



THE LABYRINTH ISDH LABORATORIES NEWSLETTER

Indiana State
Department of Health
Laboratories

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FERN Training Course held in Pearl City, Hawaii

By Aaron Bolner

While the February cold and snow was making life miserable for his colleagues, Aaron Bolner of the Food Chemistry Laboratory was enjoying the sunny skies and beaches of Hawaii during a four-day training course on the detection of toxic compounds in food matrices using Gas Chromatography/Mass Spectrometry (GC/MS). Funding for this training was provided by the U.S. FDA's Food Emergency Response Network (FERN). The course was held from February 8th - 11th at the Hawaii State Department of Health Laboratory in Pearl City, Hawaii.

This course focused on three different food matrices: apple juice, papaya, and powdered milk. Apple juice, a simple liquid with no interferences, was analyzed on the first day. Papaya and powdered milk were analyzed in the second and third days of training in order to demonstrate common interferences, how to handle overlap of spectral peaks of interest, and how to vary the ex-

traction technique for different consistencies of product.

The course also provided training on GC/MS data interpretation using a software program called AMDIS. AMDIS is a spectral interpretation program used in the identification of toxic compounds. Mass spectra of unknowns are compared to mass spectra contained in libraries to determine match probabilities.

This capability will be a useful tool in analyzing samples submitted by the ISDH Food Protection division as part of their consumer complaint investigations. Additionally, if FERN is ever activated because of a contamination in the food supply, the Food Chemistry Lab will be able to assist the Federal Emergency Response Network (FERN) in analyzing the suspected contaminated food samples.

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Our Mission: The Indiana State Department of Health Laboratories partners with other public health agencies to provide timely and accurate information needed for surveillance and outbreak investigations to protect and improve Hoosier health.

“SCACM Hits Another Home Run!”

By Ellie Carter and Shelley Matheson

The 40th Annual spring meeting of the South Central Association for Clinical Microbiology (SCACM) was held at the Galt House hotel in Louisville, Kentucky from March 18-20th. A few Indiana State Department of Health (ISDH) outreach staff were fortunate enough to be able to attend this year's baseball themed event: Shelley Matheson, ISDH Labs State Training Coordinator and the SCACM Indiana State Director, Ellie Carter, ISDH Labs Laboratory Program Advisor, and Brent Barrett, longtime ISDH Enteric Lab Microbiologist and SCACM board member.

The ISDH Laboratories sponsored a booth in the event exhibition hall which afforded us the opportunity to meet in-person many of the Indiana sentinel laboratorians that we so often communicate with but rarely or never meet face-to-face. This was the primary purpose of booth sponsorship but another reason was to help spread a public health message to all conference



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ISDH Laboratories Hosts Hands-On Workshop for Sentinel Laboratories

By Shelley Matheson

ISDH Laboratories hosted a “Hands-On Workshop for Sentinel Laboratories: Biothreat Agents 101” workshop on March 4. Participants represented 14 different Indiana sentinel hospital laboratories. A sentinel laboratory is defined as any laboratory capable of analyzing or referring specimens or samples that may contain microbial agents or biological toxins. In conjunction with reference laboratories, these sentinel laboratories form the nation’s Laboratory Response Network (LRN).

The workshop provided sentinel laboratorians with an overview of their

role in the presumptive identification of biothreat agents including *Bacillus anthracis*, *Yersinia pestis*, *Brucella canis*, *Francisella tularensis*, *Burkholderia mallei*, and *Burkholderia pseudomallei*. Hands-on laboratory exercises outlining the microbiology of these agents were demonstrated in our “state-of-the-art” training laboratory. The safety implications of handling these suspect organisms were emphasized as well as

select agent policies and packaging and shipping rules and regulations. Ellie Carter, ISDH Laboratory Program Advisor, presented “The Role of the Sentinel Lab.” Shelley Matheson, ISDH Laboratory State Training Coordinator, presented

“Select Agents, CDC/APHIS Forms, and USDA Permit Information for Sentinel Labs” and “Packaging and Shipping of Category A Infectious Substances.” Mark Glazier, ISDH Laboratory Supervisor of Emergency Preparedness and Molecular Virology, presented “Agents of Bioterrorism: An Overview of Sentinel Laboratory Protocols” and “Biosafety Decisions in the Clinical Microbiology Laboratory.”

