

MICHIGAN PHYSIOLOGICAL SOCIETY (MPS)

2016 ANNUAL MEETING REPORT

<https://apsmichigan.org/>

During the 2015-2016 year, further development and refining of the website and communication tools took place. Additionally, The Society welcomed international members and expanded the request for an invited speaker to include the Midwestern United States.

The 2016 Annual Meeting for the Michigan Physiological Society (MPS) was held at Wayne State University School of Medicine in Detroit, MI on the 12th and 13th of May 2016. Additional events of the conference, including a poster session and dinner, were graciously hosted by the Detroit Historical Museum.

The meeting hosted 180 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 Western Ontario, The University of Wisconsin School of Veterinary Medicine and Wayne State University*. Additionally, 18 representatives of high-schools across the state of Michigan participated in the Life Sciences Teacher Workshop offered on the 13th of May 2016.

The Society welcomed Keynote Speaker Hannah V. Carey, PhD of The University of Wisconsin School of Veterinary Medicine, Department of Comparative Biosciences. Dr. Carey's keynote address was titled, "Seasonal Remodeling of the Host-Gut Microbe Symbiosis in Hibernation."



2015-2016 MPS Member Photo

Life Sciences Teacher Workshop

The APS Chapter Program and APS staff partnered with the MPS this year to develop and evaluate a model program, Regional Professional Learning Communities (RPLC). The workshop hosted 18 local HS life science teachers. Teachers were provided a full day workshop with travel reimbursement and lunch to engage in the activities of our in chapter activities including the poster session, integrate the Six Star Science principles into chapter K-12 outreach activities and inform both teachers and researchers in the region about the APS Frontiers program and Physiology Understanding Week. Margaret Shain-Stieben, of the APS education office, traveled to MI to run this event with the assistance of the MPS K12 Chair Karen Ball (Alma College) and session moderator Dinesh Pal (University of Michigan). Dr. Hannah Carey from the University of Wisconsin gave a stimulating lecture entitled "Hibernation: A cool way to spend the winter". Many MPS members served on a career panel and The Society thanks Anthony Anzell, Valerie VanRyn, Adele Denison, Monica McCullough, Jason Carter and Erica Wehrwein for their time with the teachers in this capacity.



2015-2016 Life Sciences Teacher Workshop

Best Oral Presentations

The best oral presentations were selected for recognition from the 16 total oral presentations and were presented with a \$250 check based on generous donations. Congratulations to the following award recipients:

- Amanda Shoemaker and Kevin Steelman, Medical Students from Central Michigan University
 - “Disparity in the effect of eupnea and gasping as observed during respiratory autoresuscitation from asphyxia in anesthetized adult rats.”
- Ankita Jaykumar, Graduate Student from Henry Ford Hospital and Wayne State University
 - “ALMS1 (Alstrom Syndrome 1), a new interacting protein of NKCC2, regulates NKCC2 endocytosis, urinary concentration and blood pressure.”
- Janice Diaz-Ortero, Graduate Student from Michigan State University
 - “Angiotensin II-induced hypertension is associated with parenchymal arteriole and posterior cerebral artery remodeling and reduced cerebral perfusion.”
- Kevin Gordish, Post-doc from Henry Ford Hospital and Wayne State University
 - “High salt diet stimulates salt-sensitive hypertension in fructose-fed rats”



2015-2016 Oral Presentation Award Winners

Best Poster Presentations

The best poster presentations were selected for recognition from the 68 total poster presentations and were presented with a \$100 check based on generous donations. Congratulations to the following award recipients:

- Brandon Coughlin, Graduate Student from Michigan State University
 - “Protective effects of IL-6 on human Müller cells under hyperglycemic conditions.”
- Hannah Marti, Graduate Student from Michigan Technological University
 - “The effect of changes in fitness and fatness in aortic pulsatile load.”
- Kiera Fisher, Graduate Student from Michigan State University
 - “Diabetes-induced increase in the number of circulating exosomes as a potential mechanism for pathogenesis of retinopathy.”
- Konstadinos Bakoulas, Graduate Student from Wayne State University School of Medicine
 - “Measuring brain activity in conscious animals using manganese (MN2+) enhanced MRI (MEMRI): effect of normalization.”
- Mohamad El-Chami, Graduate Student from Wayne State University School of Medicine
 - “Mild intermittent hypoxia with sustained hypercapnia reduces therapeutic CPAP and improves airflow in participants with obstructive sleep apnea



2015-2016 Poster Presentation Award Winners

The 2015-2016 Executive Board Members were as follows:

- **Erica Wehrwein, Ph.D. (President, CAC Representative)**
Michigan State University
Department of Physiology
Phone: (517) 884-5043
Email: wehrwei7@msu.edu
Term ended May 2016
- **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
Term ended May 2016
- **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
- **Jason R. Carter, Ph.D. (Past President)**
Michigan Technological University
Dept. of Kinesiol. & Integrative Physiol.
Phone: (906) 487-2715
Email: jcarter@mtu.edu
- **John Durocher, Ph.D. (Awards Chair)**
Michigan Technological University
Dept. of Kinesiol. & Integrative Physiol.
Phone: 906-487-1659
Email: jjuroch@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



2015-2016 Executive Board and Planning Committee.

