an Unsolved Death Investigation**



**Roman Karas\***<sup>1</sup> and Lucas Zarwell<sup>2</sup>. <sup>1</sup>FBI Laboratory Chemistry Unit, Quantico, VA and <sup>2</sup>Office of the Chief Medical Examiner, Washington, DC

9:15 am – 9:30 am S20 **The Involvement of Prescribed Drugs in Road Trauma**

**Dimitri Gerostamoulos\***<sup>1,2</sup>, Jennifer Wallington<sup>1</sup>, Catherine Wort<sup>1</sup> and Olaf H. Drummer<sup>1,2</sup>. <sup>1</sup>Victorian Institute of Forensic Medicine and <sup>2</sup>Department of Forensic Medicine, Monash University, Australia

9:30 am – 9:45 am **Morning Break**

9:45 am – 11:00 am **Scientific Session #5 (S21-S25)**

**SOFT/AAFS Joint Drugs and Driving Committee – Special Session**

**Moderators: Marilyn Huestis and Michael Wagner**

9:45 am – 10:00 am S21 **Phenazepam in Wisconsin Drivers**

**William Johnson\***. Wisconsin State Laboratory of Hygiene, Toxicology Section, Madison, WI

10:00 am – 10:15 am S22 **Sample Requirements (Pressure, Flow-Rate, Volume, Duration) of Investigated Breath Alcohol Test Devices (Alcotest 7410<sup>®</sup>, Alert J5<sup>®</sup>) and Instruments (Intoxilyzer 5000/5000EN<sup>®</sup>, Breathalyzer 900/900A<sup>®</sup>, BAC Datamaster<sup>®</sup>)**

**Michael R. Corbett\***<sup>1</sup> and Anu R. Singh.<sup>1</sup> <sup>1</sup>Faculty of Science, Forensic Science, University of Ontario Institute of Technology, Oshawa, Ontario, Canada

10:15 am – 10:30 am S23 **1,1-Difluoroethane Abuse and Driving Impairment in Wisconsin**

**Ryan Pieters\***<sup>1</sup>, Amy Miles<sup>1</sup> and Laura Liddicoat<sup>1</sup>. Wisconsin State Lab of Hygiene, Madison, WI

10:30 am – 10:45 am S24 **Drugs In Driving Fatalities In Olmsted County Minnesota**

**Loralie J. Langman\***<sup>1</sup> and Eric A. Pfeifer<sup>2</sup>. <sup>1</sup>Drug/Toxicology Laboratory, Mayo Clinic, Rochester, MN and <sup>2</sup>Coroner's Office, Olmsted County, Rochester, MN

10:45 am – 11:00 am S25 **Cannabinoids Time-Profiles, Subjective and Clinical Effects, Simulating Driving Capability after Smoking a Joint Made of Neat Cannabis containing 11% THC**



**Christian Giroud**<sup>1\*</sup>, Aurélien Thomas<sup>1</sup>, Giovanni Battistella<sup>2</sup>, Philippe Maeder<sup>2</sup>, Jean-Frédéric Mall<sup>3,6</sup>, Jean-Marie Annoni<sup>4,5</sup>, Monique Appenzeller<sup>3</sup>, Thierry Buclin<sup>3</sup>, Christian Staub<sup>1</sup>, Patrice Mangin<sup>1</sup>, Eleonora Fornari<sup>2</sup> and Bernard Favrat<sup>1</sup>. <sup>1</sup>University Center of Legal Medicine, Lausanne – Geneva; <sup>2</sup>Department of Radiology and CIBM, Centre Hospitalier Universitaire Vaudois (CHUV) and University of Lausanne; <sup>3</sup>Division of Clinical Pharmacology and Toxicology, CHUV, Lausanne; <sup>4</sup>Neuropsychology Unit, Clinic of Neurology, Department of Clinical, Neuroscience, Geneva; <sup>5</sup>Department of Neurology, CHUV, Lausanne; <sup>6</sup>Department of Psychiatry, CHUV, Prilly, Switzerland

11:00 am – 12:00 am

**Poster Session #2 (P38 –P73)**

**Posters should be displayed 8 am - 1 pm and attended 11 am - 12 pm.**

**Posters marked with <sup>s</sup> are entrants in the Young Forensic Toxicologist Poster Competition.**

**Moderators:**

**P38 An International Oral Fluid Proficiency Testing Program**

**Francis M. Esposito\***, E. Dale Hart, John M. Mitchell and Michael R. Baylor. Center for Forensic Sciences, RTI International (RTI), Research Triangle Park, NC

