

MICHIGAN PHYSIOLOGICAL SOCIETY (MPS)

2015 ANNUAL MEETING REPORT

<https://apsmichigan.org/>

During the 2014-2015 year, a website was established and a number of social media outlets developed by Web Coordinator, Kevin Gordish, Post-doc of Wayne State University and Henry Ford Hospital. Additionally, The Michigan Physiological Society was declared a non-profit 501(c)(3) on the 28th of July, 2015.

The 2015 Annual Meeting for the Michigan Physiological Society (MPS) was held at Boyne Mountain Resort in Boyne, MI from April 30th through May 1st, 2015.

The meeting hosted 90 attendees, representing: *Adrian College, Alma College, Brock University, Central Michigan University, Michigan State University, Michigan Technological University, Northern Michigan University, Oakland University, University of Michigan, The University of Nebraska Medical Center, The University of Western Ontario and Wayne State University.*

The Society welcomed Keynote Speaker Irving H. Zucker, PhD of the University of Nebraska Medical Center, Professor of Cardiovascular Research and Chairman of the Department of Cellular and Integrative Physiology. Dr. Zucker's keynote address was titled, "Cardiac Sympathetic Afferents in Heart Failure: It's Not Just About the Pain."



2014-2015 MPS Member Photo

Best Oral Presentations

The best oral presentations were selected for recognition from the 14 total oral presentations and were presented with a \$250 check based on generous donations. Congratulations to the following award recipients:

- Kevin Gordish, Post-doc from Wayne State University and Henry Ford Hospital
 - “Reservatol treatment reverses mild angiotensin II-induced hypertension, but not by increased natriuresis.”
- Daniel Huereca, Graduate Student from Wayne State University
 - “Assessment of neuronal activity in the rostral ventrolateral medulla (RVLM) of conscious rats.”
- Nusrat Matin, Graduate Student from Michigan State University
 - “Bilateral common carotid artery stenosis in normotensive rats impairs short-term memory and endothelial dependent dilation of penetrating arterioles.”
- Ida Fonkoue, Graduate Student from Michigan Technological University
 - “Acute alcohol consumption modulates sympathetic vascular transduction differently in Caucasians and African Americans.”
- Andrew Chapp, Graduate Student from Michigan Technological University
 - “Acetate is an active metabolite of ethanol: increases firing and evokes inward currents through activation of NMDA receptors in the RVLM projecting CEA neurons.”

Best Poster Presentations

The best poster presentations were selected for recognition from the 24 total poster presentations and were presented with a \$100 check based on generous donations. Congratulations to the following award recipients:

- Tom Mayer, Undergraduate Student from Michigan State University
 - “Effects of hyperglycemia on carotid body hypoxic responses.”
- Sarah Keaton, Graduate Student from Michigan State University and Van Andel Institute
 - “The placenta’s role in peripartum depression.”
- Anthony Duncan, Graduate Student from Oakland University
 - “Alpha adrenergic receptors activate the JAK/STAT pathway to increase blood pressure.”



2014-2015 Oral and Poster Presentation Award Winners

The 2014-2015 Executive Board Members were as follows:

- **Jason R. Carter, Ph.D. (President, CAC Representative)**
Michigan Technological University
Dept. of Kinesiol. & Integrative Physiol.
Phone: (906) 487-2715
Email: jcarter@mtu.edu
Phone: (989) 463-7127
Email: ball@alma.edu
Term ends May 2017
- **Erica Wehrwein, Ph.D. (President-Elect)**
Michigan State University
Department of Physiology
Phone: (517) 884-5043
Email: wehrwei7@msu.edu
- **James Poteracki (Secretary-Treasurer)**
Michigan State University
Dept. of Physiology
Phone: (517) 884-5043
Email: poterac2@msu.edu
Term ends May 2017
- **Sue Barman, Ph.D. (Membership and Fundraising Committee Chair)**
Michigan State University
Dept. of Pharmacol. & Toxicol.
Phone: (517) 432-3154
Email: barman@msu.edu
Term ends May 2017
- **Karen Ball, Ph.D. (K-12 Outreach Committee Chair)**
Alma College
IPHS Department
- **Nusrat Matin (Trainee Committee Chair)**
Michigan State University
Dept. of Pharmacol. & Toxicol.
Phone: (517) 505-4412
Email: matinnus@msu.edu
Term ends May 2017
- **Greg Fink Ph.D. (Past-President)**
Michigan State University
Dept. of Pharmacol. & Toxicol.
Phone: (517) 353-4648
Email: finkg@msu.edu
- **John Durocher, Ph.D. (Awards Chair)**
Michigan Technological University
Dept. of Kinesiol. & Integrative Physiol.
Phone: 906-487-1659
Email: jjduroch@mtu.edu
Term ends May 2017
- **Kevin Gordish (Post-doc) (Web Coordinator)**
Wayne State University and Henry Ford Hospital
Dept. of Physiology
Phone: 734-812-5464
Email: kgordis@med.wayne.edu
Term ends May 2017



2014-2015 Executive Board and Planning Committee. *Not pictured: Dr. Greg Fink.

