

Flavor, Fragrance and Foodstuff Interest Group

Organizers: Walter Hammack (chair) and David Schroeder (co-chair)

Date: June 7<sup>th</sup>

Time: 5:45 – 7:00 pm

Food Safety & Security:HRMS Applications(Flavor, Fragrance, and Foodstuff Interest Group)

We started our workshop with two brief 5 minute presentations centered on the application of HRMS for food safety. Robert Sheridan of the New York State Department of Agriculture and Markets discussed their use of HRMS with a focus on how they use Time-of-flight mass analyzers for contaminant analysis. Bob provided a short power point presentation. Dr. Sara Kerns of the U.S. Food and Drug Administration, Forensic Chemistry Center, discussed the use of HRMS to aid in the identification of a toxin responsible for the Mozambique mass poisoning. Both of these presenters did an excellent job and facilitated both direct questions and a open discussion of the use of HRMS and the challenges with unknown identification and detection.

We had over 100 attendees this year and the discussion was lively and engaging. We had no trouble filling the allotted time and could have easily continued the discussions. The AV staff was excellent and the room size worked well for the discussion. Some of the issues discussed included, the use of libraries for non-target analysis, the extreme challenges of true unknown detection and identification, and the suitability of both TOF and Orbitrap platforms for analysis of challenging food samples. One central point was that absent negative controls, detection of non-target analytes was very difficult. FDA worked for over 6 months before they received a control that ultimately allowed them to ID the compound responsible for the poisonings. There was general agreement that software tools generally lag behind hardware and additional research and development is needed in this area from our vendors.

Interest Group Needs:

How to examine large HRMS data sets and identify adulteration and contaminant trends

What to do with the data and finding

Need for food metabolite databases

Ionization improvements to address lipid and other matrix suppression

Next Year, Dr. David Schroeder will lead the discussion and we solicited Dr. Sara Kerns as a possible co-chair pending approval by ASMS. We have also discussed the need to change the name of our working group from the Flavor, Fragrance and Foodstuffs to reflect the current focus of our interest. I have not seen any significant participation of the Flavor or Fragrance industry in our discussions over the past few years. I believe that most of the focus is on food

safety, food defense, and food security. I would recommend that the interest group name be changed to reflect this and I recommend *Food Safety and Security* as a possible name for consideration.