**P39 3,4-Methylenedioxymethamphetamine (MDMA) and Metabolites Distribution in Oral Fluid Collected using Intercept® Device Following Controlled Oral MDMA Administration <sup>s</sup>**

**Karl B. Scheidweiler\***<sup>1</sup>, Tsadik T. Abraham<sup>1</sup>, Allan J. Barnes<sup>1</sup>, Erin A. Kolbrich Spargo<sup>1,2</sup>, David A. Gorelick<sup>3</sup> Robert S. Goodwin<sup>1</sup> and Marilyn A. Huestis<sup>1</sup>. <sup>1</sup>Chemistry and Drug Metabolism and <sup>3</sup>Office of the Scientific Director, National Institute on Drug Abuse, National Institutes of Health, Baltimore, MD; <sup>2</sup>Southwestern Institute of Forensic Sciences, Dallas, TX

**P40 Performance Evaluation of DAT Oral Fluid Amphetamines, Methamphetamine, Opiates and Phencyclidine Assays on Roche Hitachi**

**M. J. Coffing\***<sup>1</sup>, D. Kuntz<sup>2</sup>, M. Meixner<sup>2</sup>, K. Armstrong<sup>2</sup> and B. Masters<sup>1</sup>. <sup>1</sup>Roche Diagnostics Operations, Indianapolis, IN and <sup>2</sup>Clinical Reference Laboratory, Lenexa, KS

**P41 Analysis of Endogenous Steroids in Oral Fluid Using Gas**



### Chromatography-Tandem Mass Spectrometry

**Matthew H. Slawson\***<sup>1</sup>, Shannon M. Nielsen<sup>1</sup>, Douglas E. Rollins<sup>1</sup> and Diana G. Wilkins<sup>1</sup>. <sup>1</sup>Center for Human Toxicology, University of Utah, Salt lake City, UT

**P42 Quantification of Nicotine Biomarkers in Plasma and Oral Fluid Following Controlled Low Dose Transdermal Nicotine Exposure in Nicotine-Abstinent Human Participants**<sup>s</sup>

**Eleanor I. Miller\***<sup>1</sup>, Hye-Ryun K. Norris<sup>1</sup>, Douglas E. Rollins<sup>1</sup>, Stephen T. Tiffany<sup>2</sup>, Diana G. Wilkins<sup>1</sup>. <sup>1</sup>University of Utah, Center for Human Toxicology, Salt Lake City, UT and <sup>2</sup>University at Buffalo SUNY, Department of Psychology, Buffalo, NY

**P43 The Uncertainty in Quantitative Segmental Analysis of Hair for Cocaine and Benzoyllecgonine**

**Cynthia Morris-Kukoski\***, Marc A. LeBeau, Madeline A. Montgomery and Jason Schaff. Federal Bureau of Investigation, Laboratory Division, Quantico, VA

**P44 Comparison of the Effects of Different Foods and Drinks on the Orasure "Intercept" and Concateno "Certus" Oral Fluid Collection Devices and Immunoassay Screening**<sup>s</sup>

**Eva M. Reichardt\***<sup>1</sup>, Dene Baldwin<sup>2</sup> and M. David Osselton<sup>1</sup>. <sup>1</sup>Centre for Forensic Sciences, Bournemouth University, Poole, UK and <sup>2</sup>Concateno, Abingdon, UK

**P45 Purity of "Street" Ketamine Preparations Retrieved from Night Club Amnesty Bins in London**<sup>s</sup>

**Eva Maria Reichardt\***<sup>1</sup>, John Ramsey<sup>2</sup> and David Osselton<sup>1</sup>. <sup>1</sup>Centre for Forensic Sciences, Bournemouth University, Poole, UK and <sup>2</sup>TICTAC Communications Ltd, St George's University of London, UK

**P46 Incidence of Levamisole in Urine Previously Confirmed Positive for Cocaine and Benzoyllecgonine by GC/MS**<sup>s</sup>

**Vanessa Simmons\***<sup>1</sup>, Jennie Buchanan<sup>2</sup> and Cynthia Burbach<sup>1</sup>. <sup>1</sup>Department of Toxicology, Colorado Department of Public Health and Environment, Denver, CO and <sup>2</sup>Denver Health and Hospital Authority Rocky Mountain Poison and Drug Center, Denver, CO

**P47 Confirmation Rates of Initial Drug Assays in a Group of SAMHSA Certified Laboratories: January 01 through December 31, 2003 vs.**



