

AOAC Pacific Southwest Section Examines Advances in Technology and Methodology

From food emergency preparedness and proficiency testing to detection of chemical contaminants and monitoring of microbial organisms, over 65 participants attended the 2008 AOAC Pacific Southwest Section annual meeting on April 7-10, 2008, at the Hilton Concord in Concord, California, USA. Representatives from government, industry, and laboratories, among others examined the latest scientific research and technological developments as they focused on this year's theme, "Advances in Technology and Methodology."

FERN, AOAC, and Proficiency Testing

Following a 2-day short course on auditing (see sidebar), Doug Marsh (Arizona Department of Agriculture and outgoing-president of the Pacific Southwest Section) kicked off the meeting as he delivered the opening address and welcomed attendees.

A highlight of the meeting was keynote speaker, Timothy McGrath, newly appointed director of the Food Emergency Response Network (FERN). McGrath provided an overview on FERN's organizational structure and activities. FERN is composed of mainly state and federal laboratories with technology and methodology to handle most food contamination crises as they arise.

Keeping attendees abreast of AOAC activities, Arlene Fox, Senior Director of Proficiency Testing, focused on the importance

of stakeholders in identifying analytical problems that need science-based solutions and setting performance requirements to provide voluntary consensus standards. Fox highlighted AOAC initiatives such as the formation of a Stakeholders Panel on Agent Detection Assays (SPADA).

Continuing with AOAC updates, Norma Hill, Alcohol and Tobacco Tax and Trade Bureau Compliance Laboratory and chair of the AOAC Official Methods Board, provided an overview of the *Official Methods*SM process and discussed the formation of the more efficient "communities" model, which will replace the traditional Methods Committees. It is hoped that the community model will streamline the flow of the methods approval process.

Next, Marsh led the Pacific Southwest Section's annual business meeting at which new board officers (see sidebar) and members-at-large were appointed. Past officers were awarded Certificates of Appreciation.

Wrapping up the day's program, Patricia Linden (U.S. Department of Agriculture/Agricultural Research Service; USDA/ARS) and Terry Jackson (California Department of Food and Agriculture; CDEFA) cochaired a session on proficiency testing. Presentations by Fox, Scott, Randy Querry (A2LA), Chris Czyryca (Collaborative Testing Services), Balvinder Sekhon (CDEFA), and Linden focused on the various perspectives

of proficiency testing, from laboratory analysis and interpretation of analysis to providers of test samples.

Microbiology and Chemistry

The second day of the meeting continued with breakout sessions for microbiology and chemistry. Chaired by Marsh, the chemistry session focused on advances in instrumentation for chemical contaminant detection. Speakers included sponsoring vendors (Thermo Fisher Scientific, Agilent, Applied Biosystems, and Perkin Elmer), who discussed how new strategies applied to different types of mass spectrometry (MS) could be used to detect pesticides and other contaminants in food and beverages to achieve lower limits of detection (LOD) and faster turnaround times.

In "Development of High Affinity Monoclonal Antibodies to Neurotoxin Type A and Their Use in Foods," Larry Stanker (USDA/ARS) stressed the need to move away from traditional rat bioassays to more rapid methods such as immunoassays and presented results from new techniques which are comparable to those of traditional assays.

Dipankar Ghosh (Thermo Fisher Scientific) explored online sample preparation techniques coupled with liquid chromatography (LC)/MS for pesticide residue analysis at ppt levels to achieve low LODs that meet the regulatory levels required by worldwide governing bodies.

Hill focused on analysis requirements for the nutritional labeling of wines.

Additional presentations included those by representatives from Agilent Technologies (Advances in GC/MS Technology--New Capabilities for Challenging Analytical Problems) and Applied Biosystems (New Strategies to Apply LC/MS/MS for the Quantitation and Confirmation of EDC and PCB); Scott Stanley (California Animal Health and Food Safety Laboratory), who has developed a method to screen over 100 banned drugs in equine plasma using LCMS/MS; and Peter Gibson (Perkin Elmer) on "Robust and Definitive GC/MS Method for the Analysis of Melamine in Dry Protein Materials."

