

## **Overview and Schedule of all Marine and Freshwater Toxin Activities for September at 119th AOAC Annual Meeting & Exposition, Orlando, Florida USA**

For more information after Sept 1, please contact Chair Jim Hungerford at this hotmail address [James\\_Hungerford@hotmail.com](mailto:James_Hungerford@hotmail.com)

### **Sunday, September 11, 2005. Official Methods Board - Study Director Workshop 8:00 A.M. – 12:00 P.M.**

#### **Location: Grand 12 Room**

AOAC will be presenting a series of 1 hour training sessions aimed at new study directors, methods committee members, general referees, committee chairs, and OMB members. The training sessions will outline the overall structure of AOAC and the process of taking a method from initial submission to approval as a Final Method. The duties and responsibilities of each volunteer position will be explained, and guidelines for SLV and collaborative studies will be reviewed. A combination of AOAC staff and OMB members with experience in each topic area will present the sessions. All volunteers in any of these positions are strongly encouraged to attend, and any AOAC members who may be interested in any of these volunteer positions are also encouraged to attend.

### **Sunday, September 11, 2005. Natural Toxins and Allergens Committee Meeting 1:00 PM- 5:00 PM.**

#### **Location: Washington Room**

This is neither a large or entirely public event, but usually consists of General Referee Hungerford presenting this year's report to the Committee members, discussing with them protocol review and other method approval related activities, new appointments, etc. Still, Topic Advisors and Study Directors are welcome to attend as are other interested toxin folks - But if you want to attend please contact Jim (at his hotmail address [James\\_Hungerford@hotmail.com](mailto:James_Hungerford@hotmail.com)) since the meeting is usually held in one of the smaller rooms and so space is rather limited.

**Monday, September 12, 2005, Morning: Opening of the Annual Meeting with Keynote Talk (not on toxins). Also awards ceremony.** I recommend that you attend this even though it is not part of our toxin activities.

**Location: Don't have this, but likely in Grand Ballroom area**

## **Marine and Freshwater Toxins Symposia and Posters**

**Monday Afternoon, September 12, 2005: 1:00 PM – 4:30 PM Wiley Award. Symposium, Natural Toxins: New Technologies and Reference Materials – Schedule of talks below. (Symposium abstract at end of this document)**

**Location: Grand Ballroom 7**

**Monday Afternoon, September 12, 2005: 2:00 PM – 5:00 PM, Poster Presentations on Marine and Freshwater Toxins\***

**Location: TBA**

**Monday Afternoon, September 12, 2005: 5:00 PM – 6:00 PM Cyanobacterial Toxins Subgroup Meeting**

**Location: Grand Ballroom 7**

**Tuesday (All day) September 13, 2005, 8:30 AM – 4:30 PM.**

**Symposium, Marine and Freshwater Toxins Community: Quality Methods for Public Health and International Trade, Two Sessions – Schedule of talks below.**

**(Symposium abstract at end of this document)**

**Location: Grand Ballroom 4-6**

\* There is a break during the Wiley Award Symposium at 3:10 p.m. – 3:30 p.m. and posters can again be viewed 4:30 PM – 5:00 PM. We apologize for the overlap between the toxin presentations of the Wiley Award Symposium and the Poster Presentations on Marine and Freshwater Toxins - We tried to have this changed but other scheduling issues intervened.

## **Task Force on Marine and Freshwater Toxins**

**Wednesday Afternoon and Early Evening September 14, 2005, 1 PM – 6 PM.**

**Meetings of Task Force and Subgroups.**

**Subgroups on Brevetoxins (NSP), Ciguatoxins, Domoic Acids and Saxitoxins by LC, Saxitoxin Assays, and Yessotoxins. (Please note: Cyanobacterial Toxins subgroup meeting moved to Monday, 5 PM-6 PM in Grand Ballroom 4-6 the same room as Wiley award symposium)**

Also open to those interested in activities of the group besides the Task Force itself.

**Location: Washington Room**

## **MONDAY September 12, 2005, Schedule of Presentations**

### **Wiley Award Symposium**

**Natural Toxins: New Technologies and Reference Materials**

**Symposium Chair - Denise LeBlanc, Director of Research Support, National Research Council Canada, Institute for Marine Biosciences, Halifax, Nova Scotia, Canada**

**1:00 p.m. – 1:40 p.m. Wiley Award Lecture:**

***The Hunt for Red Tide Toxins: New Toxins, New Technologies***

**Michael Quilliam, Recipient of 2005 Wiley Award, and Senior Research Officer, National Research Council Canada, Institute for Marine Biosciences**