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

- Jason Carter, PhD of Northern Michigan University – Past-President
- James Poteracki, BS of Michigan State University – Secretary and Treasurer

The Society offers thanks to these outgoing members of the board for their outstanding services.

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

- Karen Ball, PhD of Alma College – President-Elect
- Valerie VanRyn, BS of Michigan State University – Secretary and Treasurer

The Society welcomes these incoming members into their new roles.

The planning of the 2016 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), Christine Cupps (Wayne State University), Joanne Kaiser (Wayne State University), Adele Denison (Michigan State University), Oneita Hunt (Wayne State University), Michael LaBella (Wayne State University), Rochelle LaMacchio (Wayne State University), Patrick Mueller (Wayne State University), Brianna Schick (Wayne State University) and Erica Wehrwein (Michigan State University).

The 2016-2017 Executive Board Members are as follows:

- **Pat Mueller Ph.D. (President, CAC Representative)**
Wayne State University
Dept. of Physiology
Phone: (313) 577-1559
Email: pmueller@med.wayne.edu
Term ends May 2017
- **Karen Ball, Ph.D. (President-Elect, K-12 Outreach Committee Chair)**
Alma College
IPHS Department
Phone: (989) 463-7127
Email: ball@alma.edu
- **Valerie VanRyn (Secretary-Treasurer)**
Michigan State University
Dept. of Physiology
Email: vanryuva@psl.msu.edu
Phone: (517)-884-5043
Term ends May 2018
- **Sue Barman, Ph.D. (Membership and Fundraising Committee Chair)**
Michigan State University
Dept. of Pharmacol. & Toxicol.
Phone: (517) 432-3154
Email: barman@msu.edu
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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 2016 MPS meeting:

Diamond Sponsor: \$2,000

- Michigan State University College of Human Medicine (Dr. Aron Sousa-Dean)
- Wayne State University, Initiative for Maximizing Student Development (Dr. Joseph Dunbar-Program Director)
- Wayne State University, Office of the Vice President for Research (Dr. Stephen Lanier-Vice President)

Platinum Sponsors: \$1,000

- Henry Ford Health System (Dr. Margot LaPointe-Vice President for Research)
- Michigan State University College of Natural Sciences (Dr. R James Kirkpatrick-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)
- Wayne State University, School of Medicine (Dean Jack Sobel)
- Wayne State University, School of Medicine, Department of Physiology (Dr. J.-P. Jin-Chair)

Gold Sponsors: \$500-999

- Michigan State University, Graduate School (Dr. Judith Stoddart- Interim Dean)
- Michigan State University, Office of the Vice President for Research & Graduate Studies (Dr. Stephen Hsu-Dean)
- Wayne State University, School of Medicine, Research Office (Dr. Linda Hazlett-Interim Vice Dean)
- Wayne State University, School of Medicine, BioMed Graduate Programs (Dr. Stanley Terlecky- Associate Dean)

Silver Sponsors: \$300-499

- Wayne State University School of Medicine Cardiovascular Research Institute (Dr. Karin Przyklenk-Director)

Bronze Sponsors: \$200-299

- Wayne State University Graduate School (Dr. Ambika Mathur-Dean)

Iron Sponsors: \$100-199

- Mayo Graduate School Biomedical Engineering & Physiology Program

The 2017 MPS Conference will be held at Alma College on the 8th and 9th of June, 2017.

MPS Annual Meeting 2016

Annual Meeting 2016: Minutes

These are the unconfirmed minutes of the Annual Meeting of the Michigan Physiological Society (MPS), held at Wayne State University School of Medicine in Detroit, MI on the 12th and 13th of May 2016.

