

NAME OF SPECIALTY SECTION MOLECULAR AND SYSTEMS BIOLOGY

## **ANNUAL REPORT: 2014-2015**

May 1, 2014 to April 30, 2015

### **I. Officers/Committees:**

<u>Officers</u>	<u>2014-2015</u>	<u>2015-2016</u>
President:	J Craig Rowlands	Kristine ("Kristie") Willett
Vice President:	Kristine ("Kristie") Willett	Bhagavatula Moorthy
Vice President-Elect:	Bhagavatula Moorthy	Marc Gillespie
Secretary/Treasurer:	Marc Gillespie	Robert S. DeWoskin
Past President	Nancy D Denslow	J Craig Rowlands
Senior Councilor:	Joel Meyer	Alison Harrill
Junior Councilor:	Alison Harrill	Richard S. Paules
PDA Representative:	Jill Franzosa	Jill Franzosa
GSLC Representative:	Leah Wehmas	Ley Cody Smith
Junior Student Representative	Ley Cody Smith	Derik Evan Haggard

**Committees:** N/A.

### **Elected in 2015:**

Vice-President-Elect: Marc E. Gillespie

Secretary/Treasurer: Robert S. DeWoskin,

Junior Councilor: Richard S. Paules

Postdoctoral Representative: Susie Shih Yin Huang

Junior Student Representative: Derik Evan Haggard

### **II. Activities:**

**2015 SOT Annual Meeting Reception** was held in San Diego, California on March 25, 2015

Approximately 100 people were in attendance.

Dr. Rowlands called the meeting to order at 6:00 PM on March 25, 2015.

Meeting Minutes: (see Attachment 1)

### **Awards:**

#### **Post-Doctoral Awards**

**1st Place:** Dr. Aditya Joshi. Carbamoyl Phosphate Synthase 1 mediated homocitrullination of histone H1.2 constitutes a novel epigenetic mark associated with Aryl hydrocarbon Receptor driven gene expression.

**2nd Place:** Dr. Natalia VanDuyn. Building predictive gene signatures through simultaneous assessment of transcription factor activation and gene expression.

**3rd Place:** Dr. Anna Kopec. Role of Fibrin(ogen) in hepatocyte proliferation after acetaminophen overdose.

## **Graduate Student Awards**

**1st Place:** Kelly Fader. The role of the intestine in TCDD-mediated steatohepatitis in C57BL/6 Mice.

**2nd Place:** Dilshan Harischandra. Lysosomal dysfunction caused by the environmental neurotoxicant manganese increases exosome-mediated intracellular transfer of  $\alpha$ -synuclein.

**3rd Place:** Prajakta Shimpi. Early epigenetic modulation of Nrf2 and lipogenic genes by PNPP exposure of Bisphenol A is associated with hepatic steatosis in female mice.

## **Best Paper of the Year**

Dr. Amrendra Ajay with coauthors Kim TM, Ramirez-Gonzalez V, Park PJ, Frank DA, Vaidya VS. A bioinformatics approach identifies signal transducer and activator of transcription-3 and checkpoint kinase 1 as upstream regulators of kidney injury molecule-1 after kidney injury. *J Am Soc Nephrol.* 2014 Jan;25(1):105-18.

## **2015 SOT Annual Meeting Courses/Sessions:**

### **Continuing Education**

1. Strategies in Investigative Toxicology in a Pharmaceutical Setting
2. Toxicogenomics Meets Regulatory Decision-making: How to Get Past Heat Maps, Network/Pathway Diagrams, and "Favorite" Genes

### **Symposia**

1. Chromatin Structure, Genomics, and Transcriptional Responses to Environmental Insults: The Role of Connexin-Based Channels in Toxicity
2. Role of the Gut Microbiome in the Host Response to Xenobiotics

### **Workshops**

1. Windfall or Pitfall: Is There a Need for Modification of Developmental and Reproductive Toxicology Studies When Endocrine Disruption Is the Mode of Action?
2. Considering Pharmacokinetics As the Mechanistic Basis to Link Chemical Exposures to Adverse Outcome Pathways
3. Painting the Future of Repeat-Dose Systemic Toxicity Testing: Progress from the European SEURAT-1 Project
4. The US Tox21 Collaboration: Advances Made and Lessons Learned
5. Toxicological Epigenomics: The Interface between the Environment and Human Health
6. Transporters As Gatekeepers for Chemical Exposure in Reproductive Tissues
7. Genomics of Nonrodent Mammalian Species and Impacts on Nonclinical Safety Evaluation of Pharmaceuticals and Clinical Translation
8. Integrating Gene Expression Profiling into High-Throughput Toxicity Testing

**Treasurers Report (Rob DeWoskin):**

The most recent MSBSS financial statement is listed below for the 10 months ending April, 2015. Some of the key numbers have not yet been added, and will be updated and posted on the MSBSS site when available.

