

NAME OF SPECIALTY SECTION Mixtures Specialty Section

ANNUAL REPORT: 2011-2012

May 1, 2011 to April 30, 2012

I. Officers/Committees:

<u>Officers</u>	<u>2010-2011</u>	<u>2011-2012</u>
President:	Kannan Krishnan	Michael Dourson
Vice President:	Michael Dourson	Kendall Wallace
Vice President-Elect:	Kendall Wallace	David Mattie
Secretary/Treasurer:	David Mattie	Cynthia Rider
Past President	Jane Ellen Simmons	Kannan Krishnan
Councilors:	Bruce Fowler	Paul Price
	Paul Price	Kenneth Sexton
PDA Representative:	Cynthia Rider	Xianglu Han
GSLC Representative:	Ronald Pringle	Julia Rager

II. Activities:

2012 SOT Annual Meeting Reception was held in San Francisco on Monday, March 12, 2012.

Approximately 75 people were in attendance.

Dr. Dourson called the meeting to order at 6:00 PM on 3/12/12.

Business Meeting Speakers: Dr. Heneweer (Ceific MIAT and ECOTOX), Dr. Ed Ohanian, Dr. Bette Meek, Dr. Moiz Mumtaz, Dr. Chris Weiss (NIEHS)

Meeting Minutes:

- Hors d'oeuvres and networking
- Michael Dourson welcomed everyone and provided an update on recent MSS activities.
- Cynthia Rider provided the financial statement (\$4746 as of January) and discussed the Newsletter.
- David Mattie announced the top 10 mixtures abstracts and presented a plaque to the winner of the best abstract award and plaques and checks for the best graduate student award and the best postdoctoral award.
- Ken Wallace gave incoming president remarks and presented a plaque of appreciation to outgoing president Michael Dourson.
- Scientific program: Representatives from different agencies (listed above) briefly discussed the latest mixtures activities from their perspectives.

Best Mixtures Abstract: Carl J. Johnston (University of Rochester) - plaque

Graduate Student Award: Paul R. Eden (Mississippi State University) – plaque, certificate and \$500 from Wiley

Post doctoral Award: Michelle C. DeSimone (North Carolina State University) – plaque, certificate and \$500

Top 10 abstracts (listed alphabetically below) were awarded blue ribbons during their poster presentations:

- Authors: S. Flor*, G. Ludewig; Title: Evaluation of Steroidogenic Pathway Disruption and Adrenal Steroid Hormone Secretion in the Human Adrenocortical H295R Cells by Lower Chlorinated PCBs, Their Metabolites and Commercial Mixtures; Abstract #2219
- Authors: C. Gennings*, L. G. Stork; Data-Derived Extrapolations, QSAR, *In Silico* Strategies, and Surrogates: Testing FOR Sufficient Similarity in Environmental Mixtures Using Exposure Data and Mixture Toxicology; Abstract #1731
- Authors: F. Glahn*, Q. D. Nguyen, J. Wiese, J. G. Hengstler, I. Grosse, H. W. Foth; Title: Toxicity of Mixtures: Are *in vitro* effects of metal mixtures predictable from the responses to the single components?; Abstract #171
- Authors: C. J. Johnston*, R. Gelein, D. A. Cory-Slechta, J. N. Finkelstein, G. Oberdorster; Title: Early Life Inhalation Of Ambient Particles And Ozone Mixtures Sensitizes The Lung To Later Life Challenges; Abstract #470
- Authors: A. J. Larkin*, L. K. Siddens, S. K. Krueger, S. C. Tilton, K. M. Waters, W. M. Baird, D. E. Williams; Title: Signature Applications and Network Analyses: Developing a Fuzzy Neural Network Model for Predicting the Interactive Effects of Complex PAH Mixtures on the CYP1B1 Transcriptional Regulatory Network; Abstract #1788
- Authors: M. Mumtaz*, P. Bourdillon; P. Ruiz; D. Mellard; Title: Implementation of the Hazard Index Approach in Field Assessment of Chemical Mixtures; Abstract # 154
- Authors: P. S. Price*, X. Han; Title: Application of a Decision Tree Tool to the Evaluation of Cumulative Risks from Mixtures of Polar Compounds Measured in European Surface Waters; Abstract #147
- Authors: D. T. Szabo*, R. R. Shah, L. S. Birnbaum; Title: A Transcriptomics Approach Using HBCB to Prioritize Chemicals and Mixtures for Developmental Neurotoxicity Risk Assessment; Abstract #479
- Authors: S. C. Tilton*, L. K. Siddens, S. K. Krueger, A. Larkin, K. M. Waters, D. E. Williams, W. M. Baird; Title: Distinct Cytochrome P450 Regulation by PAH Mixtures in Mouse Skin: Insights on Carcinogenic Mechanisms from Transcriptional Profiling of Tumor Initiation; Abstract #1998
- Authors: T. Webster; Title: Toxicity of Mixtures: Mixtures of endocrine disruptors: how similar must mechanisms be for concentration addition to apply?; Abstract #155

2012 SOT Annual Meeting Courses/Sessions:

Courses/Sessions sponsored by MSS

- **Advanced CE Course:** Specialized Techniques for Dose-Response Assessment and Risk Assessment of Chemical Mixtures (PM12)
- **Workshop Session:** Sufficient Similarity of Whole Representative Mixtures or a Relative Potency Factor Approach: Polycyclic Aromatic Hydrocarbons as a Case Study; **Session chairs:** Cynthia Rider (NIEHS/NTP, MixSS Secretary/Treasurer) and Julia Gohlke (University of Alabama at Birmingham); **Speakers:** Julia Gohlke (University of Alabama at Birmingham),

