CHAPTER MISSION STATEMENT

The National Capital Area Chapter of the Society of Toxicology (NCAC-SOT) was established to provide a regional focus for scientists of all disciplines interested in toxicology. The Chapter acts to:

- Sponsor and co-sponsor symposia on current issues in toxicology
- Provide an annual award to an outstanding student in toxicology to assist in attending the annual meeting of the SOT
- Maintain communication with the National SOT regarding current toxicology and regulatory concerns
- Sponsor Regional Chapter events at the SOT Annual Meetings
MESSAGE FROM THE PRESIDENT

Greetings, everyone!

Your NCAC-SOT officers have been busy this year! It began back in March when the SOT program committee contacted us with a request to create a symposium for the 50th Anniversary meeting on a topic of regional interest. The topic we chose was military munitions, including discarded military munitions (DMM) and unexploded ordnance (UXO), in the Washington DC area. Check your SOT meeting program for, “Bombs in Our Backyards? Historical Military Activities and Current Public Health Issues in the U. S. Capital Region.” and plan to attend! Next we began planning for the NCAC-SOT Fall Symposium, “Food Safety – From Farm to Table,” which took place in October and highlighted contemporary and cutting edge food safety issues. Abstracts from the symposium are included in this newsletter.

Other officer activities include developing a poster on the history of the NCAC-SOT for presentation at the 50th Anniversary meeting, and working on updating the Chapter By-Laws and position descriptions. We also recently issued a survey to solicit feedback from regional SOT and NCAC-SOT members on things we could do to improve interest and attendance for NCAC-SOT Spring and Fall symposiums. Speaking of which, we have reserved the Lister Hill Auditorium on the NIH campus for our Spring symposium on April 19, 2011.

It is not too early to start thinking about Spring elections. We will be looking for candidates to fill the offices of Vice President/President elect, Treasurer, and Councilor (web site coordinator). A call for nominations and elections will take place next year in the March-April timeframe.

Finally, if you are attending SOT and would like to meet and network with other NCAC-SOT members, plan to attend the joint NCAC-SOT/National Research Council Committee on Toxicology (NRC/COT) reception at the Embassy Suites on Monday March 7, from 5:30 to 7:30 pm. The reception will include a presentation by a NRC/COT member.

In closing, your NCAC-SOT officers and I would like to wish all of you the best for a healthy and prosperous New Year.

Sincerely,

Pam

Pamela L. Chamberlain, DVM, DABT, PhD
NCAC-SOT President
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2011 Spring Symposium

Keep a look out for the NCAC Spring Symposium. Details coming soon via email!

2010 Fall Symposium

Title: Food Safety – From Farm to Table
Date: October 28, 2010
Location: University of Maryland Adele Student Center, College Park, MD

Speakers and Abstracts

Bill Hallman, Rutgers University Food Policy Institute – “Consumer response to food recalls”
American consumers say that food recalls are important and that they save lives. They also say that when they hear about food recalls, they pass the information on to others. However, our data suggests that fewer than 60% of Americans have ever looked for a recalled food product in their own homes. Using data collected concerning the responses of American consumers to food recalls, and a framework rooted in the psychology of health behaviors and behavior change, this paper focuses on ways to get people to take appropriate actions in response to food recalls. This requires that they are aware of the recall, believe it applies to them, believe that the consequences are serious enough to warrant action, can identify the affected products, and believe that discarding (or returning) the product is both necessary and sufficient to resolve the problem. The framework also recognizes that getting people motivated to take action is only the first responsibility of food recall communications. Once the problem that led to the recall has been properly solved, consumers must also receive the message that the products are safe again to eat. Through such methods, communicators can increase the number of people who get their messages about food recalls, improve the likelihood that consumers will perform appropriate precautionary behaviors, and decrease the probability that the public will lose confidence in the food supply.