**2006 vs. 2009**

**Donna M. Bush**\*<sup>1</sup>, Michael R. Baylor<sup>2</sup>, John M. Mitchell<sup>2</sup> and Craig A. Sutheimer<sup>2</sup>. <sup>1</sup>DWP, SAMHSA, Rockville, MD and <sup>2</sup>RTI International, Research Triangle Park, NC

**P48 Comprehensive Analysis of Drugs of Abuse in Whole Blood Using Cleanup Tips and LC/MS/MS<sup>s</sup>**

**Oscar G. Cabrices**\*, William E. Brewer and Stephen L. Morgan.  
University of South Carolina, Columbia, SC

**P49 Effect of Hydrolysis on Identifying Prenatal Cannabis Exposure**

**Teresa R. Gray**\*, Allan J. Barnes and Marilyn A. Huestis. Chemistry and Drug Metabolism, National Institute on Drug Abuse, National Institutes of Health, Baltimore, MD

**P50 Determination of Medication Cutoff Values in a Pain Patient Population**

A. Pesce, **C. Mikel**\*, R. West, B. Crews, S. Latyshev, P. Almazan, C. West and M. Rosenthal. Millennium Research Institute, San Diego, CA

**P51 An Improved Method of Determining Ethanol Use in a Chronic Pain Population**

B. Crews, **S. Latyshev**\*, R. West, R. Gutierrez, C. Mikel, P. Almazan, A. Pesce, C. West and M. Rosenthal. Millennium Research Institute San Diego, CA

**P52 The Availability of Fentanyl from Transdermal Patches in Gastric and Oral Fluids**

**Ashley Gesseck**\*<sup>1</sup>, Carl E. Wolf<sup>1,2</sup> and Alphonse Poklis<sup>1,2</sup>. Departments of <sup>1</sup>Forensic Science and <sup>2</sup>Pathology, Virginia Commonwealth University, Richmond, VA

**P53 Reduce Your Backlog: Adopt a Single Solid Phase Extraction Approach to Detect/Quantify Basic, Acidic/Neutral, Sympathomimetic Amines, and Cocaine/Metabolites using Mini-Bore Fast GC/MS<sup>s</sup>**

**Daniel D. Baker**\*. The Office of the Franklin County Coroner, Columbus, OH

**P54 A Multiplexed Method for the Determination of Androgens in Serum**



**and Plasma by HPLC-MS/MS<sup>\$</sup>**

**Carrie J. Haglock\***<sup>1</sup>, Mark M. Kushnir<sup>1,2</sup> and Jason Sawyer<sup>1</sup>. <sup>1</sup>ARUP Laboratories, Salt Lake City, UT and <sup>2</sup>ARUP Institute for Clinical and Experimental Pathology, Salt Lake City, UT

**P55 Comparison of Soft Gray Butyl, Red Rubber, and Ultra Pure Teflon/Silicone Rubber Stoppers used in Headspace GC Alcohol Analysis**

**Denice M. Teem\***, Daniel S. Isenschmid and Bradford R. Hepler. Wayne County Medical Examiner's Office, Detroit, MI

**P56 Fatality Involving the Ingestion of Phenazepam and Poppy Seed Tea**

**Kristen M. Bailey\***, Lauren L. Richards-Waugh, David J. Clay, Myron A. Gebhardt, Hamada E. Mahmoud and James C. Kraner. Office of the Chief Medical Examiner, Charleston, WV

**P57 Caffeine Content of Energy Shots**

**Leyla M. Evans\***<sup>1</sup>, Christopher Roeser<sup>1</sup>, Michele L. Merves<sup>1</sup>, Chris W. Chronister<sup>1</sup>, Bruce A. Goldberger<sup>1</sup> and Edward J. Cone<sup>2</sup>. <sup>1</sup>Department of Pathology, Immunology and Laboratory Medicine, University of Florida College of Medicine, Gainesville, FL and <sup>2</sup>ConeChem Research, LLC, Severna Park, MD

**P58 Characterization of Commercially-Available Herbal Incense Products Using QuEChERS Extraction and GCxGC-TOFMS<sup>\$</sup>**

**Amanda Rigdon\***<sup>1</sup>, Jack Cochran<sup>1</sup> and Paul Kennedy<sup>2</sup>. <sup>1</sup>Restek Corporation, Bellefonte, PA and <sup>2</sup>Cayman Chemical, Ann Arbor, MI

