

**SOT** | Society of  
Toxicology

# MOLECULAR AND SYSTEMS BIOLOGY SPECIALTY SECTION

MEBES Fall Newsletter

### • 2020 award

- Got mentorship?
- MSBSS member highlights
- Treasury report
- We need you and your science
- Who are we?

# Welcome to our 2020 newsletter

Figure 1. The two main components of the model.

and respective communities. During this time of continued social unrest, the leadership committee of MSBSS has taken time to reflect on how systemic racism impacts who participates in MSBSS and who benefits from MSBSS. We recognize that the current advertisement, recruitment and award paradigms are in letting the largest possible group of scientists

become involved and have not fully addressed unequal access to resources. To this end, MSBSS is establishing a new MSBSS Inclusion Working Group. The goal of this group is to generate initiatives that promote diversity and inclusion in MSBSS and SOT. To join this working group, please email Jess Plavicki ([jessica\\_plavicki@brown.edu](mailto:jessica_plavicki@brown.edu)) by 11/16/2020 and use the subject line: ATTN: new MSBSS Inclusion Working Group. Our goal is to have our first Working Group meeting in December to brainstorm and prioritize initiatives.

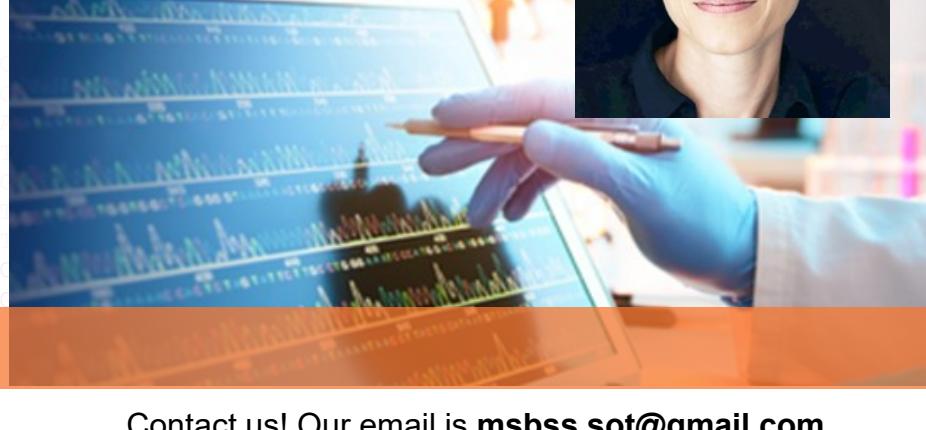
community is the representation of all of its constituents. As we turn to the upcoming elections for available leadership positions, I ask you to help us build a diverse MSBSS leadership team that can serve all members of the MSBSS community. Please consider running for an open position or nominating someone else. You will find details about the open positions in this newsletter on page 5. Please contact Vice President Brian Chorley (chorley.Brian@epa.gov) if you would like to run or nominate someone for an open seat.

that you still been have been able to find some joy and wonder in our world, be it science, family, friends and/or art. I look forward to seeing you at the virtual 2021 meeting and hope to see you all in San Diego in 2022.

PC 14

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Jess Flavicki, SOT MSBSS President



And follow us on Twitter for the latest SOT

MSBSS, and cool science news!



@msbss\_so



## SOT MOLECULAR AND SYSTEMS BIOLOGY SPECIALTY SECTION 2020 ANNUAL MEETING AWARD WINNERS

Congratulations to award winners from the 2020 Annual SOT meeting. Although the meeting was not in person this year, we honored our winners at a virtual ceremony on October 14th.



**Chelsea Weitekamp**



**Drake Phelps**

### Paper of the Year Award

Triclosan-selected host-associated microbiota perform xenobiotic biotransformations in larval zebrafish.

CA Weitekamp\*, D Phelps\*, A Swank, J McCord, JR Sobus, T Catron, S Keely, N Brinkman, T Zurlinden, E Wheaton, M Strynar, C McQueen, CE Wood, and T Tal. \*co-first authors

### Honorable Mentions

Increased MDR1 Transporter Expression in Human Brain Endothelial Cells Through Enhanced Histone Acetylation and Activation of Aryl Hydrocarbon Receptor Signaling.

D You, X Wen, L Gorczyca, A Morris, JR Richardson, LM Aleksunes

Manganese activates NLRP3 inflammasome signaling and propagates exosomal release of ASC in microglial cells.

