

The LAByrinth

Indiana State Department of Health
Laboratories Newsletter

SCACM 2011 Fall Meeting by Jyl Madlem



**south central association
for clinical microbiology**
www.scacm.org

As fall blew in with gusty winds and cloudy skies, the South Central Association for Clinical Microbiology held their annual fall meeting at the Hospital Preparedness and Training Center in Plainfield, on Oct. 17, 2011. Attendees

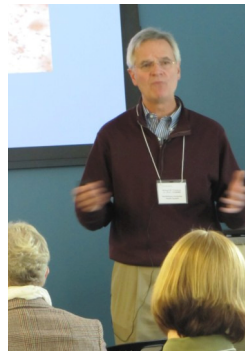
were ready to go for this extraordinarily educational meeting.

On the agenda for this fall's meeting were topics such as preventable healthcare associated infections (HAIs) and the role of the clinical microbiology lab.

Dr. Michael Gaydos' presentation included data on alarming increases in HAI rates, financial costs of HAIs, and the increasing role of the clinical microbiology laboratory in preventing HAIs.

Gram stains took on a new twist and practically came to life as Dr. Tom Thomson discussed the importance of higher levels of competence for microbiologists who read them and how certain disease processes could be diagnosed as a result of this simple test.

Dr. John Lock took a life-changing detour; to the hospital for the birth of his second child. As a contingency, his lecture on Antimicrobial Stewardship was pre-recorded, and his talk reinforced the idea that clinical microbiologists are critically important to the overall good outcomes for hospitals.



**Dr. Tom Thomson
lectures on Gram
staining**

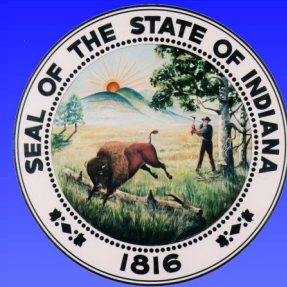


**Dr. Richard Van Enk discusses the issue
on antibiotics**

Finally, with all clinical microbiologists scratching their heads after the release of the new 2011 CLSI guidelines indicating changes in susceptibility of several antibiotics, Dr. Richard Van Enk made some sense of this issue. He mentioned the trend indicating decreasing susceptibility of many commonly used antibiotics and yet there are no new drugs in phase III trials to replace them. Dr. Van Enk

surprised the group with an extra presentation on Arthropods. Although it made your skin crawl a bit, the information was very interesting to learn about.

The ISDH Laboratory's own Shelley Matheson is the Indiana State Director of SCACM and as such she and her team, who includes Kara Hammes and Jyl Madlem, were instrumental in the planning and execution of this annual meeting.



Indiana State Department of Health Laboratories

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State Health Commissioner

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Laboratory Services

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.

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Pictures from the SCACM 2011 Fall Meeting



Gram Stain presentation



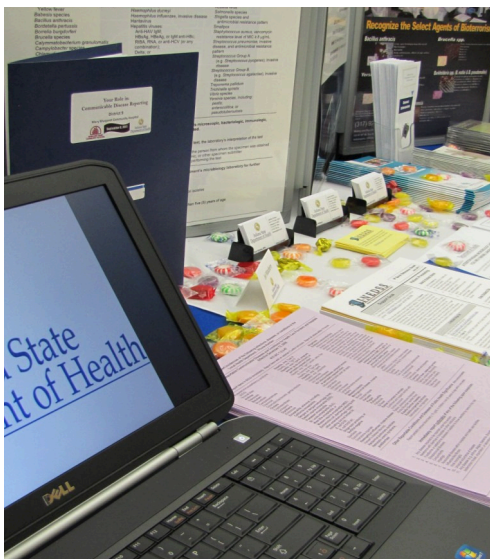
Dr. Judy Lovchik: Interested and engaged



Various informative brochures and articles



Jon Radosevic picking up tips from Bruker Vendor



ISDH vendor table, Jyl Madlem was ISDH Vendor



Attendees are excited to be a part of SCACM 2011 Fall Meeting

Food Chemistry and Microbiology Labs Seek Laboratory Accreditation

by Megan Teachout



According to the Centers for Disease Control and Prevention (CDC), each year, foodborne illness strikes 48 million Americans, hospitalizing a hundred thousand and killing thousands. Because of these alarming statistics, the federal government has decided to take action. In January 2011, President Obama signed the Food Safety Modernization Act (FSMA) into law as a way to improve the safety of the nation's food supply. This law will create a national food safety system aimed at minimizing consumers' exposure to adulterated and contaminated food. FSMA focuses on ensuring food safety throughout the US by increasing accountability and strengthening standards for food inspectors and testing laboratories.