The microbiology session, chaired by Anna Pfender (Arizona Department of Agriculture), focused on advances in technology for detecting pathogens. Speakers included sponsoring vendors such as Bio-Rad, Biolog Corp., 3M, and Cepheid, who looked at how advances in technology for the identification and monitoring of microbial organisms could increase sensitivity, accuracy, and speed.

Emilia Frankel (LA Customs and Border Protection) explored the use of microscopy in the analysis of fibers in clothing.

Thomas Romick of Industrial Microbial Testing presented results of a collaborative test on total bacteria count kit using the Cepheid platform.

(Continued on page 21.)

AOAC Board of Directors Disbands Inactive Peer-Verified MethodsSM Program

With no activity in the *Peer-Verified MethodsSM* (PVM) program for years and no prospect of AOAC issuing any new PVMs in the foreseeable future, the AOAC Board of Directors (BOD) recently voted unanimously to disband the methods program. The BOD's decision during its meeting on July 10-11, in Gaithersburg, Maryland, USA, comes after

more than 5 years of program inactivity, and new initiatives being explored by the Association to replace it.

Since the program's inception in 1993, more than 20 approved PVMs were issued (see sidebar). Originally designed to provide independent laboratory validation for nonproprietary methods where rapid validation and some degree of confidence in performance

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were needed, the PVM validation procedures were intended to require fewer resources than a full collaborative study, but the level of

confidence in the statistical parameters was less than that provided by a fully collaboratively studied method.

Indeed, the PVM program has faded much over the years, and a recommendation that the program be disbanded had previously come to the BOD by the Official Methods Board (OMB) last May.

Anthony Hitchins (U.S. Food and Drug Administration, College Park, Maryland, USA), the last chair of the PVM Advisory Committee—a committee that developed PVM performance criteria and parameters on various topics—explained to the OMB earlier this year that the PVM program was set up as “a noncommercial analog of the *Performance-Tested MethodsSM* validation.” “That is,” he said, “I suspect its establishment was essentially not a science-based decision but more of an intrapolitico/legal/economic one. Thus, academic/government laboratories could essentially run rather inexpensive and relatively quick two-laboratory-style validations unconnected with commercial gain.”

He explained that single-laboratory validation (SLV),

(Continued on page 21.)

AOAC Pacific Southwest Section Examines Advances in Technology and Methodology

Continued from page 19.

Stacy Montgomery of Biolog focused on “Use of a Next Generation Microbial ID System for Enhanced Detection of Bacterial Contamination,” while Liza Ruiz of 3M Microbiology discussed “Environmental Monitoring for Indicator Organisms” from a food safety perspective.

Presentations continued from Wendy Lauer (Bio-Rad), who examined how real-time polymerase chain reaction (PCR) can increase the level of sensitivity and specificity by aiming at the specific sequence of DNA of a target organism, while reducing the results time to within hours instead of days. Robert Mandrell (USDA/ARS) investigated how Multilocus Variable tandem repeat Analysis (MLVA) is the next generation method for genotyping important foodborne patho-

gens such as *E. coli* O157:H7. He presented a summary of analysis using this technique for the identification of the *E. coli* responsible in recent foodborne outbreaks in the country. Finally, Dominci Andrada (Luminex) highlighted xMAP technology using the Luminex platform. Off the shelf kits or custom “home brew” kits are available for customers based on their analytical needs. ■

A Short Course on Auditing

In conjunction with the AOAC Pacific Southwest Section's annual meeting, James H. Scott of Scott Consulting Services conducted a 2-day short course, entitled “Auditing ISO Management Systems.” Featuring information and exercises on ISO/IEC technical requirements, audit scenarios, and document audits, the course provided participants with step-by-step

information on how to conduct both internal and external audits. Participants evaluated the course highly for its content and the instructor's knowledge. Scott is a certified Lead Auditor of quality, environmental, and laboratory management systems.

Pacific Southwest Section Announces New Board Officers

Congratulations to the following new board officers, who were appointed in April at the annual Pacific Southwest Section meeting:

Sarita Cardozo, President
Alcohol and Tobacco Tax and Trade Bureau

Raquel Hernandez, Secretary
U.S. Department of Agriculture

Marsha Galicia, Treasurer (re-elected)
Alcohol and Tobacco Tax and Trade Bureau