S Sarkar, D Rokad, E Malovic, J Luo, DS Harischandra, H Jin, V Anantharam, X Huang, M Lewis, A Kanthas, AG Kanthasamy.

### Postdoctoral Research Award

**1st place: Subham Dasgupta;** Mentor: David Volz

High-Content Screening in Zebrafish Identifies Perfluorooctanesulfonamide as a Potent Developmental Toxicant



**Subham Dasgupta**

### Graduate Student Research Award

**1st place: Mathia Colwell;** Mentor: Chris Faulk

Preferential Tissue Hypomethylation of the Mouse Epigenome by Low Dose Decitabine Exposure

**2nd place: Archit Rastogi;** Mentor: Alicia Timme-Laragy

Pancreatic Nrf2 expression and organ morphogenesis is altered by modulating Glutathione in the Developing Zebrafish (*Danio rerio*) Embryo

**3rd place: Jennifer Schaefer;** Regulation of mouse uterine aquaporin expression in the preimplantation period and the impact of ovarian superovulation



**Mathia Colwell**



**Emily Severance**

### Undergraduate Research Award

**1st place: Emily Severance;** Mentor: Alicia Timme-Laragy

Glutathione Depletion and Nrf2 Activation Underlie PFOS Toxicity in Human Kidney Cells

**2nd place: Victoria Salemme;** Mentor: Sasha Suvorov

Identifying Molecular Pathways Highly Sensitive to Chemical Exposure using Bioinformatic Methods

**3rd place: Nicholas Zacharewski;** Mentor: Kelly Fader

Dose-Dependent Effects of 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) on Acetyl-CoA Metabolism



**MSBSS MENTORING EVENTS**

**VIRTUAL MENTORING PANEL**

Last Thursday of Every Month

2-3pm PST

CONSULTING

JUN

JUL

EARLY/MID ACADEMIA

REGULATORY GOVERNMENT

AUG

OCT

**PHARMACEUTICAL INDUSTRY**

**Catrin Hasselgren, PhD**

Principal Scientist, Genetech Inc

**Lauren Lewis, PhD**

Investigative Toxicologist, Takeda

NOV

LATE CAREER ACADEMIA

RESEARCH GOVERNMENT

JAN

FEB

NON-TRADITIONAL CAREERS

**RSVP at:**

<https://forms.gle/fLLsEg8BsSQvZaVo8>



## MOLECULAR AND SYSTEMS BIOLOGY SPECIALTY SECTION MEMBER HIGHLIGHTS

### Awards



#### Past SOT MSBSS President, Dana Dolinoy, PhD Receives RIVER Award

Dr. Dolinoy was recently awarded a \$6.9 million R35 award from the National Institute of Environmental Health Sciences (NIEHS). The award, granted from the NIEHS Revolutionizing Innovative, Visionary Environmental Health Research (RIVER) program, will evaluate the effects of environmental exposures on the epigenome and expand the repertoire of epigenetic editing tools.

#### Current SOT MSBSS President, Jessica Plavicki, PhD Receives ONES Award

Dr. Plavicki is the recipient of an Outstanding New Environmental Scientist Award (ONES) from the National Institute of Environmental Health Sciences (NIEHS). The award will be used to investigate how toxicant exposures may disrupt the development of a type of brain cell that is necessary for learning, memory, information processing, and behavior.



#### Former SOT MSBSS Senior Councilor, Kari Sant, PhD Receives K01



Dr. Sant received a career development grant (K01) from the National Institute of Health (NIH) to study how exposures to chemicals affect the development of metabolic syndrome in live zebrafish. This grant will explore how exposures to chemicals that modulate PPAR signaling impact pancreatic development during the embryonic and juvenile stages.

*“Everything is theoretically impossible until it is done.”*

*-Robert A. Heinlein*

### Highlighted Publications

Roy MA, Sant KE, Venezia OL, Shipman AB, McCormick SD, Saktrakulkla P, Hornbuckle KC, Timme-Laragy AR. **The emerging contaminant 3,3'-dichlorobiphenyl (PCB-11) impedes Ahr activation and Cyp1a activity to modify embryotoxicity of Ahr ligands in the zebrafish embryo model (*Danio rerio*)**. Environ Pollut. 2019. Nov;254(Pt A):113027.