THURSDAY MAY 12th, 2016	
1.	<p>Welcome and Meeting Opening</p> <ul style="list-style-type: none"> • Dr. Erica Wehrwein (President), Michigan State University (MSU) and Dr. Pat Mueller (President Elect), Wayne State University (WSU) • Dr. Stephen Lanier, WSU Vice President for Research • Dr. Jian-Ping Jin, WSU Chair of Physiology
2.	<p>Oral Session 1 (Cell/Molecular)</p> <ul style="list-style-type: none"> • Session Co-Chairs <ul style="list-style-type: none"> ○ Brandon Coughlin (MSU) ○ Zeljka Minic (WSU) • Presenters <ul style="list-style-type: none"> ○ Vanessa D. Ramseyer, WSU, (Post-doc) <ul style="list-style-type: none"> ▪ DEVELOPMENTAL REGULATION OF ADIPOCYTE PHENOTYPES IN SUBCUTANEOUS ADIPOSE TISSUE ○ Molly Thorson, University of Michigan (U of M), (Graduate student) <ul style="list-style-type: none"> ▪ SARCOLEMMMA WOUNDING ACTIVATES DYNAMIN DEPENDENT ENDOCYTOSIS IN STRIATED MUSCLE ○ Ryan Pettit-Mee, Central Michigan University (CMU), (Graduate student) <ul style="list-style-type: none"> ▪ THE EFFECT OF CALORIE RESTRICTION ON THE ASSOCIATION BETWEEN HEAT SHOCK PROTEIN 90 AND AKT
3.	<p>Keynote Address</p> <ul style="list-style-type: none"> • Hannah V. Carey, PhD University of Wisconsin School of Veterinary Medicine, Department of Comparative Biosciences <ul style="list-style-type: none"> ○ SEASONAL REMODELING OF THE HOST-GUT MICROBE SYMBIOSIS IN HIBERNATION
4.	Group Photo
5.	<p>Opening Reception</p> <ul style="list-style-type: none"> • Detroit Historical Museum
6.	<p>Poster Session A</p> <p>#28 Abdul-Hafez-EXPOSURE TO HIGH OXYGEN CONCENTRATION DECREASES THE PROTECTIVE ANGIOTENSIN CONVERTING ENZYME-2 IN HUMAN LUNG EPITHELIAL CELLS #30 Ares-STIMULATION OF SWEET TASTE RECEPTORS EXPRESSED IN THE KIDNEY ENHANCE SURFACE NKCC2 LEVELS IN THICK ASCENDING LIMBS (TALS) #15 Bakoulas-MEASURING BRAIN ACTIVITY IN CONSCIOUS ANIMALS USING MANGANESE (MN2+) ENHANCED MRI (MEMRI): EFFECT OF NORMALIZATION #9 Cummings HYPOXIA ALTERS PROLIFERATION RATES OF NEUROBLASTOMA CELLS #12 Deliz Rios-Arce-MECHANISM OF ACTION OF LACTOBACILLUS REUTERI ATCC PTA 6475 IN COLON EPITHELIAL CELLS #29 El-Chami-MILD INTERMITTENT HYPOXIA WITH SUSTAINED HYPERCAPNIA REDUCES THERAPEUTIC CPAP AND IMPROVES AIRFLOW IN PARTICIPANTS WITH OBSTRUCTIVE SLEEP APNEA #10 Fisher -DIABETES-INDUCED INCREASE IN THE NUMBER OF CIRCULATING EXOSOMES AS A POTENTIAL MECHANISM FOR PATHOGENESIS OF DIABETIC RETINOPATHY #11 Flaherty-EXPLOITING THE WARBURG EFFECT: USING CRISPR/CAS9 TO TARGET GLIOBLASTOMA MULTIFORME (GBM) CELLS #1 Fonkoue-ACUTE ALCOHOL CONSUMPTION BLUNTS THE MUSCLE SYMPATHETIC NERVE ACTIVITY RESPONSE TO MENTAL STRESS IN HUMANS #16 Fyk-Kolodziej-ROSTROCAUDAL CHANGES IN THE PROTEIN EXPRESSION OF GABA A RECEPTOR SUBUNITS IN THE ROSTRAL VENTROLATERAL MEDULLA (RVLM) OF SEDENTARY AND PHYSICALLY ACTIVE RATS #2 Gunther-REGULATION OF ATP-BINDING, PI RELEASE AND ADP DISSOCIATION FROM MYOSIN II IN NATIVE CARDIAC MYOFIBRILS BY THE N-TERMINAL EXTENSION OF CARDIAC TROPONIN T #3 Hiske-QUANTIFICATION OF LARGE SARCOMERIC PROTEINS IN HEART AND SOLEUS MUSCLES FROM</p>