Renate Reimschuessel, FDA Center for Veterinary Medicine – “Melamine/Triazine Food Adulteration: The Toxicity in Animals vs Humans - Why the difference?”
Melamine adulteration of feed and food ingredients occurred during the US pet food recall in 2007 and the Chinese infant formula incident in 2008. In the case of the pet food recall, co-ingestion of melamine and cyanuric acid resulted in kidney failure due to the formation of intra-renal crystals. The infant formula, contaminated with fairly pure melamine, resulted in 6 deaths and over 300,000 infants with urinary tract stones. The pathology and mechanisms of renal failure will be compared for these two events. Additional insights gained by FDA’s Center for Veterinary Medicine’s experiments using fish and pigs to understand the pathology, depletion in edible tissues and No Observable Effect Levels will be presented.

Marleen Wekell, FDA Center for Food Safety and Applied Nutrition – “Microbial Foodborne Pathogens: Challenges for 21st Century Microbiologists”
Of the diseases that can be transmitted to humans by food reservoirs, viruses are responsible for a modest majority of illnesses with known etiology, whereas bacterial pathogens and parasites comprise a subordinate yet quantitatively significant proportion of this aggregate. Considering the latter two groups, Salmonella and Campylobacter were responsible for 74% of laboratory-confirmed cases in 2009 for the CDC Food-Net sites, followed by Shigella, Cryptosporidium, STEC E. coli, Vibrio, Listeria, Yersinia and Cyclospora. Microbial
pathogens have proven highly adaptable to new niches and can be rapidly disseminated around the world by globalization of the food supply. An essential role of the public health food microbiologist involves the development and use of rapid, reliable, cost-effective, and rugged methods to detect and identify low levels of pathogens in all food matrices. However, one of the greatest challenges in the genomic era of the 21st century involves deployment of effective new molecular techniques to further characterize and subtype food-borne pathogen outbreaks. These powerful new tools can be used to further explore and understand epidemiology from the perspective of controlling and eliminating future microbial hazards.

Amy Sapkota, University of Maryland School of Public Health, Maryland Institute for Applied Environmental Health – “Concentrated Animal Feeding Operations and Antimicrobial Resistance: Does Adopting Organic Practices Make a Difference?”

In U.S. concentrated animal feeding operations (CAFOs), antimicrobials are used for therapeutic, prophylactic and non-therapeutic purposes. Researchers have shown that this can select for antibiotic-resistant commensal and pathogenic bacteria in the animal production environment and animal-derived food products. However, no U.S. studies have investigated on-farm changes in resistance as CAFOs transition to organic practices and cease using antibiotics. The purpose of this study was to evaluate the prevalence of antibiotic-resistant Enterococcus spp. and antibiotic-resistant Salmonella spp. on U.S. poultry CAFOs as they transitioned to organic practices. Poultry litter, feed, and water samples were collected from 10 conventional and 10 newly organic poultry houses in 2008 and tested for Enterococcus spp. and Salmonella spp. Enterococcus spp. (n=260) and Salmonella (n=100) were identified using the Vitek ® Compact 2 System, and tested for susceptibility to 17 and 15 antimicrobials, respectively, using the Sensititre™ microbroth dilution system. Serological methods described in the FDA Center for Veterinary Medicine Food and Animal Microbiology Laboratory Standard Operating Procedures (530-058 R-1) were used to identify the Salmonella serovars. Data were analyzed using SAS v9.2 and statistical associations were derived based on generalized linear mixed models. Enterococcus spp. was isolated from 100% of all poultry houses, while Salmonella spp. was more commonly isolated from newly organic poultry houses. Resistance against 13 out of 17 tested antimicrobials was more common among Enterococcus spp. isolates from conventional versus newly organic houses, while resistance against 4 out of 15 tested antimicrobials was more common among Salmonella spp. isolates from conventional versus newly organic houses. The percentage of resistant E. faecalis and resistant E. faecium was statistically significantly lower among isolates from newly organic versus conventional houses for two (p <0.05) and six (p <0.05) antimicrobials, respectively. The percentage of resistant Salmonella spp. was statistically significantly lower among isolates from newly organic versus conventional houses for 4 antimicrobials (p <0.05). Our findings suggest that the voluntary removal of antimicrobials from U.S. poultry CAFOs results in immediate and statistically significant changes in the prevalence of antibiotic-resistant Enterococcus and Salmonella spp.