**1:40 p.m. – 2:10 p.m.**

**S-101**

**Certified Reference Materials for Marine Phycotoxins and Their Role in Regulatory Shellfish Monitoring**

**Denise M. LeBlanc**, National Research Council, Nova Scotia, Canada

**2:10 p.m. – 2:40 p.m.**

**S-102**

**Development, Validation and Regulatory Use of LC-MS Methods for Biotxin Analysis**

**Patrick T. Holland**, Cawthron Institute, Nelson, New Zealand

**2:40 p.m. – 3:10 p.m.**

**S-103**

**Development and Validation of a Rapid Test for Diarrhetic Shellfish Poisoning Toxins**

**Maurice V. Laycock**, Halifax, Nova Scotia, Canada

**3:10 p.m. – 3:30 p.m.**

**Break**

**3:30 p.m. – 4:00 p.m.**

**S-104**

**LC-MS Based Methods for the Determination of Lipophilic Phycotoxins in Shellfish with a Specific Focus on the Okadaic Acid and Azaspiracid Groups: Single Laboratory Validation and Collaborative Study Protocol**

**Philipp Hess**, Marine Institute, Galway, Ireland

**4:00 p.m. – 4:30 p.m.**

**S-105**

**Validation Issues and CRMs**

**Hans P. Van Egmond**, National Institute for Public Health and the Environment, Bilthoven, The Netherlands

## **TUESDAY September 13, 2005, Schedule of Presentations**

**8:30 a.m. – 11:30 a.m. Grand Ballroom 4-6**

**Symposium: Marine and Freshwater Toxins Community – Quality Methods for Public Health and International Trade, Session 1 of 2**

**Symposium Co-Chair - James Hungerford**, U.S. Food and Drug Administration, Bothell, Washington, USA

**Symposium Co-Chair - Michael Quilliam**, Senior Research Officer, National Research Council Canada, Institute for Marine Biosciences, Halifax, Nova Scotia, Canada

**8:35 a.m. - 8:55 a.m.**

**S-500**

**Ciguatoxin**

**Richard J. Lewis**, Institute for Molecular Bioscience, the University of Queensland, Queensland, Australia

**8:55 a.m. - 9:15 a.m.**

**S-501**

**Single-Laboratory Validation of a Competitive Displacement Electrochemiluminescence (ECL) Immunoassay for Brevetoxins in Shellfish Extracts and Human Urine**

**Mark Poli**, U.S. Army Medical Research Institute of Infectious Diseases, Fort Detrick, Maryland, USA

**9:15 a.m. - 9:35 a.m.**

**S-502**

**The Road to Validating Modern Methods for Neurotoxic Shellfish Poisoning**

**Robert W. Dickey**, Gulf Coast Seafood Laboratory, U.S. Food and Drug Administration, Dauphin Island, Alabama, USA

**9:35 a.m. - 9:55 a.m.**

**S-504**

**Immunoassays for the Detection of Marine and Freshwater Toxins**

**Lyn R. Briggs**, AgResearch, Hamilton, New Zealand

**9:55 a.m. – 10:20 a.m.**

**Break**

**10:20 a.m. - 10:40 a.m.**

**S-505**

**Monitoring Brevetoxins by Competitive ELISA: Interest and Method Limitations**

**Jerome Naar**, Center for Marine Science, University of North Carolina at Wilmington, Wilmington, North Carolina, USA

**10:40 a.m. - 11:00 a.m.**

**S-506**

**Toxin Issues**

**Tore Aune**, Norwegian School of Veterinary Science, Oslo, Norway:

**11:00 a.m. - 11:20 a.m.**

**S-507**

**Comparison of Lipophilic Toxin Toxicities of Bivalves Quantified by LC-MS and Mouse Bioassay as Official Testing Method**

**Toshiyuki Suzuki**, Tohoku National Fisheries Research Institute, Miyagi, Japan

**1:30 p.m. – 4:30 p.m. Grand Ballroom 4-6**  
**Symposium: Marine and Freshwater Toxins Community – Quality**  
**Methods for Public Health and International Trade, Session 2 of 2**

**Symposium Co-Chair - James Hungerford**, U.S. Food and Drug Administration, Bothell, Washington, USA

**Symposium Co-Chair - Michael Quilliam**, Senior Research Officer, National Research Council Canada, Institute for Marine Biosciences, Halifax, Nova Scotia, Canada

**1:30 p.m. - 1:50 p.m.**

**S-508**

**A Single Laboratory Validation Study for the Determination of PSP Toxins in Shellfish by Microplate Receptor Assay**

**Frances M. Van Dolah**, Marine Biotoxins Program, NOAA National Ocean Service, Charleston, South Carolina, USA

**1:50 p.m. - 2:10 p.m.**

**S-509**

**Detection Methods for Managing the Risk of Biotoxins in Seafood: Options, Limitations, and Constraints**

**Sherwood Hall**, Washington Seafood Laboratory, Division of Science and Applied Technology, Office of Seafood, CFSAN, U.S. Food Drug Administration, Laurel, Maryland, USA

**2:10 p.m. - 2:30 p.m.**

**S-510**

**The Behavior of Mixtures of Paralytic Shellfish Toxins in Receptor Dependent Assays**

**Lyndon E. Llewellyn**, Australian Institute of Marine Science, Townsville, Australia

**2:30 p.m. - 2:50 p.m.**

**S-511**

**Cyanobacterial Toxins and 2005 ISOCHAB Exposure Assessment Workgroup**

**Armah A. De La Cruz**, U.S. Environmental Protection Agency, Office of Research and Development, National Exposure Research Laboratory, Cincinnati, Ohio, USA