	<p>SEDENTARY AND VOLUNTARY EXERCISED RATS</p> <p>#17 **Huber-UPREGULATION OF OREXIN IN THE PARAVENTRICULAR NUCLEUS CONTRIBUTES TO SALT SENSITIVE HYPERTENSION</p> <p>#18 Keaton-PREGNANCY, DEPRESSION, INFLAMMATION, METABOLITES HOW ARE THESE RELATED?</p> <p>#19 Klem-BASELINE LEVELS OF GDNF PROTEIN IN BLOOD SERUM OF WOMEN</p> <p>#20 Kuang-PHARMACOLOGICAL CHARACTERIZATION OF CHICK FOREBRAIN NEURON BIOSENSOR ON A MICROELECTRODE ARRAY USING INHIBITORY NEUROACTIVE AGENTS (PART I)</p> <p>#21 Lewis-LIPID COMPARTMENTALIZATION IN SYNAPTIC NERVE ENDINGS</p> <p>#4 **Marti-THE EFFECT OF CHANGES IN FITNESS AND FATNESS ON AORTIC PULSATILE LOAD</p> <p>#5 McCready-RELATIONSHIP BETWEEN MAXIMUM OXYGEN CONSUMPTION AND MUSCLE OXYGENATION DURING A CROSS COUNTRY SEASON</p> <p>#22 McMahon-EXAMINATION OF CD133 AND CD147 AS CANCER STEM CELL MARKERS</p> <p>#23 Mic-EFFECTS OF EARLY LIFE STAGE EXPOSURE OF ELECTRONIC CIGARETTE AEROSOL ON PROTEIN EXPRESSION OF GABAA RECEPTOR SUBUNITS IN THE ROSTRAL VENTROLATERAL MEDULLA (RVLM)</p> <p>#24 **Moir-DYNAMIC CEREBRAL AUTOREGULATION IS IMPAIRED IN ADOLESCENTS FOLLOWING CONCUSSION</p> <p>#6 **Munukutla-ALCOHOLISM IN THE DIABETIC CONDITION: A DOUBLE TROUBLE?</p> <p>#7 Pawluk-EFFECT OF HYPERHYDRATION ON THE CARDIOVASCULAR RESPONSES TO AN LBNP PRESYNCPAL CHALLENGE</p> <p>#27 **Poteracki-A COMPARISON OF DEVICE--GUIDED AND SELF--PACED BREATHING ON FOREARM VENOUS OCCLUSION PLETHYSMOGRAPHY</p> <p>#8 Senador-ROLE OF ENDOTHELIAL NITRIC OXIDE IN CONTROL OF PERIPHERAL VASCULAR CONDUCTANCE DURING MUSCLE METABOREFLEX ACTIVATION</p> <p>#25 Shisheva-THE SAC3-ARPIKFYVE PROTEIN COMPLEX INTERACTS WITH PARKINSON'S-IMPLICATED SYNPHILIN-1: PREVENTION OF THE FORMATION AND SOLUBILIZATION OF SYNPHILIN-1 AGGREGATES</p> <p>#26 Wigard-ANALYSIS OF TUMOR SPECIFIC PROTEIN EXPRESSION IN GLIOBLASTOMA MULTIFORME (GBMs) TUMORS-THROUGH IMMUNOHISTOCHEMISTRY</p> <p>#13 Vasquez-GENETIC DIVERSITY OF WATER MITES IN WESTERN LAKE ERIE</p> <p>#14 Van Ryn-A MODEL FOR COURSE-BASED SERVICE LEARNING TO ENHANCE UNDERGRADUATE STUDENT ENGAGEMENT WITHIN THE COMMUNITY</p>
7.	<p>Strolling Dinner</p> <ul style="list-style-type: none"> • Live Music in the Grand Trunk Passenger Room • "The Streets of Detroit"-themed dinner • Museum viewing open to all levels
FRIDAY MAY 13th, 2016	
8.	Morning Announcements
9.	<p>Oral Session 2 (Respiratory/Cardiovascular/Neuro)</p> <ul style="list-style-type: none"> • Session Co-Chairs <ul style="list-style-type: none"> ○ Andrew Chapp, Michigan Technological University (MTU) ○ Dragana Komnenov (WSU) • Presenters <ul style="list-style-type: none"> ○ Amanda Shoemaker and Kevin Steelman, CMU, (Medical students) <ul style="list-style-type: none"> ▪ DISPARITY IN THE EFFECT OF MORPHINE ON EUPNEA AND GASPING AS OBSERVED DURING RESPIRATORY AUTORESUSCITATION FROM ASPHYXIA IN ANESTHETIZED ADULT RATS ○ Joanne F. Garbincius, U of M, (Graduate student) <ul style="list-style-type: none"> ▪ MODULATION OF METHYLATED ARGININE METABOLISM TO TARGET EXERCISEINDUCED FATIGUE IN DUCHENNE MUSCULAR DYSTROPHY ○ Andrew R. Kulek, WSU, (Graduate student) <ul style="list-style-type: none"> ▪ REMOTE ISCHEMIC PRECONDITIONING: DO EXOSOMES PLAY A REQUISITE ROLE IN EVOKING CARDIOPROTECTION? ○ Janice M. Diaz-Ortero, MSU, (Graduate student) <ul style="list-style-type: none"> ▪ ANGIOTENSIN II-INDUCED HYPERTENSION IS ASSOCIATED WITH PARENCHYMAL ARTERIOLE AND POSTERIOR CEREBRAL ARTERY REMODELING AND REDUCED CEREBRAL PERFUSION ○ Stephen A. Klassen, Brock University, (Graduate student) <ul style="list-style-type: none"> ▪ THE ROLE OF AORTIC ARCH VASCULAR MECHANICS IN CARDIOVAGAL BAROREFLEX SENSITIVITY
10.	<p>Breakout Sessions</p> <ul style="list-style-type: none"> • Sessions <ul style="list-style-type: none"> ○ A: Individual Development Plan, Tony Nunez, (MSU) ○ B: Opportunities to involve undergraduates in research, Rasheeda Zafar, (WSU-IMSD) and Jennifer Tabb, (WSU-Re-B.U.I.L.D. Detroit)