**P59 Quantitative Composition of Synthetic Cannabinomimetics in "Herbal High" Products**

**Sumandeep Rana\***, Victor P. Uralets, Tara Brunson and Wayne B. Ross. Redwood Toxicology Laboratory, Santa Rosa, CA

**P60 Detection of Cannabimimetic Compounds in Mice Blood after Exposure to "Buzz" Smoke<sup>\$</sup>**

**Brenda J. Haggerty\***<sup>1</sup>, Justin Poklis<sup>2</sup>, Carl Wolf<sup>1,3</sup>, Laura E. Wise<sup>2</sup>, Aron H. Lichtman<sup>2</sup> and Alphonse Poklis<sup>1,2,3</sup>. Departments of <sup>1</sup>Forensic Science, <sup>2</sup>Pharmacology and Toxicology, and <sup>3</sup>Pathology, Virginia Commonwealth University, Richmond, VA



- P61 **Driving under the Influence of Drugs: Analysis of Phenazepam in Blood**  
**Albert A. Elian\***<sup>1</sup> and Jeffery Hackett<sup>2</sup>. <sup>1</sup>Massachusetts Police State Crime Laboratory, Sudbury, MA and <sup>2</sup>UCT, Bristol, PA
- P62 **Implementation of the Randox Evidence in Forensic Casework**  
**Samantha Beauchamp\***, Jacquelyn Beeson and Michele Glinn.  
Michigan State Police Forensic Laboratory, Lansing, MI
- P63 **Hydroxyzine used as a Cocaine Adulterant: Street Drugs and Post Mortem Cases** <sup>§</sup>  
**Emilirma Vazquez\***, Maruiz Marrero, Jeanette Janer, Margarita Melendez and Maria S. Conte. Institute of Forensic Sciences of Puerto Rico, Puerto Rico
- P64 **Seized Drug Heroin/Xylazine Quantification and Analytical Toxicology Analysis of Related Deaths**  
**Luz A. Silva-Torres\***<sup>1,3</sup>, Maritza Arrocho, Jeanette Janer-Figueroa<sup>1</sup>, Laura Pérez-Cruz<sup>1</sup>, Margarita Meléndez-Negrón<sup>1</sup>, Kazandra Ruiz-Colón<sup>1</sup>, Rebecca Soler-Rodríguez<sup>2</sup>, José A. Rivera-Nevarez<sup>1</sup>, María S. Conté-Miller<sup>1</sup> and Diógenes Herreño-Sáenz<sup>2</sup>. <sup>1</sup>Puerto Rico Institute of Forensic Science; <sup>2</sup>Services Administration of Mental Health and Addiction; <sup>3</sup>University of Puerto Rico, Medical Science Campus, Pharmacology and Toxicology Department, San Juan, Puerto Rico
- P65 **The High Prevalence of Cathinone-Derivatives in Suicides A Comparative Study** <sup>§</sup>  
**Emma Durkin\***, Simon Elliott and Julie Evans. (ROAR) Forensics Ltd, Malvern, UK
- P66 **Review of Fluoxetine Concentrations in Postmortem Livers** <sup>§</sup>  
**Robert L. Hargrove\***, Justin O. Brower, Doug L. Smith, Sandra C. Bishop-Freeman and Ruth E. Winecker. Office of the Chief Medical Examiner, Chapel Hill, NC
- P67 **Flunarizine Distribution in a Suicidal Hanging**  
Claire Naso, Rebecca A. Jufer, **Barry Levine\***, Mary G. Ripple and David R. Fowler. Office of the Chief Medical Examiner, State of Maryland, Baltimore, MD



**P68 Huffing: Two Deaths Involving 1,1-Difluoroethane**

**C. Clinton Frazee\***<sup>1</sup>, Steven W. Fleming<sup>1</sup>, Uttam Garg<sup>1</sup>, Mary H. Dudley<sup>2</sup>, Daniel C. Lingamfelter<sup>2</sup> and Kamal Sabharwal<sup>2</sup>. <sup>1</sup>Children's Mercy Hospitals and Clinics, Department of Pathology and Laboratory Medicine, Kansas City, MO and <sup>2</sup>Office of the Jackson County Medical Examiner, Kansas City, MO

**P69 Relative Distribution of Amitriptyline, Citalopram and Metabolites in Decomposed Skeletal Tissues: A Role for Parent Drug-Metabolite Ratios? <sup>s</sup>**

