

Workshop Report, 2017 ASMS Conference, Indianapolis, IN

Forensics and Homeland Security Mass Spectrometry Research: A Critical Discussion between Academicians and Forensic Science Practitioners

Organized by the Forensics and Homeland Security Interest Group

Adam B. Hall and Kenyon M. Evans-Nguyen

Monday, 5:45 – 7:00 pm, Room 143-144, Indiana Convention Center

Initial attendance 90, final attendance 105

Welcoming Remarks and Business Announcements

- Brief welcoming remarks (Adam H.)
- Introduction of workshop theme (Adam H.)
- Solicit nominations for chair-elect for the interest group for 2018. Kenyon will be Chair in 2018. Past Chairs have included Glen Jackson, Guido Verbeck and others. (Adam H.)
 - 3 Volunteers to act as co-chair for 2018
- Also solicit for recommendations for oral and poster sessions for 2018 ASMS, and for ideas for the workshop. We want to continue to have a recognized presence at ASMS. Past suggestions have included environmental forensics and food forensics as possible topics for sessions

Panel discussion

Introduction of the panelists (Kenyon E.):

- Mitch Wells, Ph.D.: Director of R&D, FLIR Systems, Inc.
- Rachel Beck, Ph.D.: Forensic Toxicologist, Division of Laboratory Medicine, UAB Department of Pathology
- Travis Falconer, Ph.D.: Forensic Chemist, FDA Forensic Laboratory

Audience question: Some forensic labs seem to encourage research, while others do not. What types of labs support research?

- For it to work, there has to be support for research from the top down. It also has to be part of the training culture. If people come in a research culture, they will accept it
- Research is difficult because most crime labs have confined budgets and large backlogs. Also, research requires new training/knowledge

Audience question: How open are labs to fieldable mass spectrometry?

- Discussion of preliminary vs. confirmatory ID
- Discussion of what identification really means and confidence in ID.
- Fieldable instrumentation should have reviewable data

Audience question: What level of validation leads to an acceptable data for forensics

- Depends on the forensic discipline/sub-discipline. Battlefield forensics and conventional forensics have very different criteria
- The legal system is really the stakeholder. Courts need more than just proof-of-concept for evidence

Audience question: How do you work with a crime lab, given ISO and ASCLD requirements?

- Interns are a great way to work with labs
- Many labs can participate in research, but not with actual casework

Audience question: Do forensic practitioners use mass spectrometry imaging?

- Generally, no
- The FDA forensic laboratory has done some limited work with imaging
- There has been some work done in the UK in collaboration with crime laboratories, do MS imaging of fingerprints
 - Discussion of forensic research culture in Europe vs the US

Audience question: Does work with the department of defense have different specification requirements than conventional forensics?

- There are different aspects of DoD work. Some require rapid results with less stringent certainty requirements while other require higher certainty. Instrumentation for homeland security involving protection of civilians has higher certainty requirements than work involved detection for soldiers in the battlefield.

Audience question: How far out is airport screening with mass spectrometry?

- The technology is there, but mass spectrometry still needs to demonstrate added value commensurate with the costs?

Question from panel for the audience: How willing are you to collaborate with practitioners given that practitioners generally can't provide funding?

Closing Remarks

- Closing remarks at 6:55 p.m.
- Attendees encouraged to stay behind to talk with the panel members and to provide feedback about the structure of the workshop.
- Expression of gratitude to the panel members for their participation, and for the many attendees who spoke up to ask and answer questions and help provide a stimulating, enjoyable and informative discussion.

Respectfully Submitted,

Adam B. Hall (Chair 2017) and Kenyon M. Evans-Nguyen (Chair 2018).