	<p>○ C: Models for Physiologist-Teacher Collaboration (joined by MPS Meeting Participants), Dinesh Pal, (U of M)</p>
11.	<p>Poster Session B</p> <p>#8 **Amarasinghe-STRUCTURAL AND FUNCTIONAL IMPACTS OF NOVEL MUTATIONS IN SLOW SKELETAL MUSCLE TROPONIN T FOUND IN NON-AMISH TNNT1 NEMALINE MYOPATHIES</p> <p>#19 Anggraini-FIRST MEASUREMENT OF NONLINEAR DYNAMICS OF ACUTE CELL INJURIES IN GLOBAL BRAIN ISCHEMIA</p> <p>#9 Bolinger-PHOSPHORYLATION OF THE TIGHT JUNCTION PROTEIN OCCLUDIN REGULATES EPITHELIAL MONOLAYER PROLIFERATION AND MATURATION</p> <p>#20 **Brown-REGULATION OF THE ANTIOXIDANT GLUTATHIONE BY ENTERIC GLIA CELLS</p> <p>#1 **Bryson-PROSTAGLANDIN E2 INHIBITS MONOCYTE CHEMOTACTIC PROTEIN 5 IN MOUSE CARDIAC FIBROBLASTS VIA EP4 RECEPTOR</p> <p>#2 Bucan-GENDER DIFFERENCES INVOLVING SEROTONIN RECEPTORS IN TYPE I DIABETIC RATS</p> <p>#22 **Chapp-ACETATE, THE METABOLITE OF ETHANOL, INCREASES NEUROINFLAMMATION AND CELLULAR DEATH: IMPLICATIONS IN ETHANOL NEURODEGENERATION</p> <p>#21 **Chapp-INTRANEURONAL ACIDIFICATION WITH ACETIC ACID, AN ETHANOL METABOLITE, INCREASES EXCITABILITY OF CENTRAL NUCLEUS OF AMYGDALA NEURONS WITH AXON PROJECTING TO ROSTRAL VENTROLATERAL MEDULLA (CEA-RVLM)</p> <p>#28 Choudhury-CHARACTERIZATION OF THE PHOSPHOINOSITIDE 3 KINASE (PI3K) INTRACELLULAR SIGNALING PATHWAY IN HUMAN RENAL CELL CARCINOMA</p> <p>#32 **Coughlin-PROTECTIVE EFFECTS OF IL-6 ON HUMAN MÜLLER CELLS UNDER HYPERGLYCEMIC CONDITIONS</p> <p>#3 Cross-PERIPHERAL MICROVASCULAR FUNCTION FOLLOWING EXERCISE TRAINING IN OLDER ADULTS</p> <p>#23 **Das-RENAL SYMPATHETIC NERVE RESPONSES TO CHRONIC AND ACUTE STRESSOR IN CONSCIOUS RATS</p> <p>#25 **Delvalle-Dorta-TACHYKININ ACTIVATION ON ENTERIC GLIA: A NOVEL MECHANISM OF ENTERIC NERVOUS SYSTEM DYSFUNCTION IN IRRITABLE BOWEL SYNDROME</p> <p>#33 Duncan-CHARACTERIZATION OF THE EFFECTS OF ZERUMBONE IN HUMAN RENAL CELL CARCINOMA ON THE ACTIVATION OF THE JANUS KINASE PATHWAY</p> <p>#5 Feng-ABNORMAL SPLICING IN THE N-TERMINAL VARIABLE REGION OF CARDIAC TROPONIN T IMPAIRS SYSTOLIC FUNCTION OF THE HEART WITH PRESERVED FRANK-STARLING COMPENSATION</p> <p>#4 Feng-MICE WITH DOUBLE KNOCKOUT OF CALPONIN 1 AND CALPONIN 2 DEMONSTRATE CONTRACTILITY MODIFICATIONS IN VASCULAR SMOOTH MUSCLE</p> <p>#10 Ginter-SLOW SKELETAL TROPONIN DEFICIENCY RESULTS IN MYOPATHY AND FAST FIBER COMPENSATORY HYPERTROPHY IN AGING MOUSE SLOW TYPE SKELETAL MUSCLE</p> <p>#26 Huerca-DEVELOPING MANGANESE-ENHANCED MRI AS A NON-INVASIVE MEASURE OF IN VIVO NEURONAL ACTIVITY IN THE ROSTRAL VENTROLATERAL MEDULLA (RVLM) OF SEDENTARY AND PHYSICALLY ACTIVE RATS</p> <p>#15 Joshi-OLE OF OXIDATIVE STRESS AND TETRAHYDROBIOPTERIN SYNTHESIS ON ENOS CATALYZED NITRIC OXIDE AND SUPEROXIDE PRODUCTION: A COMPUTATIONAL ANALYSIS</p> <p>#30 Komnenov-5HT MODULATION OF AROUSAL AND CHEMOREFLEX RESPONSES IN INTACT AND SCI MICE</p> <p>#13 Liu-DELETION OF CALPONIN 2 IN MACROPHAGES IN ANTI-INFLAMMATORY AND ATTENUATES THE DEVELOPMENT OF ATHEROSCLEROSIS</p> <p>#12 Liu-ROLE OF CALPONIN 2 IN FIBROBLAST ADHESION</p> <p>#24 Mendez-RENAL CORTICAL HYDROGEN PEROXIDE (H2O2) STIMULATES RENIN RELEASE FROM JUXTAGLOMERULAR (JG) CELLS AND INCREASES BLOOD PRESURE: ROLE OF JG CELL NOX4</p> <p>#27 Minic-DIFFERENTIAL NEURAL CONTROL OF THE EFFERENT SYMPATHETIC NERVE ACTIVITY DURING AUTONOMIC DYSREFLEXIA IN A RAT MODEL OF SPINAL CORD INJURY</p> <p>#17 Naik-FUNCTIONAL RECONSTITUTION OF THE INSULIN-SECRETING POROSOME COMPLEX IN LIVE CELLS</p> <p>#6 **Pan-ALDA-1 ATTENUATES ACUTE ISCHEMIA-REPERFUSION MEDIATED CARDIAC DAMAGE IN ALDEHYDE DEHYDROGENASE 2 MUTANT DIABETIC MICE</p> <p>#31 Patel-MECHANISTIC INVESTIGATION OF REVERSAL OF ENDOTHELIAL DYSFUNCTION IN HYPERGLYCEMIA</p> <p>#37 **Pop-PopROLE OF 5HT IN CENTRAL SLEEP APNEA</p> <p>#35 **Pradhan-EXCESS VEGF SIGNALING DURING EARLY PLACENTAL DEVELOPMENT RESULTS IN EXPANSION OF THE SFLT1-PRODUCING TROPHOBLAST CELL LAYER AND PREECLAMPSIA LIKE SYMPTOMS</p> <p>#11 Rajagopalan-VIMP RECRUITS UBIQUITIN E3 LIGASE RNF5 TO THE ENDOPLASMIC RETICULUM FOR CFTR DEGRADATION</p> <p>#29 Sauer-MECHANICAL VENTILATION ENABLES RESTORATION OF EUPNEIC BREATHING FOLLOWING TRANSIENT ASPHYXIA UNDER URETHANE ANESTHESIA</p> <p>#38 Shortreed-THE SYNTHESIS AND EFFICACY OF ARTIFICIAL 3D CHITOSAN-ALGINATE SCAFFOLDS FOR IN VITRO CELL CULTURE</p> <p>#14 Steury-G PROTEIN-COUPLED RECEPTOR KINASE 2'S EFFECT ON TNFA SIGNALING MODULATES WOUND HEALING IN INTESTINAL EPITHELIAL CELLS</p> <p>#36 Talreja-RNA SEQUENCING REVEALS THAT SUSTAINED INFLAMMATION IN SARCOIDOSIS IS LINKED TO DYSREGULATED PHAGOCYTOSIS, OXIDATIVE PHOSPHORYLATION AND PROTEASOME PATHWAYS IN PERIPHERAL MONOCYTES</p> <p>#16 Turkette-GLYCATION OF INSULIN-LIKE GROWTH FACTOR-1 UNDER HYPERGLYCEMIC CONDITIONS IMPAIRS BINDING TO RECEPTOR</p> <p>#34 Wains-IMPACT OF AROUSAL THRESHOLD ON BREATHING EVENT FREQUENCY AND DURATION IN PARTICIPANTS WITH OBSTRUCTIVE SLEEP APNEA</p> <p>#7 **Wakeham-PREDICTING MUSCLE SYMPATHETIC NERVE ACTIVITY AND MEAN ARTERIAL BLOOD PRESSURE RESPONSES TO MENTAL STRESS</p> <p>#18 Woods-ALTERED PROTEIN EXPRESSION OF PANCREATIC BETA CELL ER CO-CHAPERONES IN DIABETES</p>
12.	Oral Session 3 (Neuro)