**James H. Watterson\***<sup>1</sup>, Nathalie A. Desrosiers<sup>1</sup>, Dorothy E. Dean<sup>2</sup> and John F. Wyman<sup>3</sup>. <sup>1</sup>Forensic Toxicology Research Laboratory, Department of Forensic Science, Sudbury, Ontario, Canada; <sup>2</sup>Summit County Medical Examiner's Office, Akron, OH; <sup>3</sup>Cuyahoga County Regional Forensic Science Laboratory, Cleveland, OH

**P70 Relative Distribution of Ketamine and Norketamine in Skeletal Tissues Following Various Periods of Decomposition <sup>s</sup>**

**James H. Watterson\*** and Joseph P. Donohue. Forensic Toxicology Research Laboratory, Department of Forensic Science, Laurentian University, Sudbury, Ontario, Canada

**P71 New Emit® II Plus 6-Acetylmorphine Assay on the AU® Clinical Chemistry Systems**

**N. Morjana\***, J. Warren, D. Clark and G. Siefring. Siemens Healthcare Diagnostics, Newark, DE

**P72 An Optimized SPE Protocol for Tandem LC/MS or Tandem GC-MS Determination of THC and Metabolites in Blood or Urine**

**Michael S. Young\***, John Martin and Diane Diehl. Waters Corporation, Milford, MA

**P73 A Streamlined Method for New SAMHSA Drugs of Abuse that Reduces Solvent Consumption and Sample Processing Time**

**Mathew Trass\***, Zeshan Aqeel, Michael Rummel, Ngoc Nguyen, Carl Sanchez, Jeff Layne and Sky Countryman. Phenomenex, Torrance, CA

12:00 pm – 1:00 pm

**Lunch with Exhibitors**

1:00 pm – 3:00 pm

**Scientific Session #6 (S26 – S33) Oral Fluid**



**Moderators:**

- 1:00 pm – 1:15 pm      S26       **$\Delta^9$ -Tetrahydrocannabinol (THC), 11-hydroxy-THC (11-OH-THC), 11-nor-9-carboxy-THC (THCCOOH), Cannabidiol (CBD) and Cannabinol (CBN) Concentrations in Oral Fluid Collected by Expectoration and the Quantisal™ Device**
- Dayong Lee\***, Garry Milman, Allan J. Barnes and Marilyn A. Huestis.  
Chemistry and Drug Metabolism, IRP, National Institute on Drug Abuse, NIH, Baltimore, MD
- 1:15 pm – 1:30 pm      S27      **Oral Fluid/Plasma Cannabinoid Ratios Following Around-the-clock Multiple Controlled Oral THC Doses**
- Garry Milman\***<sup>1</sup>, Eugene W. Schwilke<sup>1,2</sup>, David M. Schwoppe<sup>1</sup>, Allan J. Barnes<sup>1</sup>, Robert S. Goodwin<sup>1</sup>, Deanna L. Kelly<sup>3</sup>, David A. Gorelick<sup>4</sup> and Marilyn A. Huestis<sup>1</sup>. <sup>1</sup>Chemistry and Drug Metabolism and <sup>4</sup>Office of the Scientific Director, Intramural Research Program, National Institute on Drug Abuse, NIH, Baltimore, MD; <sup>2</sup>AIT Laboratories, Indianapolis, IN; <sup>3</sup>Maryland Psychiatric Research Center, University of Maryland School of Medicine, Baltimore, MD
- 1:30 pm – 1:45 pm      S28      **Determination of Clonazepam and 7-Aminoclonazepam in Whole Blood and Oral Fluid using LC-MS-MS**
- Robert Kronstrand\***, Linda Brinkhagen, Charlotte Lundström, Malin Forsman, Ingrid Nyström and Fredrik C. Kugelberg. National Board of Forensic Medicine, Department Forensic Toxicology, Linköping, Sweden
- 1:45 pm – 2:00 pm      S29      **National Roadside Survey 2007: Results from Paired Specimens of Oral Fluid and Whole Blood**
- Christine Moore\***<sup>1</sup>, Cynthia Coulter<sup>1</sup>, John Lacey<sup>2</sup>, Tara Kelley-Baker<sup>2</sup> and Eduardo Romero<sup>2</sup>. <sup>1</sup>Immunoanalysis Corporation, Pomona CA and <sup>2</sup>PIRE, Calverton, MD
- 2:00 pm – 2:15 pm      S30      **Comparisons of Oral Fluid Tests for Cocaine and Opiates by Homogeneous Screening Assay, LC/MS/MS Confirmation and Recent Self-Reported Drug Use in Methadone Treatment Subjects**
- Dean Fritch\***<sup>1</sup>, Kristen Blum<sup>1</sup>, Sheena Nonnemacker<sup>1</sup>, Christopher West<sup>2</sup>, Davina Ananias<sup>2</sup> and Edward J. Cone<sup>3</sup>. <sup>1</sup>OraSure Technologies, Bethlehem, PA; <sup>2</sup>Roche Diagnostics, Indianapolis, IN; <sup>3</sup>Johns Hopkins School of Medicine, Baltimore, MD