**2:50 p.m. – 3:10 p.m.**

**Break**

**3:10 p.m. - 3:30 p.m.**

**S-512**

**Immunoaffinity Chromatography: A Promising Technique for the Sample Pre-Treatment of Algal Toxins from Microcystins to Domoic Acid**

**Ana Gago-Martinez**, University of Vigo, Vigo, Spain

**3:30 p.m. - 3:50 p.m.**

**S-513**

**Anatoxins and Degradation Products, Determined Using Hybrid Quadrupole Time-of-Flight, Quadrupole Ion-Trap Mass Spectrometry and Triple stage Quadrupole Mass Spectrometry: Forensic Investigations of Cyanobacterial Neurotoxin Poisoning**

Ambrose Furey, Mass Spectrometry Centre for Proteomics and Biotoxin Research, Department of Chemistry, Cork Institute of Technology, Cork, Ireland

**3:50 p.m. - 4:10 p.m.**

**S-514**

**Chromatography of Microcystins and Nodularins**

Jussi A. O. Meriluoto, Abo Akademi University, Turku, Finland

**4:10 p.m.-4:30 p.m. Closing, Questions, Announcements**

**Wiley Symposium Abstract:**

Shellfish toxins present a serious problem for public health and the economic well-being of the aquaculture industry. Extensive monitoring programs are required but the problem is a difficult one for the analytical chemist. Toxins range from polar, low molecular weight compounds to high molecular weight, lipophilic substances. Most are thermally labile and some are sensitive to pH, oxygen and light. Sensitive analytical methods that provide low (ppb) detection limits are required to provide adequate protection, and the techniques used must provide high-resolution separations and/or high detection selectivity to deal with complicated sample matrices. A contaminated sample may not only contain several toxin analogues from within one class but even several different classes of toxins. Furthermore, toxins may also be metabolically transformed in shellfish, which further complicates the analysis. This symposium will highlight some new analytical technologies that can be used in routine monitoring programs. The talks will present sophisticated techniques such as liquid chromatography-tandem mass spectrometry (LC-MS/MS), as well as simple, rapid screening assays. The strict requirements for validation of such methods for regulatory work will also be discussed, along with the need and availability of certified reference materials (CRMs).

**Toxin Symposium Abstract:**

Sustained efforts are required to move marine and freshwater toxin monitoring into the 21st century. Our analytical tools must be updated and validated, and public health and international trade considerations are prime considerations in such efforts. The stakes are high since toxins, whether tropical or temperate in their distribution, hepatotoxic or paralytic in their action, cause substantial public health impact and financial loss. The challenges are also great. Many are potent neurotoxins and some are so toxic that they must be detected at ultra trace levels. For others additional challenges arise because the mechanism of toxicity is not yet well understood. In nearly all cases the causative micro plankton and other microorganisms are found in multiple locations around the globe. Detection methods for these toxins can be as numerous and varied as the toxins themselves. Functional methods respond, hopefully, in a toxin-mechanistic manner and could parallel health risk in the ideal case. Instrumental methods based on separations including powerful LC-MS techniques provide extreme detail, revealing toxin multiplicity from new congeners to metabolites. Such widely varying analytical technologies require very different approaches to their optimization and consideration as proposed replacements for existing

monitoring tools, which are often archaic live animal bioassays. Yet what these share in common is a need to protect public health while still being stakeholder-friendly and economically-friendly.

This symposium will address the development and validation of analytical methods for marine and freshwater toxins. In this, the talks will sometimes lean into other fields such as toxicology, pharmacology, risk-assessment, and other diverse areas besides analytical chemistry. The focus and final targets of these efforts however are the production of quality validated methods for marine and freshwater toxins. Topic areas will range from tropical toxins such as the brevetoxins and ciguatoxins, to other (and more widespread) temperate lipophilic toxins, to likewise ubiquitous saxitoxins, domoic acids, and cyanobacterial toxins. This symposium, and this year's associated Wiley Award symposium, will enhance and in turn benefit from discussions, collaborations, and other activities of the Marine and Freshwater Toxins Task Force.

**WENESDAY September 14, 2005, Task Force and Subgroup Meetings, 1 PM-6PM**

In scheduling, The Task Force chair will emphasize the subgroups in time allotment, with less than a half hour used for general Task Force discussions. At this time we do plan to hold the Cyanobacterial Toxins subgroup last, since the chair of this subgroup has a schedule conflict earlier in the afternoon. Other than that, at this time we do not have a firm schedule yet for the specific timing of individual sessions. *On the website and forum ( in this specific location of the schedule text) I will post updates giving more detailed information when it is known. Rest assured there will be no parallel sessions so that all subgroups will be accessible to attendees.*