	<ul style="list-style-type: none"> • Session Co-Chairs <ul style="list-style-type: none"> ○ Travis Wakeham, (MTU) ○ Brandon Sauer (CMU) • Presenters <ul style="list-style-type: none"> ○ Kelsey Kusch, Adrian College, (Undergraduate student) <ul style="list-style-type: none"> ▪ GLIAL CELL-LINE DERIVED NEUROTROPHIC FACTOR (GDNF) PROTEIN CONTENT IN CRAYFISH ○ Katelyn Norton, The University of Western Ontario, (Graduate student) <ul style="list-style-type: none"> ▪ REGIONAL CEREBRAL CORTIC REGIONAL CEREBRAL CORTICAL THICKNESS CORRELATES WITH AUTONOMIC OUTFLOW ○ Robert A. Larson, MTU, (Graduate student) <ul style="list-style-type: none"> ▪ INCREASED BRAIN PROINFLAMMATORY CYTOKINES CONTRIBUTE TO AUGMENTED NEURONAL ACTIVITY IN SALT SENSITIVE HYPERTENSION ○ Mark B. Badrov, Western University, (Graduate student) <ul style="list-style-type: none"> ▪ EFFECT OF SIX MONTHS OF CARDIAC REHABILITATION ON AUTONOMIC FUNCTION IN CORONARY ARTERY DISEASE PATIENTS
13.	<p>Oral Session 4</p> <ul style="list-style-type: none"> • Session Co-Chairs <ul style="list-style-type: none"> ○ Shibandri Das, (MSU) ○ Isola Brown (MSU) • Presenters <ul style="list-style-type: none"> ○ Zachery Krease, WSU, (Undergraduate student) <ul style="list-style-type: none"> ▪ INFLUENCE OF SEDENTARY VERSUS PHYSICALLY ACTIVE CONDITIONS ON THE RELATIONSHIP BETWEEN BLOOD PRESSURE, SYMPATHETIC OUTFLOW AND NEURAL ACTIVITY IN THE ROSTRAL VENTROLATERAL MEDULLA (RVLM) ○ Nusrat Matin, MSU, (Graduate student) <ul style="list-style-type: none"> ▪ SOLUBLE EPOXIDE HYDROLASE INHIBITION IMPROVES COGNITIVE FUNCTIONS AND DILATION IN PARENCHYMAL ARTERIOLES FROM HYPERTENSIVE RATS WITH CEREBRAL HYPOPERFUSION ○ Ankita B. Jaykumar, Henry Ford Hospital (HFH) and WSU, (Graduate student) <ul style="list-style-type: none"> ▪ ALMS1 (ALSTROM SYNDROME 1), A NEW INTERACTING PROTEIN OF NKCC2, REGULATES NKCC2 ENDOCYTOSIS, URINARY CONCENTRATION AND BLOOD PRESSURE ○ Kevin Gordish, HFH, (Post-doc) <ul style="list-style-type: none"> ▪ HIGH SALT DIET STIMULATES SALT-SENSITIVE HYPERTENSION IN FRUCTOSE-FED RATS
14.	<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 Alma College, the 8th and 9th of June, 2017. • The meeting saw the following members of the Executive Board complete terms: <ul style="list-style-type: none"> ○ Jason Carter, PhD of MTU – Past-President ○ James Poteracki, BS of MSU – Secretary and Treasurer <ul style="list-style-type: none"> ▪ On behalf of the Society, Erica Wehrwein (President) offered thanks to these outgoing members of the board for their outstanding services. • A ballot was distributed and a popular vote was taken at the meeting to elect new members. The results of that vote were tallied and the following two MPS members were elected to the Executive Board: <ul style="list-style-type: none"> ○ Karen Ball, PhD of Alma College – President-Elect ○ Valerie VanRyn, BS of MSU – Secretary and Treasurer <p>On behalf of the society, Erica Wehrwein (President) welcomed these incoming members into their new roles via email.</p>
15.	<p>Awards Presentation</p>