- 2:15 pm – 2:30 pm      S31      **Butalbital, Phenobarbital, and Secobarbital Detection in Oral Fluid, Plasma and Urine**
- Edward J. Cone\***<sup>1</sup>, Dean Fritch<sup>2</sup>, Kristen Blum<sup>2</sup>, Sheena Nonnemacher<sup>2</sup>, Keith Kardos<sup>2</sup> and August R. Buchhalter<sup>3</sup>. <sup>1</sup>Johns Hopkins School of Medicine, Baltimore, MD; <sup>2</sup>OraSure Technologies, Bethlehem, PA; <sup>3</sup>Pinney Associates, Bethesda, MD
- 2:30 pm – 2:45 pm      S32      **Positive Prevalence Rates in Drug Tests for Drugs of Abuse in Oral-Fluid and Urine**
- R. H. Barry Sample\***<sup>1</sup>, Lenox B. Abbott<sup>2</sup>, Brian A. Brunelli<sup>2</sup>, Randy E. Clouette<sup>1</sup>, Ted D. Johnson<sup>3</sup>, Rodi G. Predescu<sup>3</sup> and Barbara J. Rowland<sup>1</sup>. <sup>1</sup>Quest Diagnostics, Lenexa, KS; <sup>2</sup>Quest Diagnostics, Atlanta, GA; <sup>3</sup>Quest Diagnostics, West Hills, CA
- 2:45 pm – 3:00 pm      S33      **Oral Fluid is a Viable Alternate to Urine in Pain Management Testing**
- Rebecca Heltsley\***<sup>1</sup>, Anne Zichterman<sup>1</sup>, David L. Black<sup>1,2</sup>, Dennis J. Crouch<sup>1</sup>, Beverly Cawthon<sup>1</sup>, Tim Robert<sup>1</sup>, Frank Moser<sup>1</sup>, Yale H. Caplan<sup>3</sup> and Edward J. Cone<sup>4</sup>. <sup>1</sup>Aegis Sciences Corporation, Nashville, TN; <sup>2</sup>Vanderbilt University Pathology Department, Nashville, TN; <sup>3</sup>National Scientific Services, Baltimore, MD; <sup>4</sup>Johns Hopkins School of Medicine, Baltimore, MD
- 3:00 pm – 3:15 pm      **Afternoon Break**
- 3:15 pm – 4:45 pm      **Scientific Session #7 (S34 – S39) Hair Analysis**
- Moderators:**
- 3:15 pm – 3:30 pm      S34      **Development and Validation of a New LC/MS/MS Method for the Detection of Cocaine and Cocaine Metabolites in Hair as an Indicator of Cocaine Use**
- Michael Schaffer\***<sup>1</sup>, Oscar Chao<sup>1</sup>, Mahmoud ElSohly<sup>2</sup>, Chen Chih Cheng, Virginia Hill<sup>1</sup> and Thomas Cairns<sup>1</sup>. <sup>1</sup>Psychemedics Corporation, Culver City, CA and <sup>2</sup>ElSohly Laboratories, Oxford, MS
- 3:30 pm – 3:45 pm      S35      **Measurement Uncertainty in Quantitative Segmental Analysis of Hair for Amphetamine and Methamphetamine**
- Madeline A. Montgomery\***, Marc A. LeBeau, Cynthia Morris-Kukoski, and Jason Schaff. Federal Bureau of Investigation, Laboratory Division, Quantico, VA