As a requirement of FSMA, federal, state, and local food laboratories will be accredited to the ISO/IEC 17025:2005 standard before July 2013. With the help of a Federal Drug Administration (FDA) grant and in cooperation with the Indiana State Department of Health's (ISDH) Food Protection program, the ISDH Food Chemistry and Microbiology Labs have begun the process of becoming ISO 17025 accredited. Over the next several months, a quality management system will be developed that encompasses all of the requirements. The laboratory's quality assurance documents will undergo extensive reviews and revisions and staff will attend training for lab accreditation based on the ISO 17025 standard. Toward the end of the process, the Food Chemistry and Microbiology Labs will be subjected to an assessment completed by the FDA, an internal audit conducted by ISDH Lab Quality Assurance staff, and an external audit performed by the accrediting body.

The long-term benefits of going through this process outweigh any short-term difficulties. By adhering to the strict ISO 17025 guidelines, our customers and other laboratories will be assured of the quality of our testing procedures. Also, the ISDH Food Chemistry and Microbiology Labs will gain recognition as accredited laboratories.

Food Safety and Inspection Service new policy on STEC screening

by Fatima McClain

Shiga toxin-producing *E. coli* (STEC) may cause a variety of illnesses such as diarrhea, abdominal cramps, and kidney stones (rare). *Escherichia coli* O157:H7, the most commonly isolated STEC, is particularly dangerous for young, elderly, and immunocompromised persons. Shiga-toxin is the same toxin as the one produced by *Shigella*, the bacterium that causes dysentery.

Since the 1990's, the USDA Food Safety and Inspection Service (FSIS) has considered *E. coli* O157:H7, a particular strain of STEC, to be an adulterant of raw intact components used to manufacture meat products. In recent years, other prevalent pathogenic non-O157 STEC serogroups (O26, O45, O103, O111, O121, and O145) have emerged as threatening to the public. According to the CDC, data shows that 70 percent to 83 percent of confirmed non-O157 STEC illnesses are caused by these six groups.

A recent study examining thermal resistance of STEC in inoculated non-intact beef revealed that *E. coli* O157:H7 and non-O157 STEC (a pooled composite of STEC serogroups O45, O103, O111, O121, and O145) had similar thermal inactivating profiles. In a recent outbreak where ground beef was the source of infection, evidence showed that STEC O26 survived the typical cooking techniques.

At the beginning of next year, USDA- FSIS will begin implementation of a routine sampling program. This program will address recent public concerns about the presence of non-O157 STEC in meat and meat products that will include, besides *E. coli* O157:H7, the six additional STEC serogroups (O26, O45, O103, O111, O121, and O145). The FSIS will initially sample raw beef manufacturing trimmings and other ground beef product components produced domestically and imported, and test for these serogroups. When the testing program of FSIS is implemented, the USDA-FSIS will consider other products, including raw ground beef contaminated with any of the six additional STEC serogroups to be adulterated. As soon as laboratory capacity is available, the USDA-FSIS is planning to expand this program to conduct verification testing of ground beef products for all of these serogroups. Data gathered from the sampling will enable the USDA-FSIS to gauge more precisely the level of hazard posed by these STEC.

ISDH Laboratories and the University of Indianapolis Host *Clostridium difficile* Workshop

by Shelley Matheson



The Indiana State Department of Health (ISDH) Laboratories, in conjunction with the University of Indianapolis Center for Aging and Community, hosted a workshop for Indiana hospitals and laboratorians entitled "Laboratory Role in Detecting and Preventing *Clostridium difficile* Infections," on Nov. 9, 2011 in Indianapolis. Today's laboratories are challenged with providing rapid, accurate, and cost-effective *Clostridium difficile* (*C. diff*) testing. This training emphasized why *C. diff* is a growing problem and discussed its clinical and microbiological aspects. In addition, the workshop evaluated diagnostic approaches to *C. diff* testing and described the advantages and disadvantages to various testing platforms.

This workshop consisted of two keynote speakers. L. Clifford McDonald, M.D., Senior Advisor for Science and Integrity at the Centers for Disease Control and Prevention, presented "Evidence for Best Practices of Employing Nucleic Acid Amplification Techniques (NAAT) for *C. diff* Infections in a Population." Dr. McDonald helped the audience understand why *C. diff* is such a problem and discussed the accuracy of current available testing algorithms. He also discussed best practices for sample selection and infection control implications. Steve Allen, M.D., Clinical Microbiology Medical Director at the Indiana University Health Pathology Laboratory, presented "Making the Transition to a Molecular Method for *C. diff* Testing." Dr. Allen spoke about the advantages and disadvantages of various laboratory testing algorithms currently used for *C. diff* testing and focused on the benefits of molecular testing.