	<ul style="list-style-type: none">• Oral Presentations: 16 total oral presentations<ul style="list-style-type: none">○ Award recipients<ul style="list-style-type: none">▪ Amanda Shoemaker and Kevin Steelman▪ Ankita Jaykumar▪ Janice Diaz-Ortero▪ Kevin Gordish • Poster Presentations: 68 total poster presentations<ul style="list-style-type: none">○ Award recipients<ul style="list-style-type: none">▪ Brandon Coughlin, Graduate Student from Michigan State University, <i>“Protective effects of IL-6 on human Müller cells under hyperglycemic conditions.”</i>▪ Hannah Marti, Graduate Student from Michigan Technological University, <i>“The effect of changes in fitness and fatness in aortic pulsatile load.”</i>▪ Kiera Fisher, Graduate Student from Michigan State University, <i>“Diabetes-induced increase in the number of circulating exosomes as a potential mechanism for pathogenesis of retinopathy.”</i>▪ Konstadinos Bakoulas, Graduate Student from Wayne State University School of Medicine, <i>“Measuring brain activity in conscious animals using manganese (MN2+) enhanced MRI (MEMRI): effect of normalization.”</i>▪ Mohamad El-Chami, Graduate Student from Wayne State University School of Medicine, <i>“Mild intermittent hypoxia with sustained hypercapnia reduces therapeutic CPAP and improves airflow in participants with obstructive sleep apnea.”</i>
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Life Sciences Teacher Workshop 2016: Minutes