The meeting saw the following members of the Executive Board complete terms:

- Greg Fink, PhD of Michigan State University – Past-President

The Society offers thanks to this outgoing member of the board for their outstanding services.

The following MPS members were elected by popular vote to the Executive Board:

- Pat Mueller, PhD of Wayne State University – President-Elect

The Society welcomes this incoming member into their new role.

The planning of the 2015 Annual MPS Conference would not have been successful without the great support of the planning committee, in addition to the administrative staff Wayne State University Department of Physiology and those who assisted with meeting set-up:

Susan Barman (Michigan State University), Greg Fink (Michigan State University), David Rodenbaugh (Oakland University), Jason Carter (Michigan Technological University), Erica Wehrwein (Michigan State University), James Poteracki (Michigan State University), Karen Ball (Alma College), Nusrat Matin (Michigan State University), Fehinti Akande (Michigan State University), Kim Crain (Michigan State University), Kevin Kelly (Michigan State University), Jake Przybyla (Michigan State University), Thomas Mayer (Michigan State University), Janice Diaz-Otero (Michigan State University), Dana Crain (Michigan State University) and Patricia Perez-Bonilla (Michigan State University).

The 2015-2016 Executive Board Members are as follows:

- **Erica Wehrwein, Ph.D. (President)**
Michigan State University
Department of Physiology
Phone: (517) 884-5043
Email: wehrwei7@msu.edu
- **Pat Mueller Ph.D. (President-Elect)**
Wayne State University
Dept. of Physiology
Phone: (313) 577-1559
Email: pmueller@med.wayne.edu
- **James Poteracki (Secretary-Treasurer)**
Michigan State University
Dept. of Physiology
Phone: (517) 884-5043
Email: poterac2@msu.edu
- **Sue Barman, Ph.D. (Membership and Fundraising Committee Chair)**
Michigan State University
Dept. of Pharmacol. & Toxicol.
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- **Kevin Gordish (Post-doc) (Web Coordinator)**
Wayne State University and Henry Ford Hospital
Dept. of Physiology
Phone: 734-812-5464
Email: kgordis@med.wayne.edu

A special thank you on behalf of the Society and its Executive Board is offered to our generous institutional sponsors, who supported the 2015 MPS meeting:

Diamond Sponsor: \$2,000

- Michigan State University College of Human Medicine (Dr. Marsha Rappley-Dean)

Platinum Sponsors: \$1,000

- Michigan State University College of Natural Sciences (Dr. R James Kirkpatrick-Dean)
- Michigan State University College of Osteopathic Medicine (Dr. William D. Strampel-Dean)
- Michigan Technological University Graduate School (Dr. Jacqueline E Huntoon-Dean); Department of Kinesiology & Integrative Physiology (Dr. Jason Carter-Chair); and Department of Biological Sciences (Dr. Shekhar Joshi-Chair)

Gold Sponsors: \$500-999

- Michigan State University, Graduate School (Dr. Karen Klomparens-Dean)
- Michigan State University, Office of the Vice President for Research & Graduate Studies (Dr. Stephen Hsu-Dean)

Vendor Sponsors: \$300

- Integrated Data Technologies
- ThermoFisher Scientific

The 2016 MPS Conference will be held at Wayne State University on the 12th and 13th of May, 2016.

MPS Annual Meeting 2015

Annual Meeting 2015: Minutes

These are the unconfirmed minutes of the Annual Meeting of the Michigan Physiological Society (MPS), held at Boyne Mountain Resort in Boyne, MI from April 30th through May 1st, 2015.

