

## CURRICULUM VITAE

**Jason R. Carter, Ph.D.**

Michigan Technological University  
Department of Kinesiology and Integrative Physiology  
1400 Townsend Drive  
Houghton, MI 49931  
Phone: 906-487-2715  
Fax: 906-487-0985  
Email: [jcarter@mtu.edu](mailto:jcarter@mtu.edu)

-- SEE FINAL PAGE OF CV FOR 1-PG VITAE SUMMARY --

### EDUCATION

Ph.D., Biological Sciences (2003)	Michigan Technological University
B.S., Biological Sciences <i>Summa Cum Laude</i> (2000)	Michigan Technological University

### PROFESSIONAL EXPERIENCE

#### ADMINISTRATIVE POSITIONS:

Michigan Technological University (Houghton, MI)

2018-present	Associate Vice President for Research Development
2016-2018	Assistant to the Vice President for Research for Research Development
2011-2018	Chair, Department of Kinesiology and Integrative Physiology
2012-2016	Associate Dean, College of Sciences and Arts
2006-2011	Chair, Department of Exercise Science, Health and Physical Education

#### FACULTY POSITIONS:

Michigan Technological University (Houghton, MI)

2014-present	Professor, Department of Kinesiology and Integrative Physiology
2011-2014	Associate Professor, Department of Kinesiology and Integrative Physiology
2010-2011	Associate Professor, Department of Exercise Science, Health and Physical Education
2006-2010	Assistant Professor, Department of Exercise Science, Health and Physical Education
2002-2006	Instructor and Adjunct Assistant Professor, Department of Biological Sciences

University of Chicago (Chicago, IL)

2014-2016	Visiting Scholar, Department of Medicine
2015-2016	Full Academic Year Sabbatical, Department of Medicine

Mayo Clinic (Rochester, MN)

2012-2015	Adjunct Associate Professor, Department of Physiology and Biomedical Engineering
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#### OTHER RELEVANT POSITIONS:

Houghton-Portage Township Schools (Houghton, MI)

2002-2006	High School Science Teacher (full time, tenure position), Houghton High School
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Pennsylvania State University College of Medicine (Hershey, PA)

2003-2005

Post-Doctoral Research (distance w/ Dr. Chester Ray), Heart and Vascular Institute

2002, 2003

Summer Research Fellowships (local w/ Dr. Chester Ray), Heart and Vascular Institute

## RESEARCH INTERESTS

Autonomic and Cardiovascular Control in Humans; Sleep and Sympathetic Neural Control in Humans; Neurovascular Reactivity to Mental Stress; Sex Differences and Sympathetic Nerve Activity; Sleep and Human Performance

## PROFESSIONAL SOCIETY LEADERSHIP

### American Kinesiology Association

- President (2018-present)
- Executive Committee (2015-present)
- Steering Committee (2014-present)
- Membership Committee Chair (2014-15)
- Board of Directors (2012-15)

### American Physiological Society

- APS Committee on Committees (2015-present)
- Neural Control & Autonomic Regulation Steering Committee (2015-present)
- Presidential Task Force #4 – Enhancing Scientific Interaction and Exchange (2011-12)
- APS Joint Programming Committee (2008-12)
- Neural Control & Autonomic Regulation Steering Committee (2008-12)

### Michigan Physiological Society

- President, Michigan Physiological Society (2014-15)
- Co-Chair, Michigan Physiological Society Formation Committee (2011-13)

## PROFESSIONAL SOCIETY HONORS

### American Physiological Society

- Research Recognition Award, Teaching Section (2013)
- Research Recognition Award, Central Nervous System Section (2010)
- Research Recognition Award, Neural Control and Autonomic Regulation Section (2009)
- Caroline tum Suden/Francis A. Hellebrandt Professional Opportunity National Award (2003)

### Association of Public and Land-Grant Universities (APLU)

- Council on Research (CoR) – Research Leader Fellow (2017 – present)\*

### National Academy of Kinesiology

- Elected-Fellow (2017) #567

\* *One of eight national APLU fellows that will participate in an 18-month Research Leader Fellowship Program designed to provide training and skill development to individuals who work closely in various capacities as or with Vice Presidents/Vice Provosts/Vice Chancellors for Research (VPR/VCR).*

† *Similar to National Academies of Sciences, Engineering and Medicine, the National Academy of Kinesiology has limited and elected membership (no more than 165 living members from the field).*

**FUNDED GRANTS**  
**(\$8,571,690 in total external funding)**

**ACTIVE FUNDING:** Active funding includes >\$5 million as PI from federal (NIH), industry (Merck), and foundation (PHFoundation) sources, and ~\$1 million as co-Investigator from federal (NIH) and state (MEDC) sources.