- 3:45 pm – 4:00 pm      S36      **Ultrastructural Evaluation of Human Hair by Microscopy for the Determination of Morphological Differences**
- Jeri D. Roper-Miller, **Peter R. Stout\***, Kelly Shipkowski, John M. Mitchell, Michael R. Baylor, Stacy S. Doorn and Owen S. Crankshaw. RTI International, Research Triangle Park, NC
- 4:00 pm – 4:15 pm      S37      **The Effect of Growth Rate Variation and Sample Collection on Segmental Analyses of Hair**
- Marc A. LeBeau\***, Madeline A. Montgomery and Jason Brewer. Federal Bureau of Investigation, Laboratory Division, Quantico, VA
- 4:15 pm – 4:30 pm      S38      **Development and Validation of a GC/MS/MS Method for the Detection of Sub-Picogram Levels of Carboxy THC in Hair as an Indicator of Marijuana Use**
- Michael Schaffer\***, Oscar Chao, Chen Chih Cheng, Virginia Hill, Thomas Cairns and Paul Matsui. Psychemedics Corporation, Culver City, CA
- 4:30 pm – 4:45 pm      S39      **Detection of a Unique Cocaine Metabolite in Hair: Cocaine-N-oxide**
- Roman Aranda\***, Mark L. Miller, Sarah Himes, Madeline A. Montgomery and Marc A. LeBeau. Federal Bureau of Investigation, Laboratory Division, Quantico, VA

**Friday, October 22, 2010**

7:00 am – 8:00 am

**Continental Breakfast**

8:00 am – 8:30 am

**Plenary Session**

**The Past, Present and Future of Forensic Toxicology**

**Professor M David Osselton, PhD**  
**Head of Forensic and Biological Sciences**  
**School of Applied Sciences**  
**Bournemouth University, UK**

8:30 am – 10:00 am

**Scientific Session #8 (S40-S45) Analytical Methods**

**Moderators:**

8:30 am – 8:45 am

S40      **Rapid Antidepressant Screening in Urine Using UPLC Coupled with Accurate-Mass TOF-MS**



**Bridgit Crews**\*<sup>1</sup>, John Hughes<sup>2</sup>, Charles Mikel<sup>1</sup>, Sergey Latyshev<sup>1</sup>, Robert West<sup>1</sup> and Amadeo Pesce<sup>1</sup>. <sup>1</sup>Millennium Research Institute, San Diego, CA and <sup>2</sup>Agilent Technologies, Pleasanton, CA

8:45 am – 9:00 am      S41      **Dilute and Shoot: Comparison of Selected Reaction Monitoring with Full Scan MS/MS for Amphetamines, Opiates and Cocaine Metabolite**

**Robert Fitzgerald**\*<sup>1,2</sup>, Terrance Griffin<sup>1</sup>, Robert West<sup>3</sup>, Amadeo Pesce<sup>3</sup> and David Herold<sup>1,2</sup>. <sup>1</sup>VA Medical Center-San Diego; <sup>2</sup>University of California-San Diego, San Diego, CA; <sup>3</sup>Millennium Laboratories, San Diego, CA

9:00 am – 9:15 am      S42      **Enhanced Detection and Separation for Anti-doping Control Screening Using Two Dimensional Gas Chromatography Time-of-Flight Mass Spectrometry (GCxGC-TOFMS)**

**John Heim**\*, Joe Binkley and Doug Staples. Life Science and Chemical Analysis Centre - LECO Corporation, St. Joseph, MI

9:15 am – 9:30 am      S43      **Simultaneous Multi-Targeted and Unknown Screening of Forensic Urine Samples by LC/MS/MS with Automated Library Searching for Compound Identification**

**Michael Jarvis**\*<sup>1</sup>, Nadia Pace<sup>1</sup>, Andre Schreiber<sup>1</sup> and Lisa Sapp<sup>2</sup>. <sup>1</sup>AB SCIEX, Concord, ON, Canada and <sup>2</sup>AB SCIEX, Framingham, MA

9:30 am – 9:45 am      S44      **The Detection of Various Performance-Enhancing Drugs in Race Horse Urine Using High Flow Strong Cation Exchange Solid Phase Extraction and Liquid Chromatography-Electrospray-Tandem Mass Spectrometry**

Andre Sukta, Lisa Taddei, Marc Benoit, and **Adam Negrusz**\*. Animal Forensic Toxicology Laboratory, University of Illinois at Chicago, Chicago, IL

9:45 am – 10:00 am      S45      **A Screening Method for Major Metabolites of JWH-018 and JWH-073 in Human Urine Using a Hybrid Triple Quadrupole Linear Ion Trap System**

**Hua-fen Liu**\*<sup>1</sup>, Sumandeep Rana<sup>2</sup>, Jeremiah Morris<sup>3</sup>, Jenny Moshin<sup>1</sup>, Matthew Clabaugh<sup>1</sup> Alexandre Wang<sup>1</sup>. <sup>1</sup>AB SCIEX, Foster City, CA; <sup>2</sup>Redwood Toxicology Laboratory, Santa Rosa, CA; <sup>3</sup>Johnson County Crime Lab, Mission, KS