THURSDAY APRIL 30TH, 2015	
1.	Welcome and Meeting Opening <ul style="list-style-type: none"> • Dr. Jason Carter (President), Michigan Technological University (MTU) and David Rodenbaugh, Programming Chair • Dr. Greg Fink (Past-President), Michigan State University (MSU)
2.	Keynote Address <ul style="list-style-type: none"> • Dr. Irving H. Zucker, PhD University of Nebraska Medical Center, Department of Cellular and Integrative Physiology <ul style="list-style-type: none"> ○ CARDIAC SYMPATHETIC AFFERENTS IN HEART FAILURE: IT'S NOT JUST ABOUT THE PAIN
3.	Introduce Sponsors/Group Photo
4.	Opening Reception <ul style="list-style-type: none"> • Vienna Rooms A and B
5.	Poster Session A <p>**Akande #12 HYPOTHESIS DRIVEN LABS: AN INNOVATIVE WAY TO FOSTER LEARNING IN PHYSIOLOGY LABORATORY COURSES</p> <p>Anderson #24 UPPER-EXTREMITY ECCENTRIC EXERCISE - INCREASES IN MUSCLE SIZE AND POWER AT MODERATE TRAINING INTENSITIES</p> <p>**Carter #23 EVALUATION OF BLENDED-LEARNING WITHIN EXERCISE PHYSIOLOGY LABORATORIES</p> <p>**Chorath #7 ABUNDANCE OF SODIUM TRANSPORTERS AND CHANNELS ON RENAL TUBULES IN RENAL ARTERY STENOSIS AFTER CRYO-TREATMENT OF THE RENAL NERVE</p> <p>**Diaz-Otero #18 THE EFFECTS OF MINERALOCORTICOID RECEPTOR BLOCKADE ON CEREBRAL ARTERIES POST-STROKE</p> <p>**Downs #9 EFFECTS OF CEREBRAL HYPOPERFUSION ON MARKERS OF NEURONAL FUNCTION</p> <p>**Duncan #3 ALPHA ADRENERGIC RECEPTORS ACTIVATE THE JAK/STAT PATHWAY TO INCREASE BLOOD PRESSURE</p> <p>EISayed #21 "READ – FILL" APPROACH TO SUPPORT SELF DIRECTED LEARNING OF THRESHOLD CONCEPTS DURING LECTURE-BASED CLASSES</p> <p>**Gemayel #8 HOSPITAL WIDE INTERVENTION FOR USE OF HIGH VANCOMYCIN (VAN) SERUM TROUGH CONCENTRATIONS IS NOT ASSOCIATED WITH REDUCTION OF MORTALITY IN METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS (MRSA) BLOOD STREAM INFECTIONS (BSI)</p> <p>**Huber #11 SYMPATHOEXCITATION BY INHIBITION OF SK CHANNEL ACTIVITY IN THE HYPOTHALAMIC PVN IS ATTENUATED BY LOCAL AT1 RECEPTOR BLOCKADE</p>

	<p>Huereca #22 SPECTRAL ANALYSIS OF BAROSENSITIVE NEURONS IN THE RAT ROSTRAL VENTROLATERAL MEDULLA</p> <p>**Jamil #14 TRENDING CEREBRAL OXIMETRY AND VITAL SIGNS POST CARDIAC ARREST TO PREDICT NEUROLOGICAL OUTCOME</p> <p>**Keaton #17 THE PLACENTAS ROLE IN PERIPARTUM DEPRESSION</p> <p>**Kelly #10 SELF-PACED SLOW DEEP BREATHING: PERSISTENCE OF EFFECTS ON VASCULAR FUNCTION</p> <p>**Kusch #5 GLIAL CELL LINE-DERIVED NEUROTROPHIC FACTOR (GDNF) IN THE CRAYFISH</p> <p>**Lee #6 GPCR KINASE 6 IS REQUIRED FOR TRANSEPITHELIAL MIGRATION OF NEUTROPHILS INTO THE LUNG</p> <p>**Mando #15 RISK FACTORS CONTRIBUTING TO 30-DAY MORTALITY IN METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS (MRSA) BLOOD STREAM INFECTIONS (BSI)</p> <p>**Mayer #16 EFFECTS OF HYPERGLYCEMIA ON CAROTID BODY HYPOXIC RESPONSES</p> <p>**Patel #1 HYDROGEN PEROXIDE-INDUCED REDOX HOMEOSTASIS REGULATION IN ENDOTHELIAL CELLS</p> <p>**Perez-Bonilla #13 EFFECTS OF CELIAC GANGLIONECTOMY ON MESENTERIC ARTERIES FROM MALE AND FEMALE SPONTANEOUSLY HYPERTENSIVE STROKE PRONE RATS</p> <p>**Poteracki #2 MUSEUM-BASED PHUN WEEK 2014: REFLECTIONS FROM THE THIRD YEAR</p> <p>**Schafer #20 GENERATION OF BASIGIN-2 MUTATIONS IN GLIOBLASTOMA MULTIFORME TUMOR CELLS TO DETERMINE THE NECESSITY FOR BASIGIN-2 IN MONOCARBOXYLATE TRANSPORTER FUNCTION</p> <p>**Sullivan #19 ESTABLISHING BASELINE MEASURES OF GDNF IN HUMAN BLOOD SERUM</p> <p>**Wakeham #4 CARDIOVASCULAR AND NEURAL RESPONSES TO MENTAL STRESS IN OBESE HUMANS</p>
FRIDAY MAY 1ST, 2015	
6.	Morning Announcements
7.	<p>Oral Session 1 (Renal/Neuroscience)</p> <ul style="list-style-type: none"> • Session Co-Chairs <ul style="list-style-type: none"> ○ Ida T. Fonkoue, (MTU) ○ Thomas Mayer, (MSU) • Presenters <ul style="list-style-type: none"> ○ Michael Huber, MTU, (Graduate student) <ul style="list-style-type: none"> ▪ SYMPATHOEXCITATION BY PVN (PRO) RENIN RECEPTOR ACTIVATION MAY INVOLVE REACTIVE OXYGEN SPECIES AND INOS ○ Nusrat Matin, MSU, (Graduate student)

