

# National Institute of Justice

## Forensic Science Research and Development Symposium

### American Academy of Forensic Sciences 72<sup>nd</sup> Annual Scientific Meeting

The NIJ Forensic Science R&D Symposium is an open meeting where attendees can learn about NIJ-funded research across a variety of forensic science areas. AAFS meeting registration is not necessary. Feel free to stop by and listen to specific presentations, or stay all day and learn about the diverse NIJ forensic science R&D portfolio.

Information will be available at [www.forensicCOE.org](http://www.forensicCOE.org).

**Tuesday**  
**February 18 — 8:30 a.m. – 5:10 p.m.**

**Program:**

8:30 a.m. - 8:40 a.m. Welcome and Opening Remarks  
Office of Investigative and Forensic Sciences, NIJ

**Morning Session I – Forensic Biology/DNA**  
*Moderated by NIJ program manager Andrea Borchardt*

8:40 a.m. - 9:05 a.m. Efficient Sequencing and Analysis of Degraded and Trace DNA Samples Using a Novel Targeted Ligation-Free Method  
*Jannine Forst, Arc Bio, LLC - 2017-DN-BX-0140*

9:05 a.m. - 9:30 a.m. Microhaplotypes: Moving Scientific Research to a Forensic Casework Panel  
*Kenneth Kidd, Yale University - 2018-75-CX-0041*

9:30 a.m. - 9:55 a.m. DNA Typing Strategies via Real-Time Nanopore Sequencing for Forensic Analyses  
*Courtney Hall, University of North Texas Health Science Center - 2018-DU-BX-0179*

9:55 a.m. - 10:20 a.m. Development of Entire Mitogenome Reference Data Using an Automated High Throughput Sequencing Workflow  
*Kimberly Sturk-Andreaggi, Armed Forces DNA Identification Laboratory - DJO-NIJ-17-RO-0219*

10:20 a.m. - 10:35 a.m. Break

**Morning Session II – Controlled Substances and Toxicology**  
*Moderated by NIJ program manager Frances Scott*

10:35 a.m. - 11:00 a.m. The Detection and Quantitation of Fentanyl Mixtures by Surface-Enhanced Raman Spectroscopy (SERS) and Chemometrics  
*Ling Wang, Florida International University - 2015-IJ-CX-K006*

11:00 a.m. - 11:25 a.m. Portable SERS-PSI-MS Dual Analysis Platform Using Gold Nanoparticle-Embedded Paper for Trace Detection of Illegal Drugs  
*Jeremy Driskell, Illinois State University - 2017-R2-CX-0022*

- 11:25 a.m. - 11:50 a.m. Forty Plus Ways not to Analyze Beverages for Cannabinoids  
*Carl Wolf, Virginia Commonwealth University - 2017-R2-CX-0029*
- 11:50 a.m. - 12:15 p.m. Investigating the Rise and Fall of Opioids Using Data Acquired by Liquid Chromatography Time of Flight Mass Spectrometry (LC-TOF-MS)  
*Judith Rodriguez Salas, Fredric Rieders Family Foundation: CFSRE - 2017-DN-BX-0169*

12:15 p.m. - 1:35 p.m. Lunch Break – On Your Own

**Afternoon Session I – Impression and Pattern Evidence/Trace Evidence**

*Moderated by NIJ program manager Gregory Dutton*

- 1:35 p.m. - 2:00 p.m. Quantitative Measures for Footwear Impression Comparisons  
*Steven Lund, National Institute of Standards and Technology - DJO-NIJ-17-RO-0202*
- 2:00 p.m. - 2:25 p.m. Testing the Accuracy and Reliability of Palmar Friction Ridge Comparisons: A Black Box Study  
*Heidi Eldridge, RTI - 2017-DN-BX-0170*
- 2:25 p.m. - 2:50 p.m. Rapid Detection of Inorganic and Organic Firearm Discharge Residues by Laser-Induced Breakdown Spectroscopy (LIBS) and Electrochemical Sensors  
*Tatiana Trejos and Luis Arroyo, West Virginia University - 2018-DU-BX-0186*
- 2:50 p.m. - 3:15 p.m. Facilitating the Adoption of Glass Evidence Analyses in Forensic Laboratories  
*Jose Almirall, Florida International University - 2015-DN-BX-K049*
- 3:15 p.m. - 3:30 p.m. Break

**Afternoon Session II – Forensic Anthropology and Forensic Pathology**

*Moderated by NIJ program manager Danielle McLeod-Henning*

- 3:30 p.m. - 3:55 p.m. Developing an Online Resource for Species Identification of Skeletal Remains  
*Heather Garvin, Des Moines University - 2018-DU-BX-0229*
- 3:55 p.m. - 4:20 p.m. Development Responses to Fluctuating Temperatures of a Forensically Important Blow Fly (*Cochliomyia Macellaria*)  
*Travis Rusch, Texas A&M University AgriLife Research - 2016-DN-BX-0204*
- 4:20 p.m. - 4:45 p.m. Understanding the Role of the Thanatomicrobiota in the Decay of “Reproductive Organs” in Human Decomposition  
*Gulnaz Javan, University of Chicago - 2017-MU-MU-0042*
- 4:45 p.m. - 5:10 p.m. Using Microbiome Tools to Estimate the Postmortem Interval of Human Remains  
*David Carter, Chaminade University of Honolulu - 2015-DN-BX-K016*

**Adjourn**