John Hoffman, National Center for Food Protection and Defense – “Vulnerability of food supply to terrorist attack”

While our nation’s food and agriculture system is one of the most productive, efficient and safe infrastructures in the world, it is still plagued with systemic failures in food safety. The safety of our food system is further challenged by the all too frequent insults that are the consequence of economically motivated adulteration. As the system expands into a global, interconnected supply network, the challenges of protecting it grow. With the designation of the Food and Agriculture Sector as a critical infrastructure in January 2003, the Federal Government accepted the need to invest in R&D, technology deployment and to initiate long overdue measures to defend the nation’s food supply system from hazards, accidental and intentional and, when necessary, to mitigate the effects of those events that do occur to rapidly recovery from them. Given the vast and complex nature of this infrastructure and the fact that it is so deeply entwined into the communities across this nation, this is no small endeavor! As the infrastructure is privately owned, is rapidly globalizing and represents approximately one sixth of our economy, implementing such an effort on a national scale requires a careful and focused understanding of the nature of the systems that make up our food supply chains, from the farm to the table, as well as what is critical, how these critical components may be vulnerable, what are the probable
threats, what are the potential consequences of any event and what the system risks are that these vulnerabilities, threats and consequences represent. The successful determination of these knowledge requirements and the development and deployment of appropriate and cost effective protection, mitigation and response solutions, within the framework of the inter-agency developed National Infrastructure Protection Plan, are neither simple nor easily implemented.

**Luther Lindler, Department of Homeland Security – “Food and Agriculture Defense for Homeland Security”**

The Food and Agriculture sectors have been identified as a Critical Infrastructure and Key Resource as part of our National Strategy for Homeland Security. The Science and Technology (S&T) Directorate is a Department of Homeland Security (DHS) headquarters asset charged with developing technologies to support the protection of the Homeland. The Chemical and Biological Division within S&T is responsible for developing technologies and conducting scientific studies to prepare, protect and recover from chemical and biological attack. This includes programs in risk assessment, threat characterization (chemical and biological), technology research and development and agent detection. The presentation will focus on agriculture defense initiatives to develop diagnostics for foreign animal diseases, scientific studies to develop food detection capabilities for biothreat agents and system studies related to risk assessment. All of these areas of research are being brought together to better position the US to counter agroterrorism threats.

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**Slides from recent NAS Workshop available!**

The National Academy of Sciences held a workshop in October entitled, “The Use of In Utero and Post-natal Indicators to Predict Health Outcomes Later in Life”. The presentations have recently been posted online. Please visit [http://dels-old.nas.edu/envirohealth/In%20Utero.shtml](http://dels-old.nas.edu/envirohealth/In%20Utero.shtml) for more information.
## Treasurer's Report – December 15, 2010

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- Submitted by Thomas J. Flynn, Treasurer
DON'T FORGET TO REGISTER EARLY FOR THE 50th Anniversary SOT MEETING!!!

Register online by January 21 and receive the “early bird” rate! Please visit: http://www.toxicology.org/AI/MEET/AM2011/registration.asp for more information.

SOT Volunteers Needed!

There will be several K-12 outreach activities in conjunction with the SOT’s 50th Anniversary Meeting that will be held March 2011 in Washington, DC. The featured activity will be Paracelsus Goes to Washington which will be held Saturday, March 5 at the Marian Koshland Science Museum (see the formal advertisement below). There will also be a High School Science Project Poster Exposition that will be held in the main exhibitor’s hall at the Convention Center (see the formal notice below). The NCAC-SOT has been asked to help coordinate some of these activities. Specific needs are:

1. Volunteers for the “Meet the Toxicologist” activity at the Marian Koshland Museum
2. Individuals with formal contacts in the DC Metro school system
3. Individuals with formal contacts in the DC government

If you are interested in volunteering or for more information, contact NCAC-SOT K-12 Outreach coordinator Tom Flynn at: thomas.flynn@fda.hhs.gov.
Bring your family to the Nation’s Capital before SOT starts