Following the financial statement is an accounting for the MSBSS endowment fund. We continue to benefit from SOT's endowment matching program, where SOT matches at a 1:1 ratio, and MSBSS matches at 3:1. For example, if a MSBSS member contributes \$500 to the fund, with SOT and MSBSS matching funds, a total of \$2500 will be added to the endowment! Please donate to the MSBSS endowment so we can take advantage of this great opportunity to ensure future graduate student, post-doc and best paper awards.

<b>MSBSS Financial Statement (as of April 2015)</b>	
<b>Ordinary Income/Expense:</b>	
<b>Income</b>	
Contributions	in progress
Membership Dues (\$15/member)	in progress
Registration	\$1,995.50
Interest	in progress
<b>Total Income</b>	<b>\$1,995.50</b>
<b>Expense:</b>	
Plaques	\$325.50
Awards - Sections	\$850.00
Reception	\$3,003.52
Executive Meetings	\$357.00
Mentoring Activities (matched by SOT-HQ)	\$424.32
Annual Meeting	in progress
<b>Total Expense</b>	<b>\$4,961.04</b>
<b>Balance:</b>	
<b>Net Assets Beginning of year</b>	<b>\$35,552.55</b>
Excess (Deficiency) of Revenue over Expenses	-\$2,965.54
<b>Net Assets as of April 2015</b>	<b>\$32,587.01</b>

<b>MSBSS Endowment Funds (Quarterly Report - March 2015)</b>	
Contributions	
Member Contributions	\$300
MSBSS Matching Funds	\$900
SOT Matching Funds	\$300
Total Contribution	<b>\$1,500</b>
Gain (loss) on Investments	
Interests and Dividends	\$1,238
Capitol gain (loss)	-\$312.00
Total Return	<b>\$926</b>
<b>Total Added</b>	<b>\$2,426</b>
Expenses	
Awards	\$1,200
other	-
<b>Total Expense</b>	<b>\$1,200</b>
<b>Added - Expenses =</b>	<b>\$1,226</b>
Starting Value of the MSBSS Endowment Fund	<b>\$38,621</b>
Ending Value of the MSBSS Endowment Fund	<b>\$39,847</b>

#### **Graduate Student and Postdoctoral Report (Cody Smith and Jill Franzosa)**

This year the MSBSS held their inaugural Networking Luncheon for Trainees at the Annual Meeting in San Diego, CA. The lunch provided graduate students and postdoctoral trainees the opportunity to chat informally with experts in molecular and systems biology in a fun, relaxed atmosphere. In addition to the MSBSS Endowment Fund, the SOT Career Resources and Development Committee (CRAD) provided matching funds to sponsor this year's exciting event. The MSBSS extends special thanks Drs. Jill Franzosa, Nancy Denslow and Marc Gillespie for planning and organizing the Luncheon and Drs. Scott Auerbach, Nancy Denslow, Rob DeWoskin, Marc Gillespie, Michael Lawton, Joel Meyer, Craig Rowlands, Rusty Thomas and Kristie Willett for volunteering their time as mentors. The MSBSS hopes to start a tradition of hosting mentoring events at the Annual SOT Meetings.

MSBSS trainees participated in events coordinated by The Graduate Student Leadership Committee (GSLC) at the 2015 annual meeting in San Diego. These events were coordinated by the GSLC, on which MSBSS graduate students serve as representatives:

- “Chat with an Expert” where trainees meet experts from industry, government, and academia to learn about their research and learn from their experiences.
- Tox ShowDown, an engaging quiz game with questions concerning toxicology as it relates to society, history, arts, and culture. Expert toxicologists put their knowledge to the test and competed against other experts for various prizes.
- Student/Postdoctoral Scholar Mixer - held each year to provide an opportunity for trainees to build valuable relationships with colleagues and learn more about their experiences, and introduce attendees to the various Specialty Sections, Regional Chapters, and Special Interest Groups in the society.