Additionally, other ISDH Laboratory staff members were essential to the success of the training. Other staff that assisted with the workshop included Jim Hogan, ISDH Hospital Laboratory Training Coordinator; Katie Masterson, ISDH Laboratory Supervisor of Emergency Preparedness and Virology Isolation; Brent Barrett, ISDH Laboratory Microbiologist, and Renee Dreher, ISDH Laboratory Administrative Assistant. They assisted in the coordination and planning of the training, the production of the workshop, and also as technical experts in the hands-on laboratory portion.

Overall, the workshop was a successful training experience for all participants

Mark Glazier gives instruction during his presentation on Biosafety.



One participant commented when asked what other topics he/she would like to see covered in future training activities, “Any would be good if taught at this level - high quality experience.”



Students working in the Training Lab.



Katie showing Nitrates Reaction

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New Appointments for Laboratory Staff Outside of Laboratory Life

Shelley Matheson, ISDH Laboratory State Training Coordinator, has been elected to be the interim Indiana State Director for the South Central Association for Clinical Microbiology (SCACM). SCACM is a not-for-profit organization directed by volunteers from all levels of clinical microbiology. SCACM organizes and hosts many continuing education activities such as annual meetings, workshops, seminars, and teleconferences. SCACM involvement is one of many methods that Matheson utilizes to reach out to Indiana sentinel hospital laboratories. The SCACM Indiana State Director position entails a variety of responsibilities such as promoting continuing education, granting Science Fair Awards to Indiana high school students, and planning Indiana Fall SCACM meetings. Matheson has plans to run for the 2011-2012 Indiana State Director position. This elected position is a two-year term.

Ellie Carter, ISDH Laboratory Program Advisor, has been invited to serve on the Association of Public Health Laboratories (APHL) Laboratory System Improvement Program's (L-SIP) Improvement Committee. In October 2009, Carter organized the Indiana Laboratory System Assessment which brought together stakeholders throughout Indiana to address the questions: What is the Indiana State Public Health Laboratory System? What does it do? How well does it perform? And what should it do better? This assessment utilized the tools developed by APHL and the CDC's National Public Health Performance Standards Program (NPHSP). The Improvement Committee has been continuously evaluating the L-SIP processes and how they've been utilized by the approximately 22 states that have participated in the assessment and follow-up activities for improving their states' laboratory systems.

Home run cont.

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attendees that the ISDH and public health agencies nationwide rely heavily on the tireless efforts of the clinical microbiology community. For having the only public health exhibit, among the numerous laboratory product vendors, the ISDH was praised for its contribution. We displayed and distributed various educational materials developed or utilized by the ISDH Labs Outreach Program.

This event was an excellent venue for fielding laboratorians' questions and highlighting how the ISDH Laboratories support Indiana sentinel laboratories in being as prepared as possible to rule out agents of bioterrorism, know when to refer them to the ISDH Laboratories as well as participating in other important public health and surveillance activities. We received a substantial amount of positive feedback from booth visitors, including the CDC representative, on the quality of our program's training offerings and communication to sentinel laboratories



The SCACM meeting included lectures by nationally prominent clinical microbiologists as well as workshops, exhibits and poster sessions for clinical microbiologists traveling from throughout the south central United States. The SCACM Spring Meeting 2010 was remarkably successful and beneficial to those of us who were privileged to participate. The next SCACM event in Indiana will be the Indiana Annual Fall Meeting; details on this event and its location are to be announced.

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The Indiana State Department of Health supports Indiana's economic prosperity and quality of life by promoting, protecting and providing for the health of Hoosiers in their communities.

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Wet Lab Training cont.

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and staff in attendance. A pre-test and post-test were given to each participant to evaluate the educational value of the training. We are pleased to announce that there was an average of a 29 percent increase in test scores between the pre-test and the post-test for participants. According to the participant evaluations, ISDH Laboratories was 100 percent successful in meeting the objective of teaching participants to recognize the microbial characteristics of the primary agents of bioterrorism. One participant commented when asked what other topics he/she would like to see covered in future training activities, "Any would be good if taught at this level - high quality experience."

We plan to take our next hands-on workshop "on the road again." We will be giving an encore presentation of March's workshop on July 15, at Deaconess Hospital in Evansville.

Illustration provided by Mike Cross



"I'm taking you off microscope duty now."