Marian Koshland Science Museum

Free Admission!  •  Sponsored by the Society of Toxicology

Protecting Your Health through Toxicology

Saturday, March 5, 2011  •  10:00 AM–5:00 PM

Explore Interactive Exhibits Related to Toxicology
• Wonders of Science
• Safe Drinking Water
• Global Warming
• Infectious Diseases

Meet the Toxicologists
• Investigate science and careers with representatives from government, industry, and academia

Poisoned Pet Food—Unraveling the Melamine Mystery
• Renate Reimschuessel, V.M.D., Ph.D., U.S. FDA, Laurel, MD

Want to assist with this event? Contact educ@toxicology.org

Marian Koshland Science Museum, 525 E Street NW, Washington, D.C., Tel: 202.334.1201

The Marian Koshland Science Museum of the National Academies of Science is to engage the general public (especially middle and high schoolers on up) in current scientific issues that impact their lives and provide insight into how science supports decision-making.
High School Students

Does Your Science Project Relate to Toxicology?

Toxicology is a scientific field including the study of the negative effects of chemical, physical, or biological agents on living organisms and the ecosystem. It includes negative reactions to such things as drugs, industrial chemicals, consumer products, environmental pollutants, and food additives.

Apply to Present Your Project

Society of Toxicology Annual Meeting

March 6–10, 2011
Walter E. Washington
Convention Center
Washington, D.C.

If selected, your poster will be on display, and toxicologists will guide your visit to the meeting, and you will have the opportunity to be exposed to the many facets of the fascinating field that is toxicology.

Interested?

Send the following information

Title of your project
Name(s) of the project participants
School of participant(s)
Grade Level
Age (must be 15 or older)
Institution that was the site of the research
Brief description of the project

by February 21, 2011, to Betty Eidemiller
bettyle@toxicology.org
DIRECTOR, SCIENTIFIC PROGRAMS
HALOGENATED SOLVENTS INDUSTRY ALLIANCE, INC.

About HSIA

The Halogenated Solvents Industry Alliance, Inc. is a small independent non-profit trade association representing, and funded by, the producers of chlorinated solvents located in Arlington, Virginia. HSIA was founded in 1980 to meet the growing demands and challenges of government regulations, to address scientific issues, and to promote product stewardship.

Job Description

The Director of Scientific Programs is responsible for the development and management of research projects, and interaction with federal, state and local agencies on scientific issues. HSIA hires external consultants, as appropriate, and benefits from the active participation of a knowledgeable external counsel.

Experience and Key Competencies

- A PhD in a field relevant to toxicology, or commensurate experience, with prior knowledge of the specific uses, properties and issues for chlorinated solvents and the technical elements relevant to solvents is preferred.
- Knowledge of regulatory processes at the federal, state and local levels, with particular emphasis on the Environmental Protection Agency.
- Demonstrated ability to work independently and prioritize work is required.
- Serves as the staff leader for the Health and Science Committee which meets quarterly, including agenda and background preparation. Works closely with the member company representatives who serve on the Committee.
- Ensures that the scientific goals of the organization, as identified in conjunction with the Board of Directors, are established and met.
- Excellent verbal and technical writing skills are required in order to develop comments for submission to government regulatory agencies and respond to media and other inquiries.
- Must be able to develop yearly and long-range budgets focused on science priorities.
- Experience in directing scientific projects including the management of outside contractors and consultants.
- Excellent interpersonal skills are required in order to interact with a wide breath of audiences, including a Board of Directors, government agencies, other associations, and the media.

General Information

This is a full-time position and includes a comprehensive benefits package. Please submit a cover letter detailing your interest in the position that includes your salary requirements (mandatory for consideration), along with a resume to fgraul@hsia.org.
MEMBERSHIP APPLICATION

Name: ______________________________________________________
Affiliation: ____________________________________________________
Address
________________________________________________________________
________________________________________________________________
City: __________________________________________________________
State: _____ Zip Code: ____________
Area Code: _______ Phone: _______________ FAX: __________________
E-mail: _______________________________________________________

Membership Type ______ Full Member ($20) ______ Student ($10)

Please check the most appropriate responses:

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