10:00 am – 10:15 am      **Morning Break**



10:15 am – 11:45 am

**Scientific Session #8 (S46-S51)**

**Moderators:**

10:15 am – 10:30 am

S46 **Determination of Conjugated and Unconjugated Tapentadol (Nucynta®) and N-Desmethyltapentadol in Authentic Urine Specimens by UPLC/MS/MS**

**James A. Bourland\***, Ayodele A. Collins, Scot A. Chester and Ronald C. Backer. Ameritox, Midland, TX

10:30 am – 10:45 am

S47 **Umbilical Cord Monitoring of In Utero Drug Exposure to Buprenorphine, and Correlation with Maternal Dose and Neonatal Outcomes**

**Marta Concheiro\***<sup>1,2</sup>, Hendreé E. Jones<sup>3</sup>, Rolley E. Johnson<sup>3,4</sup>, Robin Choo<sup>5</sup>, Daa M. Shakleya<sup>1</sup> and Marilyn A. Huestis<sup>1</sup>. <sup>1</sup>Chemistry and Drug Metabolism, Intramural Research Program, National Institute on Drug Abuse, National Institutes of Health, Baltimore, MD; <sup>2</sup>Dpto. Anatomía Patológica y Ciencias Forenses, Facultad de Medicina, Universidad de Santiago de Compostela, Spain; <sup>3</sup>Department of Psychiatry and Behavioral Sciences, Johns Hopkins School of Medicine, Baltimore, MD; <sup>4</sup>Reckitt Benckiser Pharmaceuticals, Inc., Richmond, VA; <sup>5</sup>Department of Natural Sciences, University of Pittsburgh, Titusville, PA

10:45 am – 11:00 am

S48 **Development of a Web-Accessible Cheminformatic Mass Spectral Database for Shared Utilization by Forensic Laboratories**

Jeri D. Roper-Miller<sup>1</sup>, Peter R. Stout<sup>1</sup>, **Katherine Moore\***<sup>2</sup>, Robert Steiner<sup>3</sup>, John M. Mitchell<sup>1</sup> and Michael R. Baylor<sup>1</sup>. <sup>1</sup>RTI International, Research Triangle Park, NC; <sup>2</sup>Virginia Commonwealth University, Richmond, VA; <sup>3</sup>Virginia Department of Forensic Sciences (VDFS), Richmond, VA

11:00 am – 11:15 am

S49 **Detection of Anabolic Steroid Boldenone in Equine Urine after Controlled Administration to Horses**

Brendan Heffron<sup>1</sup>, Marc Benoit<sup>1</sup>, Lisa Taddei<sup>1</sup>, Laura Hurt<sup>1</sup>, Courtney Sinculer<sup>1</sup>, Dawn Folker-Calderon<sup>2</sup> and **Adam Negrusz\***<sup>1</sup>. <sup>1</sup>Animal Forensic Toxicology Laboratory, University of Illinois at Chicago, Chicago, IL and <sup>2</sup>Illinois Racing Board, Chicago, IL

11:15 am – 11:30 am

S50 **Methadone and EDDP Disposition in Umbilical Cord and Correlations with Maternal Dose and Neonatal Outcomes**

**Ana de Castro\***<sup>1,2</sup>, Hendreé E. Jones<sup>3</sup>, Rolley E. Johnson<sup>3,4</sup>, Teresa R. Gray<sup>1</sup>, Daa M. Shakleya<sup>1</sup> and Marilyn A. Huestis<sup>1</sup>. <sup>1</sup>Chemistry and Drug



Metabolism, National Institute on Drug Abuse, NIH, Baltimore, MD;  
<sup>2</sup>University Institute of Legal Medicine, University of Santiago de  
Compostela, Spain; <sup>3</sup>Department of Psychiatry and Behavioral Sciences,  
Johns Hopkins University School of Medicine, Baltimore, MD; <sup>4</sup>Reckitt  
Benckiser Pharmaceuticals, Richmond, VA

11:30 am – 11:45 am

S51 **Routine Screening of Human Urine for Synthetic Cannabinoids by  
LC-MSMS Utilizing Spectrum Based Library Search**

**Sumandeep Rana\***, Victor P. Uralets and Wayne B. Ross. Redwood  
Toxicology Laboratory, Santa Rosa, CA

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