In addition to two excellent speakers, participants were given time to participate in roundtables with two vendors to learn more about their equipment and specific assays available for molecular *C. diff* testing. Cepheid was present to discuss their rapid *Xpert C. diff* assay that detects and differentiates *C. diff* and the epidemic 027 strain. Meridian Bioscience was available to answer questions regarding their *illumigene C. diff* molecular platform.

Overall, the workshop was a profitable training experience for all the participants in attendance. Upon its completion, attendees were successful in discussing the clinical, epidemiological, laboratory, and infection control issues related to *C. diff* infection. Attendees were also successful in learning the newest information about molecular testing for *C. diff* from nationally recognized experts in the field. One attendee commented, "I really appreciate ISDH sponsoring this type of seminar. Both speakers did an excellent job. Loved having someone from CDC." Another attendee said, "It was excellent. I learned a lot."

We are currently creating educational materials as follow-up to this training. We are compiling cost comparison sheets for *C. diff* molecular vs. traditional testing to be mailed to Indiana sentinel laboratories and other applicable facilities. These sheets will include lab-related and hospital-related costs. In addition, we are developing a webinar in conjunction with Dr. McDonald who spoke at the November training. Further information regarding this webinar will also be distributed once it is ready to be delivered. If you have any questions regarding this training and/or materials, please contact Shelley Matheson at 317-921-5890.

Spotlight: Aukisha Dillard

by Kirsten Long



Aukisha works as our clerical accountant in the front office here at the labs. She is a graduate of Broad Ripple High school and has been working at the Indiana State Department of Health for seven years. Aukisha takes care of ordering supplies, invoices, checking the balances, assisting at the front desk, and helping elsewhere whenever the need arises. She is currently attending Ivy Tech to earn a degree in Accounting. This year Aukisha plans to participate in the group founded by Indianapolis' First Lady Winnie Ballard called Campaign for Financial Fitness. One of the things they do is tax preparation for lower income individuals and families.

Aukisha has three children at home, one son and two daughters. She loves spending time with her family. Cooking is a major hobby, particularly cake decorating. She'd like to get her certificate in cake decorating so that she can teach classes at places like Michael's Crafts, etc. We know she's good at it, because every month or so, Aukisha bakes a themed cake for all the employees whose birthday occurs during that month. She also enjoys singing karaoke and hip-hop line dancing. At church she volunteers as a greeter to meet and interact with more people in the community.

Spotlight: Dianna Zamani

by Kirsten Long



Dianna is the supervisor of the Water Microbiology lab here at the State labs. She started working for the Indiana State Department of Health in 1985. After a few years as a technologist, she was promoted to supervisor and has since been supervisor of containers, specimen receiving, glassware, clerical, and water microbiology. In the water lab, the scientists receive upwards of 30,000 samples per year and all must be setup within two hours of receipt to insure proper results. They look for coliforms and other bacterial contaminants in the drinking water of Hoosiers.

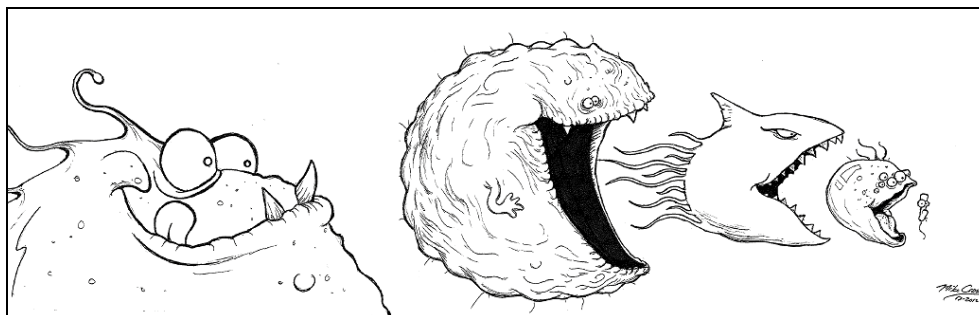
Dianna graduated from Indiana State University with degrees in Medical Technology (B.S.) and Microbiology (M.S.). She is MT ASCP and CLS (NCA) certified.

When not at work, Dianna enjoys spending time with her family. She has four children, four grandchildren and three great-grandchildren. One daughter remains at home and she is a source of joy for Dianna and her husband. She likes to cook fabulous meals, particularly of Indian and Persian origin. She loves to garden and is especially fond of orchids. For those of us who work here at the labs, it is impossible to miss the dozens of orchid plants on the third floor lunch area. Unfortunately, Dianna and her orchids will be leaving this coming January when she retires from the ISDH labs. Upon retirement, she plans to put the family's fifth wheel vehicle to use and travel all around out west. She would love to drive all the way up to Alaska!

Microtoon

By Mike Cross

No matter how small you are, there is always something bigger than you.



The LAByrinth

The LAByrinth is published quarterly by the editorial staff of Indiana State Department of Health Laboratories.

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