	<ul style="list-style-type: none"> ▪ BILATERAL COMMON CAROTID ARTERY STENOSIS IN NORMOTENSIVE RATS IMPAIRS SHORT-TERM MEMORY AND ENDOTHELIAL DEPENDENT DILATION OF PENETRATING ARTERIOLES ○ Kevin L. Gordish, WSU, (Graduate student) <ul style="list-style-type: none"> ▪ RESVERATROL TREATMENT REVERSES MILD ANGIOTENSIN II-INDUCED HYPERTENSION, BUT NOT BY INCREASED NATRIURESIS ○ Ankita Bachhawat Jaykumar, WSU, (Graduate student) <ul style="list-style-type: none"> ▪ ALMS1 A NOVEL INTERACTING PROTEIN FOR NKCC2 IS INVOLVED IN BLOOD PRESSURE REGULATION AND RENAL FUNCTION ○ Emily Henson, WSU, (Graduate student) <ul style="list-style-type: none"> ▪ HIGH FRUCTOSE BUT NOT HIGH GLUCOSE INTAKE INDUCES SALT-SENSITIVE HYPERTENSION AND ENHANCES NKCC2 PHOSPHORYLATION IN NORMAL RATS
8.	<p>Breakout Sessions</p> <ul style="list-style-type: none"> • Sessions <ul style="list-style-type: none"> ○ A: Publications, Dr. Irving H. Zucker ○ B: Individual Development Plan, Dr. Jason Carter and Dr. Erica Wehrwein
9.	<p>Oral Session 2 (Neuro)</p> <ul style="list-style-type: none"> • Session Co-Chairs <ul style="list-style-type: none"> ○ Janice Diaz-Otero, (MSU) ○ Nusrat Matin, (MSU) • Presenters <ul style="list-style-type: none"> ○ Daniel Heureca, WSU, (Graduate student) <ul style="list-style-type: none"> ▪ ASSESSMENT OF NEURONAL ACTIVITY IN THE ROSTRAL VENTROLATERAL MEDULLA (RVLM) OF CONSCIOUS RATS ○ Andrew Chapp, MTU, (Graduate student) <ul style="list-style-type: none"> ▪ ACETATE IS AN ACTIVE METABOLITE OF ETHANOL: INCREASES FIRING AND EVOKES INWARD CURRENTS THROUGH ACTIVATION OF NMDA RECEPTORS IN RVLM PROJECTING CEA NEURONS ○ Ida T. Fonkoue, MTU, (Graduate student) <ul style="list-style-type: none"> ▪ ACUTE ALCOHOL CONSUMPTION MODULATES SYMPATHETIC VASCULAR TRANSDUCTION DIFFERENTLY IN CAUCASIANS AND AFRICAN AMERICANS ○ Robert A. Larson, MTU, (Graduate student) <ul style="list-style-type: none"> ▪ INHIBITION OF ENDOPLASMIC RETICULUM FUNCTION IN PVN BY THAPSIARGIN INCREASES NEURONAL EXCITABILITY AND SYMPATHETIC NERVE ACTIVITY (SNA) ○ Connor Greer, NMU, (Undergraduate student) <ul style="list-style-type: none"> ▪ ALDEHYDE DEHYDROGENASE 1 AND GBM
10.	<p>Oral Session 3 (Cardiovascular/Respiratory)</p> <ul style="list-style-type: none"> • Session Co-Chairs <ul style="list-style-type: none"> ○ Andrew Chapp, (MTU) ○ Daniel Heureca, (WSU) • Presenters <ul style="list-style-type: none"> ○ Jasdeep Kaur, WSU, (Graduate student) <ul style="list-style-type: none"> ▪ MUSCLE METABOREFLEX-INDUCED VASOCONSTRICTION OF ISCHEMIC ACTIVE SKELETAL MUSCLE ○ Guodong Pan, HFHS, (Post-doc) <ul style="list-style-type: none"> ▪ LOW ALDEHYDE DEHYDROGENASE (ALDH) 2 ACTIVITY INDUCES CARDIAC DAMAGE IN ALDH2*2 (E487K) KNOCK-IN MUTANT DIABETIC MICE ○ Sebastien Hayoz, MSU, (Post-doc) <ul style="list-style-type: none"> ▪ MINERALOCORTICOID RECEPTOR BLOCKADE WITH CANRENOIC ACID HAS NO EFFECT ON PRO-INFLAMMATORY MARKER MRNA EXPRESSION FOLLOWING ISCHEMIC STROKE INDUCED BY MIDDLE CEREBRAL ARTERY OCCLUSION