Gaballah S, Swank A, Sobus JR, Howey XM, Schmid J, Cotron T, McCord J, Hines E, Strynar M, Tal T. **Evaluation of Developmental Toxicity, Developmental Neurotoxicity, and Tissue Dose in Zebrafish Exposed to GenX and Other PFAS**. Environ Health Perspect. 2020 Apr;128(4):47005.



## TREASURER REPORT

The MSBSS General Fund Financial statement (as reported June 2020) is below. Our specialty section is in good financial standing with sufficient funds to support our meeting and award activities in 2021.

	General Fund	Endowment
<b>starting balance</b>	<b>\$ 32,896.00</b>	<b>\$ 54,183.00</b>
trainee awards	\$ (1,241.00)	\$ (1,900.00)
trainee support	\$ (1,000.00)	
mentoring activities	\$ (2,933.00)	
membership dues	\$ 3,280.00	
earned interest	\$ 1,550.00	\$ 890.00
contributions		\$ 500.00
<b>net changes</b>	<b>\$ (344.00)</b>	<b>\$ (510.00)</b>
<b>ending balance</b>	<b>\$ 32,553.00</b>	<b>\$ 53,673.00</b>



## CALL FOR 2021 AWARD AND OFFICER APPLICATIONS

We are currently accepting submissions for the 2020 Paper of the Year Award, MSBSS Postdoctoral Fellow Research Award, Graduate Student Research Award, and Undergraduate Research Award.

Applicants must be SOT members (accepted or pending). Applicants do not need to be a MSBSS member to apply, but do need to be member at the time the award is presented.

**The deadline for the awards is December 5, 2020 at 11:59 PM PST.**

Application questions should be directed to Larissa Williams (lwillia2@bates.edu) More details are found at <https://www.toxicology.org/groups/ss/msbss/awards.asp>

*"Fight for the things that you care about, but do it in a way that will lead others to join you."*

*-Ruth Bader Ginsburg*

## OFFICERS TO BE ELECTED FOR NEW TERMS BEGINNING MAY 1, 2021

### Vice President-Elect

(3 year active term: VP-Elect, VP, President + 1 year as Past-President)

### Junior Councilor

(2 year term, becomes the Senior Councilor in Y2)

### Postdoctoral Representative

(1 year term)

### Graduate Student Junior Representative

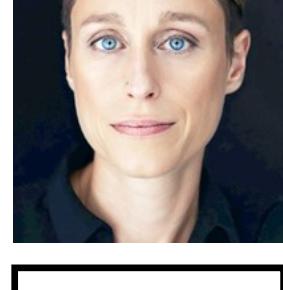
(2 year term, becomes the Senior Rep in Y2)

If you would like to nominate yourself or someone else, please send the name and the position of interest to **Brian Chorley (chorley.brian@epa.gov) no later than December 1, 2020.**

**Candidates must submit a biosketch and photo for the ballot, which will be sent to members in early 2021.**

The election results will be announced at the MSBSS 2021 Annual Virtual Meeting!

AACGCCCTGCCCTCTCGAGCGTCCTCAGCGCAGCCGCCCGGGAGCCAGCACGAACGAGCCCAGCA  
CCGGCCGGATGGAGCGTCCGCAACCCGACAGGCAAGCGGGGGACGGGGACGGGGACGGGCGCTTTCT  
CTCCCCAACCTGCTGCGTCCTAGCCCCACCCGGGACACTGCCACACAGCGACAGAGGCCAGGAGGCCAG  
AAACTTGGGCTCTGGAGTCAGGAGGTGGGGTTCTGATCTGCCTGTGCCGTAGGGTAGTTGGAGGGA  
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GAATCTAGATCTGGGCTGCCAGCCTGGGGAGCATGCTTGGTCTCTGGTGGCATCTGCTCCTC  
ACTAGCTACGGAGGACCTGAGCCAGACATCACCCCTGGCTGCCGTGTTCCATGTCTCACAGATA  
TCAGGGAGGCGACATGCCCAAGAGTGCTCAGTTAGCTGGTGTCAAGAACTGGGCTTGAACCTGGTCTGC  
CCACCTCCAGGTCTCAC-



President



**Past-President**



Vice President



## Junior Student Rep



## Vice President-Elect

# MSBSS LEADERSHIP TEAM 2020 - 2021



### Senior Student Rep



Secretary/Treasurer

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Postdoc Rep



### Junior Councilor

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## Register for the 2021 Virtual CSH Annual Meeting!

Join us for the MSBSS-sponsored symposia and workshops