

**MICHIGAN PHYSIOLOGICAL SOCIETY (MPS)**  
**Fifth Annual Meeting Report (2017-2018)**

Valerie VanRyn (Secretary-Treasurer), Michigan State University  
John Durocher (President), Michigan Technological University  
Karen Ball (Past-President), Alma College

The Michigan Physiological Society celebrated its fifth year in existence, hosting the annual meeting on the campus of Michigan Technological University June 14-15, 2018. In addition to two days of scientific presentations and professional networking, the meeting was preceded by the second annual Michigan Physiology Quiz Bowl (MiPQ). Special guests in attendance included Keynote Speaker Dr. Virginia Miller (Mayo Clinic), APS Chapter Advisory Council Chair Dr. Mari Hopper (Indiana University), and MiPQ Quizmaster Professor Hwee-Ming Cheng (University of Malaya).

On the evening prior to the official start of the meeting, five teams of undergraduate students participated in the MiPQ, an annual competition hosted by the MPS (see *The Physiologist* Vol. 60, no. 6, 2017 for a fuller description of the event). Teams, made up of 3-5 students each with a faculty coach, were from Alma College, Ferris State University, Michigan State University, Michigan Technological University, and Wayne State. Following two elimination rounds, the final round was completed with Wayne State coming out on top for the repeat win with Alma College finishing in second place. The event was once again enjoyed by participants and fans alike, establishing the MiPQ as a fun way to “kick-off” the annual meeting.

The following day the formal meeting was opened with a welcome by MPS President Dr. Karen Ball (Alma College) and Meeting Co-Chairs Dr. John Durocher (President-Elect, Michigan Technological University), and Dr. Jason Carter (Michigan Technological University). Welcoming attendees on behalf of the university was Dr. David Reed, Vice-President for Research.

Dr. Virginia Miller began the scientific sessions delivering the meeting Keynote Address titled: *Sex-Specific Risk for Cardiovascular Disease*. Dr. Miller, Director of the Women’s Health Research Center at Mayo Clinic, delivered an engaging talk highlighting for all attendees the importance of understanding sex-specific responses in physiological research design.

After the keynote, the meetings oral and poster presentations began. From its founding, the Michigan Physiological Society has been committed to professional development of trainees in the state including high school students, undergraduates, graduate students, and postdoctoral fellows. Thus, all presentations are delivered by trainees, and all oral sessions are chaired by trainees as well. During question-answer periods trainees are encouraged to engage in the questioning of their colleagues, developing the skills inherent to constructive and effective scientific exchange.

In addition to the keynote address, Thursday’s schedule included the first of two poster sessions as well as the first oral session focusing on Cardiovascular and Respiratory Physiology.

This session was co-chaired by Matt Kilgas (Michigan Tech University) and Guodong Pan (Henry Ford Health System). Trainees presenting in what was an excellent session were Zachary Fattel (Medical Student) Central Michigan University; Ian Greenlund (Graduate Student) Michigan Technological University; Brianna Schick (Undergraduate Student) Wayne State University; and Paul Zeller (Medical Student) Central Michigan University.

The first poster session was preceded by dinner and social time, allowing attendees to reconnect with scientific colleagues, establish new scientific relationships, and view the science presented in the posters. This important time for networking continued throughout the poster session while a volunteer panel of faculty judges reviewed those posters selected by the Awards Committee as candidates for Best Poster recognition.

The evening was followed by time for social engagement with nearly 20 participants having the opportunity to travel onto Lake Superior for a sunset cruise in Michigan Tech's Great Lakes Research vessel, the *Agassiz*. The remaining attendees were treated to music and the opportunity for dancing, courtesy of local musicians Tom-n-Dirk.

On Friday morning, the conference resumed with two more excellent oral sessions. The first was related to Immunology, Cell and Molecular Physiology and was co-chaired by Josh Gonzalez (Michigan Tech University) and Brianna Schick (Wayne State University). Presenting were Hyun Hee Lee (Postdoc Fellow) Michigan State University; CongCong Yin (Graduate Student) Henry Ford Health System; Maria Paula Kwesiga (Graduate Student) Michigan Tech University; and Guodong Pan (Postdoc Fellow) Henry Ford Health System.