These are the unconfirmed minutes of the Life Sciences Teachers Workshop as a part of the Annual Meeting of the Michigan Physiological Society (MPS), held at Wayne State University School of Medicine in Detroit, MI on the 13th of May 2016.

FRIDAY MAY 13th, 2016	
1.	Welcome and Meeting Opening <ul style="list-style-type: none"> • Dr. Karen Ball (K-12 Outreach Chair), Alma College and Dr. Erica Wehrwein (President), Michigan State University
2.	Keynote Address <ul style="list-style-type: none"> • Hannah V. Carey, PhD University of Wisconsin School of Veterinary Medicine, Department of Comparative Biosciences <ul style="list-style-type: none"> ○ HIBERNATION: A COOL WAY TO SPEND THE SUMMER
3.	Models for Physiologist-Teacher Collaboration <ul style="list-style-type: none"> • Moderator <ul style="list-style-type: none"> ○ Dinesh Pal, (University of Michigan) • Panelists <ul style="list-style-type: none"> ○ Sue Spiers, (Grosse Pointe Norther HS) and Pat Mueller, (Wayne State University) <ul style="list-style-type: none"> ▪ APS FRONTIERS IN PHYSIOLOGY DEVELOPMENT ○ Julia Della-Moretta, (Alma HS) and Maurie Luetkemeier, (Alma College) <ul style="list-style-type: none"> ▪ ALMA COLLEGE/DOW FOUNDATION COOPERATIVE RESEARCH EXPERIENCE (CORE) ○ Nancy Lefere, (Jackson Lumen Christi HS) and Sue Barman, (Michigan State University) <ul style="list-style-type: none"> ▪ APS PHYSIOLOGY UNDERSTANDING WEEK ACTIVITIES
4.	Career Panel <ul style="list-style-type: none"> • Moderator <ul style="list-style-type: none"> ○ Erica Wehrwein, (Michigan State University) • Panelists <ul style="list-style-type: none"> ○ Valerie VanRyn, Research Technician (Michigan State University) ○ Anthony Anzell, Graduate Student (Wayne State University) ○ Adele Denison, Teaching Faculty (Michigan State University) ○ Monica McCullough, Private Liberal Arts Faculty (Adrian College) ○ Jason Carter, Research Faculty (Michigan Technological University)
5.	Lab Demonstration <ul style="list-style-type: none"> • Moderator <ul style="list-style-type: none"> ○ Steve DiCarlo Laboratory, (Wayne State University)
6.	Tour of Poster Session B
7.	Student Engagement Workshops/Hands-on Activities <ul style="list-style-type: none"> • Session Leaders <ul style="list-style-type: none"> ○ Margaret Shain, (American Physiological Society) ○ Susan Spiers, (Grosse Pointe North HS) ○ Nancy Lefere, (Jackson Lumen Christi HS)