

IFRI Faculty and Student Presentations AAFS 69<sup>th</sup> Annual Meeting, February 13-18, 2017, New Orleans, LA

15 students, 4 faculty participating, 20 + presentations

### **Dr. Jose Almirall Group**

Dr. Jose Almirall, Chair, Chemistry and Instrumental Analysis Scientific Area Committee (SAC), OSAC Priority Action Reports, February 14, 2017 1:00-5:00 PM (Strand 13A)

D’Nisha D. Hamblin, Bruce A. Benner, Jr., Michele M. Schantz, William A. MacCrehan and José R. Almirall, Evaluation of a new technology for the collection of breath components in the detection of marijuana use (poster)

### **Dr. Anthony DeCaprio Group**

DeCaprio, A.P., Gilliland, R.A., and Moller, C. Novel blood protein modification assay for retrospective detection of drug exposure. Invited platform presentation at NIJ Forensic Science R&D Symposium – Tuesday. Supported by NIJ 2015-NE-BX-K001.

Kimble, A.N., Arroyo-Mora, L., and DeCaprio, A.P. Method validation using multiple compound mixtures for screening/confirmation of 800+ novel psychoactive substances by LC-QqQ-MS. Platform presentation - Supported by NIJ 2014-R2-CX-K006.

Eckberg, M., Arroyo-Mora, L., Stoll, D.R., and DeCaprio, A.P. Separation of chemically similar and isobaric novel psychoactive substances using two-dimensional liquid chromatography. Poster presentation - Wednesday PM. Supported by NIJ 2014-R2-CX-K006.

Gilliland, R.A., Moller, C., and DeCaprio, A.P. LC-MS/MS based analysis of *in vitro* covalent modifications of glutathione and peptide thiols by drugs of abuse. Poster presentation - Wednesday PM. Supported by NIJ 2015-NE-BX-K001.

### **Dr. Kenneth Furton Group**

Vanquilla Shellman: Optimal Headspace Extraction for the Detection of Volatile Organic Compounds (VOCs) Released from Synthetic Cathinones using Solid Phase Micro-Extraction (SPME) for Field Application (poster presentation)

Characterization of controlled odor mimic permeation systems (COMPS) containing live training aids for utilization by detection canines, Alison G Simon and Kenneth G Furton (oral)

Greenhouse evaluations of volatile plant defense against an invasive agricultural and environmental biothreat agent, *Rafaella lauricola*, and possible implications for canine detection Alison G Simon and Kenneth G Furton (poster presentation):

Capsule Phase Microextraction: An Ideal Sample Preparation Technique for Environmental and Biological Samples, Rodolfo Mesa (Poster):

Utilization of Controlled Odor Mimic Devices to Improve Law Enforcement Canine Training Alice Boone (Poster):

### **Dr. Bruce McCord Group**

Dr. Bruce McCord, Co-chair, (with Ira Lurie, Chair, and Chip Walls) Instrumental chromatographic separation techniques for forensic analysis: Application to the analysis of emerging drugs. Workshop, AAFS, New Orleans, February 14, 2017.

Thaddeus Mostowtt, MFS; Chiara Deriu, MS; Jonathan Munoz; Bruce McCord, PhD. The Evaluation of Mono-, Di-, and Trivalent Cations for the Optimized Surface-Enhanced Raman Spectroscopy (SERS) Enhancement to Detect Synthetic Cannabinoids in Biological Samples", AAFS, New Orleans, LA, February 2017 (Poster).

Joana Antunes, MS (presenting); Vanessa Aguiar-Pulido, PhD; Kuppareddi Balamurugan, PhD; George T. Duncan, PhD; Giri Narasimhan, PhD; Bruce R. McCord, PhD, A New Approach Combining In Silico and High-Resolution Melt (HRM) Analysis to Quickly Identify New Loci for Body Fluid Identification Using DNA Methylation Melt Analysis" (oral presentation) AAFS, New Orleans, February 13-18, 2017.

Georgiana Gibson-Daw, Bruce McCord. Ultrahigh speed PCR: a method for obtaining STR based genotypes in 8 minutes or less. AAFS, New Orleans, February 13-18, 2017. (presentation)

Ling Wang, Bruce McCord, Gold Nanoparticle/Aptamer-Based Paper Microfluidic Devices Developed for the Detection of Cocaine, (poster) AAFS, New Orleans, February 13-18, 2017.

Rosa Cromarte, Ashley Wardlow, George Duncan, and Bruce McCord, Rapid and reliable validation of body fluids using paper microfluidic devices. AAFS, New Orleans, February 13-18, 2017. (poster)

Meghan Roig, Vanessa Martinez, Deepthi Nori, and Bruce McCord, A method for optimizing pressure-based extraction and direct PCR of simulated sexual assault samples. AAFS, New Orleans, February 13-18, 2017. (poster)

### **Dr. DeEtta Mills Group**

Deidra Jordan, "Assessment of the F-108 Polymer and Capillary Electrophoresis Single-Strand Conformational Polymorphism to Screen Human DNA Mixtures, poster presentation, Criminalistics

### **Dr. Jeffrey Wells Group**

Dr. Jeffrey Wells, invited speaker, "Statistical methods for combining multivariate and categorical data in postmortem interval estimation." National Institute of Justice Forensic Science R&D Symposium, Tuesday, Feb, 14, New Orleans.