The second session was related to Neurobiology. This was co-chaired by Hyun Hee Lee (Michigan State University) and Zachary Fattel (Central Michigan University). The three trainees presenting excellent work were Hannah Cunningham (Graduate Student) Michigan Tech University; Jon Dean (Graduate Student) University of Michigan; and Jeremy Bigalke (Graduate Student) Michigan Tech University

In between the morning oral sessions, breakout sessions were held with attendees having the opportunity to select two sessions in which to participate. The breakout sessions were focused on skill building and each was moderated/chaired by professional development staff at Michigan Tech. The sessions were: *Science Communication: Lessons from an Alan Alda Workshop*, moderated by Jessica Brassard and Kelley Christensen; *Four Tips to Jump Start Your Writing* chaired by Andy Fiss & Karla Kitalong; and *Preparing an Application for Medical School and Other Professional Programs* which was moderated by Nicole Seigneurie.

During the breakout session, attendees also had the opportunity to begin viewing the second poster session. The formal presentation of posters occurred following lunch. During this session, volunteer judges from among the faculty once again engaged with poster presenters selected from abstract submissions as the rest of the meeting attendees took the opportunity to view the work on display.

The final oral session of the meeting centered on Cardiometabolic Health and Human Performance and was co-chaired by Jon Dean (University of Michigan) and Jeremy Bigalke (Michigan Tech University). The trainees presenting quality work were Elizabeth Bloch (Undergraduate Student) Michigan Tech University; Matthew Kilgas (Graduate Student) Michigan Tech University; Ryan Frieler (Postdoc Fellow) University of Michigan; and Kevin Phillips (Graduate Student) Michigan Tech University.

Running concurrently with the Friday sessions, the Michigan Physiological Society hosted for the third year running a High School Teachers Workshop. The workshop included sessions specific to the teachers as well as time for the teachers to engage with the larger group of attendees. Five high-school teachers attended the Friday meeting, four of them were from various locations in the upper peninsula. The teachers joined many portions of the normal meeting, but were also led through a hands-on workshop led by Dr. Steven Elmer and Mr. Travis Wakeham (Michigan Tech University). The teachers participated in a blood flow demonstration where they altered the fluid viscosity using corn-syrup, and a biomechanics torque model using rulers and other inexpensive supplies. The teachers concluded this special portion of the workshop touring the Biomechanics, Exercise Physiology, and Sleep Disorders Research laboratories.

The meeting concluded with the annual Business Meeting and Awards Presentation. The current financial status of the Society was reviewed by Valerie VanRyn (Secretary-Treasurer, Michigan State University). Proposed changes to the bylaws were presented to membership for electronic vote as were candidates for the open position of President-Elect. Karen Ball and John Durocher presented the trainees awards with \$250 to oral presenters and \$100 awards going to poster presenters. Those receiving recognition were:

### **MPS Trainee Oral Presentation Winners**

- **Hannah Cunningham, Michigan Tech University**
  - *"Total Sleep Deprivation and Pain Perception During Cold Noxious Stimuli in Older Adults."*
- **Ian Greenlund, Michigan Tech University**
  - *"Sex Differences in Sympathetic Neural Responses to Total Sleep Deprivation in Older Adults: Implications for Postmenopausal Hypertension."*
- **Matthew Kilgas, Michigan Tech University**
  - *"Home-Based Exercise with Blood Flow Restriction to Restore Limb Symmetry Following ACL Reconstruction."*
- **Maria Paula Kwesiga, Michigan Tech University**
  - *"Investigative Study on Nitric Oxide Production in Human Dermal Fibroblast Cells Under Normal and High Glucose Conditions."*

### **MPS Trainee Poster Presentation Winners**

- **Alexandra Cara, University of Michigan**

- *"Role of Androgen Receptors in Hypothalamic Regulation of Reproduction and Metabolism."*
- **Alexa Destrampe and Jana Hendrickson, Michigan Tech University**
  - *"Department Wide Outreach Program in Kinesiology and Integrative Physiology."*
- **Thomas Vigil, University of Michigan**
  - *"Itaconate and Immunometabolism in Ischemic Stroke."*

Near the end of the business meeting, the society recognized the outstanding service of outgoing Executive Council member Dr. Pat Mueller (Wayne State University) and the passing of the gavel with leadership of the Society transitioning from Karen Ball (Alma College) to John Durocher (Michigan Tech).

