

Report on the ASMS 2017 workshop for the Energy, Petroleum & Biofuels Interest Group: “Energy, Petroleum, and Biofuels: Experimental challenges”

Mark P. Barrow and David D. Stranz presiding
Wednesday (June 7th, 2017), 17:45-19:00, Room 139

Format:

- David D. Stranz (Sierra Analytics) and Mark P. Barrow (University of Warwick, Coventry, UK)
 - Welcome
 - Introduction and overview of workshop
 - ASMS sessions on Energy, Petroleum & Biofuels
 - Rotation of interest group coordinators
- Three speakers (5-10 minutes each)
 - Carolyn Hutchinson (Iowa State University, Ames, Iowa, USA)
 - Ryan P. Rodgers (National High Magnetic Field Laboratory, Tallahassee, Florida, USA)
 - Wolfgang Schrader (Max-Planck-Institut für Kohlenforschung, Mülheim, Germany)
- Question and answer session, with discussion

The ASMS Energy, Petroleum, and Biofuels Interest Group held its workshop on the Wednesday evening (June 7th, 2017) as part of the 65th ASMS Conference on Mass Spectrometry and Allied Topics in Indianapolis. Interest Group coordinators Mark P. Barrow (University of Warwick) and David D. Stranz (Sierra Analytics) presided. As the workshop began, approximately 50 people were present, but the room filled further during the session and it is estimated that about 75 people attended. A wide range of representatives from both academia and industry were present.

The workshop began with an introduction to the theme of experimental challenges and provided an overview of the session. There was a brief discussion concerning the reduction in representation of “Energy, Petroleum & Biofuels” to a single oral session at this year's conference. Attendees were reminded that allocation of oral sessions is, in part, based upon the number of submitted abstracts which contain keywords linked to the topic, and the way to get back to the traditional two oral sessions is to submit more abstracts, using keywords appropriately.

The administrative portion of the meeting concluded with a request for a volunteer to replace the outgoing coordinator, Mark P. Barrow, for the next two year rotation. Marianny Y. Combariza (Universidad Industrial de Santander, Bucaramanga, Colombia) has agreed to serve and her name will be submitted to the ASMS Board for approval.

The workshop continued with three brief presentations on the topic of analytical challenges in sample preparation, separation, and data acquisition that affect data quality. Carolyn Hutchinson (Iowa State University) described issues in obtaining good quality data from biomass-derived biofuels, using an example of humidity influencing results from atmospheric pressure chemical ionization experiments. Ryan P. Rodgers (National High Magnetic Field Laboratory) presented examples of how fractionation of acid and asphaltene fractions has influenced understandings of molecular weight ranges and predominant structures. Wolfgang Schrader (Max-Planck Institut für Kohlenforschung) described online chromatographic separations of petroleum and the challenges posed during analysis of the time-resolved datasets.

Following the brief presentations to set the scene, the three speakers served as a panel at the front of the room to facilitate discussion. There was a lively Q&A and discussion session, moderated by the coordinators, which lasted for approximately 45 minutes and covered a wide variety of topics, including sample preparation, structures of petroleum components, factors influencing the price of oil, industry's primary concerns, stability of biofuels, and alternative sources of oil. The workshop concluded at 7:00 PM with a reminder for increased abstract submissions for next year's Annual Conference.