The MSBSS Graduate Student Representatives visited posters highlighting related research, and recruited new graduate students and postdoctoral associates to the specialty section.

**The Postdoctoral Assembly:**

- Hosted one hour guided Poster Tours for trainees that provided an opportunity to participate in critical evaluation of cutting-edge toxicology methods and research findings, and to network with senior toxicologists.
- Trainees also had the special opportunity to meet with Plenary Lecturer Dr. J. Craig Venter and Medical Research Council Lecturer Dr. Brigitta Stockinger, and to attend the In Vitro Toxicology Lecture and Luncheon at the annual meeting.

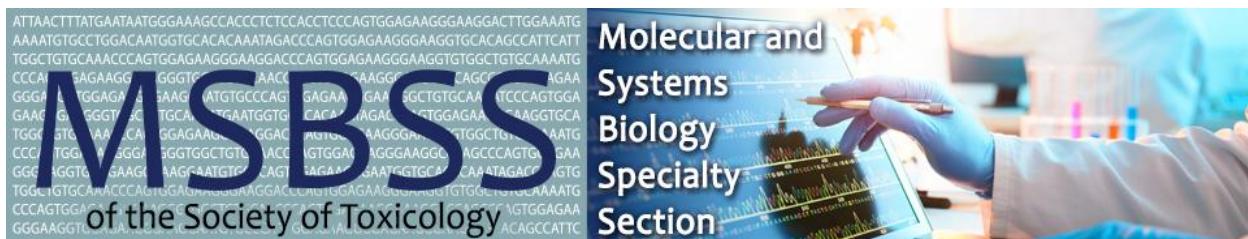
**Newsletters:** Will be sent to MSBSS Membership in September 2015; 2014 newsletter available on specialty section web page.

**Contributions to SOT website:** Fall 2014 Newsletter

[http://www.toxicology.org/groups/ss/MSBSS/docs/MSBSS\\_Fall14NL.pdf](http://www.toxicology.org/groups/ss/MSBSS/docs/MSBSS_Fall14NL.pdf)

**Other Specialty Section 2013-2014 Activities:**

- MSBSS sponsored a logo competition that was necessitated by our recent name change. We received 12 entries which were voted on by the entire membership. The winning logo was submitted by Dr Cassandra Deering Rice, University of Utah.



## **Attachment 1 – MSBSS Annual Meeting Agenda**

### **MSBSS RECEPTION**

San Diego Convention Center, Room 29A  
Monday, March 23, 2015, 6PM - 7:30PM

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*Starts @ 6:00 pm*

1) Welcome (Craig Rowlands)

- Announcement of new logo competition winner & unveiling of new logo
- MSBSS Sponsored CCT workshop: miRNA biomarkers (Allison Harrill)

2) Treasurer's Report and Endowment Update (Marc Gillespie)

3) Introduction of New Officers (Craig Rowlands)

Vice President elect (VP, President, Past President)

Dr. Marc Gillespie – St. John's University, Dept. Pharmaceutical Sciences  
Secretary/Treasurer

Dr. Rob DeWoskin – US EPA

Jr. Councilor (2 yr)

Dr. Richard Paules – NIEHS, Chief, NTP- Biomolecular Screening Branch  
Post-doctoral rep (1 yr)

Dr. Susie Huang – AXYS Analytical Services Ltd., Metabolomics Group  
Graduate Student Jr. Rep (2 yr)

Derik Haggard – PhD candidate in laboratory of Dr. Robert Tanguay,  
Dept. Environmental Mol Toxicology, Oregon State University

4) Update on 2015 Program (Kristine Willett)

5) Postdoctoral activities update (Postdoctoral Representative)

6) Graduate student update (Leah Wehmas or Ley Cody Smith)

7) 2016 Meeting Themes and Solicitation of Session Ideas (Bhagavatula Moorthy)

8) 2015 Best Paper of the Year Award (Allison Harrill)

9) Student and Postdoc Awards and Presentations (Joel Meyer)

10) Adjourn (Kristine Willett)