Glenn Rice (US EPA), John Incardona (NOAA), Erica Bruce (Baylor University), Russell White (American Petroleum Institute)

- **Informational session:** Evolution and Implementation of Combined Chemical Exposure Methods: International Perspectives; **Session chairs:** Moiz Mumtaz (ATSDR, Past President of MixSS) and Bette Meek (University of Ottawa)

Courses/Sessions endorsed by MSS:

- **Workshop Session:** Novel Topics in Environmental Polycyclic Aromatic Hydrocarbon Metabolism Leading to Carcinogenesis; **Session chairs:** Bhagavatula Moorthy (Baylor College of Medicine) and Danielle Carlin (NIEHS/DERT); **Speakers:** Frederick P. Guengerich (Vanderbilt University), Stephen Nesnow (US EPA), David E. Williams (Oregon State University), Lynn Flowers (US EPA), Ruth A. Roberts (Astra Zenica)
- **Symposium Session:** The Toxicological Impact of Metals, Crude Oil and Chemical Dispersants from the Gulf of Mexico Oil Crisis on Human and Wildlife Health; **Session chairs:** John P. Wise (University of Southern Maine) and Joe Griffitt (University of Southern Mississippi); **Speakers:** Iain Kerr (University of Southern Maine), Samantha Joye (University of Georgia), Carys Mitchelmore (University of Maryland), Joe Griffitt (University of Southern Mississippi), Greg Mayer (Texas Tech University), John P. Wise (University of Southern Maine)
- **Workshop:** Advancing Food Safety in a Global Marketplace; **Session chairs:** Nicola Stagg (Dow AgroSciences LLC) and Michael Bolger (FDA); **Speakers:** Angelika Tritscher (WHO), Daniel Wilson (Dow Chemical Company), Alan Boobis (Imperial College, London), Bruce Chassy, (University of Illinois at Urbana-Champaign), Clark Carrington (FDA)
- **Workshop:** Chemical Standardization of Botanical Medicines for Safe and Effective Use as Therapeutic Agents (endorsed by MixSS); **Session chairs:** Madhu Soni (Soni & Associates Inc.) and Brinda Mahadevan (Abbott Laboratories); **Speakers:** Cynthia Smith (NIEHS/NTP), Nandakumara Sarma (US Pharmacopeia), Ikhlas Khan (University of Mississippi School of Pharmacy), Craig Hopp (NIH/NCCAM), Bala Manyam (Penn State University)

Newsletters: Two Newsletters were sent to MSS membership during 2011-2012 (Aug 2011 and February 2012)

Teleseminars: The MSS co-sponsored 2 webinars with RASS

- **Paul Price (Dow Chemical Company);** Date: May 11, 2011; Title: The Maximum Cumulative Ratio (MCR): A Tool that Uses Both Exposure and Toxicity Data to Determine when Cumulative Assessments are Most Necessary; Abstract: Individuals are exposed to vast numbers of combinations of chemicals and there is a need to determine when cumulative assessments are most required. The maximum cumulative ratio (MCR) is a quantitative measure of how much toxicity is underestimated by not performing a cumulative risk assessment. Case studies of the application of MCR for human and ecological effects and for the evaluation of biomonitoring data are provided.
- **Christopher J. Portier (NCEH/ATSDR);** Date: November 9, 2011; Title: Risk from Multiple Chemicals in Polluted Communities; Abstract: Evaluating the effects of a mixture of

chemical agents affecting a community is an important issue for the Agency for Toxic Substances and Disease Registry. In this talk, I will detail an experimental process that ATSDR is using to evaluate multiple hazards at the same site. The method, based on relative risks rather than dose, allows us to combine risks across multiple routes and for multiple chemicals. Mechanistic information is used to decide how to combine the risks.

Contributions to SOT website: annual report for 2010-2011, MSS Newsletters

Other Specialty Section 2011-2012 Activities: Mixtures Specialty Section Officers Meeting, Monday, March 12, 2012, 6:30-8:00 AM in room 256 in the Moscone Convention Center, San Francisco, CA.

Attendees: Michael Dourson, Bruce Fowler, Xianglu Han, Kembra Howdeshell, David Mattie, Paul Price, Julia Rager, Cynthia Rider, Ken Sexton

Minutes:

- MSS poster – This year, SOT did not get a request for poster space from Specialty Sections. We should request poster space next year.
- Membership – Ken Sexton is sending emails to mixtures scientists to ask them to join the MSS.
- Treasurer's report – Kannan Krishnan donated \$5000 to MSS and should be recognized in the newsletter.
- Secretary's report – Newsletter is going well, Cynthia requested feedback and suggestions for improvement.
- Elections – Bruce Fowler was elected as the Vice president-elect and Kembra Howdeshell was elected as the new councilor.
- Awards – Dave Mattie discussed awards process and assigned people to distribute ribbons.
- Website – There was discussion about exploring options for using the website more, such as announcing new publications from MSS members on the website.

Teleconferences: Officers regularly participated in teleconferences throughout the year to discuss MSS business including: SOT Annual Meeting session submissions, awards, membership, newsletter, etc.