	<ul style="list-style-type: none"> ○ Taehyung Lee, MSU, (Post-doc) <ul style="list-style-type: none"> ▪ GPCR KINASE 6 IS REQUIRED FOR TRANSEPITHELIAL MIGRATION OF NEUTROPHILS INTO THE LUNG
11.	<p>Oral Session 4 (Physiology Education)</p> <ul style="list-style-type: none"> • Session Co-Chairs <ul style="list-style-type: none"> ○ Oluwatofehinti Akande, (MsU) ○ David W. Rodenbaugh, (OU William Beaumont SOM) • Presenters <ul style="list-style-type: none"> ○ Keynote Speaker- Dr. Lori Seischab, PhD., MSU <ul style="list-style-type: none"> ▪ ARE WE TEACHING OUR PHYSIOLOGY STUDENTS TO BE SUCCESSFUL? ○ Dr. Steven Elmer, PhD., MTU <ul style="list-style-type: none"> ▪ EVALUATION OF BLENDED-LEARNING WITHIN EXERCISE PHYSIOLOGY LABORATORIES ○ Dr. Erica Wehrwein, PhD., MSU <ul style="list-style-type: none"> ▪ PROPOSAL TO POSTER: A MODEL FOR INDIVIDUALIZED INQUIRY-BASED RESEARCH PROJECTS IN THE CONTEXT OF AN UNDERGRADUATE PHYSIOLOGY LABORATORY COURSE
12.	<p>Business Meeting</p> <ul style="list-style-type: none"> • Financial Summary <ul style="list-style-type: none"> ○ Secretary and Treasurer James Poteracki (MSU): budget, expenses and donations • Date of next Annual Meeting <ul style="list-style-type: none"> ○ The next Annual MPS Meeting will be held at Wayne State University, the 12th and 13th of May, 2016. • The meeting saw the following members of the Executive Board complete terms: <ul style="list-style-type: none"> ○ Greg Fink, PhD of MSU – Past-President <ul style="list-style-type: none"> ▪ On behalf of the Society, Jason Carter (President) offered thanks to this outgoing member of the board for their outstanding services. • A ballot was distributed and a popular vote was taken at the meeting to elect a new member. The results of that vote were tallied and the following MPS member was elected to the Executive Board: <ul style="list-style-type: none"> ○ Pat Mueller, PhD of WSU – President-Elect <ul style="list-style-type: none"> ▪ On behalf of the society, Jason Carter (President) welcomed this incoming member into their new roles via email.
13.	<p>Awards Presentation</p> <ul style="list-style-type: none"> • Oral Presentations: 14 total oral presentations <ul style="list-style-type: none"> ○ Award recipients <ul style="list-style-type: none"> ▪ Kevin Gordish ▪ Daniel Huereca ▪ Nusrat Matin ▪ Ida Fonkoue ▪ Andrew Chapp • Poster Presentations: 24 total poster presentations <ul style="list-style-type: none"> ○ Award recipients <ul style="list-style-type: none"> ▪ Tom Mayer ▪ Sarah Keaton ▪ Anthony Duncan