It is important to recognize the significant financial contributions from the national APS Office as well as institutions across the state. The Society wishes to thank the APS for continued support of our annual meeting, not only through sponsorship of the Keynote Address, but through a Chapter Activity Grant that helped to offset trainees' travel costs to Houghton, Michigan, a significant distance for most attendees. We also express our deepest gratitude to the administrators that so graciously donated to offset meeting costs. Special thank you to: Dr. David Earl Ash (Central Michigan University, Vice President for Research and Dean of Graduate Studies); Dr. Jason Carter (Michigan Technological University, Department of Kinesiology and Integrative Physiology); Dr. Stephen Lanier (Wayne State University, Office of the Vice President for Research); Dr. Margot LaPointe (Henry Ford Health System, Office of the Vice President for Research); Dr. Bruce Seely (Michigan Technological University, College of Sciences and Arts); Dr. Shekhar Joshi (Michigan Technological University, Department of Biological Sciences); Dr. David Reed (Michigan Technological University, Office of the Vice President for Research); Dr. Cheryl Sisk and Dr. Charles Lee Cox (Michigan State University, College of Natural Sciences and Department of Physiology); Dr. Pushpa Murthy (Michigan Technological University, Graduate School); Dr. Thomas D. Jeitschko (Michigan State University, Graduate School); Dr. David Njus (Wayne State University, Biological Sciences); Dr. Daniel Walz (Wayne State University School of Medicine, Office of Graduate Programs); Dr. Linda Hazlett (Wayne State University School of Medicine, Office of Research); Dr. Jian-Ping Jin (Wayne State University School of Medicine, Department of Physiology); Dr. Phil Levy (Wayne State University, Translational Science & Clinical Research Innovation Center); Dr. Santiago Schnell (University of Michigan, Department of Molecular and Integrative Physiology); Dr. Beth Zimmer (Ferris State University, Department of Biological Sciences); Dr. Ambika Mathur (Wayne State University Graduate School); Dr. Carlos Mantilla (Mayo Graduate School, Biomedical Engineering & Physiology Program).

It is equally important to recognize the immense time investment that is required of those on the Planning and Executive Committees along with local/on-site volunteers. Special thanks to Christina Lehmann and Morgan Farrell who ordered meeting supplies, organized all meals and snacks, coordinated parking, and led registration among many other duties. Added thanks to Alyssa Smith for coordinating all housing arrangements.

The MPS was honored to host an outstanding group of physiologists, bringing together faculty and trainees from across the state to engage in conversations around high quality science. The Society hosted 107 attendees, including high school students and teachers, undergraduates, graduate students, postdoctoral fellows, and faculty. Over the course of the two days, trainees delivered 15 oral and 34 poster presentations, with awards given to 8 trainees. It was once again a meeting that demonstrated the strength of physiology research and education/training within the state of Michigan.



**MPS 2018 Annual Meeting Attendees.**



**MPS Leadership, 2017-2018. L-R, Ian Greenlund, Trainee Committee Chair; Beth Zimmer, Awards Committee Chair, Pat Mueller, Past-President; Karen Ball, President; John Durocher, President-Elect; Valerie VanRyn, Secretary-Treasurer; missing are Harold Bell, Membership and Fundraising Chair; Susan Speirs, K-12 Outreach Committee Chair; Kevin Gordish, Technology Chair and Webmaster.**



**Participants in the Teachers Workshop**



**Participants, Coaches, and Judges for the 2<sup>nd</sup> annual MiPQ**



**Best Poster and Best Oral Presentation Award Winners**



**MPS President Karen Ball and Keynote Speaker Virginia Miller**