2017-2022: **J. Carter (PI):** “Alcohol and Neurovascular Control in Humans” National Institutes of Health – Institute on Alcohol Abuse and Alcoholism (NIAAA); R01 AA-024892-01-A1. \$1,377,030 (direct), \$1,871,688 (total).

2018-2021: J. Durocher (PI), **J. Carter (co-I)**, J. Park (co-I): “Mindfulness and Neural Cardiovascular Control in Humans” National Institutes of Health – Heart, Lung and Blood Institute; R15 HL140596-01. \$300,000 (direct), \$465,854 (total).

2015-2020: **J. Carter (PI)**, J. Lehman (co-I), G. Hembroff (co-I), A. Minerick (co-I), K. Ong (co-I). *Portage Health Foundation and Michigan Tech University: A Partnership to Improve Health Education, Research, Infrastructure, and Local Economic Growth.* Portage Health Foundation. \$2,500,000 (direct).

2017-2019: **J. Carter (PI)**, B. Mokhlesi (co-PI), L. Medalie (co-I): “A Randomized, Double-Blind, Placebo-Controlled Study to Determine the Effect of Suvorexant on Sympathetic Neural Activity and Baroreflex Function in Patients with Chronic Insomnia” Merck Investigator Studies Program. \$444,097 (direct), \$512,314 (total).

2017-2019: J. Baker (PI), **J. Carter (Academic PI)**, J. Diebel (Commercialization PD). “Michigan M-TRAC Innovation Hub –Advanced Applied Materials.” Michigan Economic Development Corporation. \$446,250 (direct), \$525,000 (total).

2014-2018: **J. Carter (PI):** “Sleep Deprivation and Neural Cardiovascular Control in Postmenopausal Women” National Institutes of Health – Heart, Lung and Blood Institute; R15 HL122919. \$300,000 (direct), \$465,000 (total).

**COMPLETED FUNDING:** Completed funding includes >\$700k as PI from federal (NIH) and other sources, and ~\$1.5 million as co-Investigator from federal (DoD), industry (Merck), and state (MEDC) sources.

2014-2016: E. Van Cauter (PI), B. Mokhlesi (co-PI), **J. Carter (co-PI):** “Multi-Level Assessment of Physiologic Hyper-Arousal in Chronic Primary Insomnia: A Case Control Study” Merck Investigator Studies Program. \$401,589 (direct), \$499,353 (total).

2014-2016: J. Baker (PI), **J. Carter (Academic PI)**, J. Diebel (Commercialization PD). “Michigan Translational Research and Commercialization (M-TRAC) – Advanced Applied Materials.” Michigan Economic Development Corporation. \$517,000 (direct).

2014-2015: **J. Carter (PI):** “Cell Culture and Bio-Imaging Core Facility: Promoting Life Sciences Research at Michigan Tech” Michigan Technological University Research Excellence Fund – Infrastructure Enhancement Grant. \$42,000 (direct).

2013-2015: **J. Carter (PI)** and C. Smoot (co-PI): “Sleep Apnea and Neurovascular Control in Humans.” Portage Health Foundation and SuperiorIdeas Crowdfund. \$9,000 (direct) + \$16,000 (in-kind hospital services).

- 2013-2014: A. Ross (PI) and **J. Carter (co-PI)**: “*Sleep Efficiency and Neural Cardiovascular Control in Humans.*” American Physiological Society \$5,600 (direct). [Faculty mentor for Undergraduate Student Fellowship]
- 2012-2013: **J. Carter (PI)** and J. West (sponsor): “*Dissemination of a Novel Teaching Method: Inclusion of Aerospace Physiology within an Exercise Physiology Curriculum*” American Physiological Society; Teaching Career Enhancement Award. \$4,000 (direct)
- 2010-2012: **J. Carter (PI)**: “*Sleep Deprivation and Neurovascular Control in Humans*” National Institutes of Health – Heart, Lung and Blood Institute; R21 HL098676. \$275,000 (direct), \$426,250 (total).
- 2010-2011: **J. Carter (PI)**: “*Influence of Mental Stress on Sympathetic Baroreflex Function: Implications for Post-Spaceflight Orthostatic Intolerance*” National Aeronautics and Space Administration – Michigan Space Grant Consortium (Seed Grant). \$10,000 (direct).
- 2010-2011: C. Schwartz (PI) and **J. Carter (co-PI)**: “*Effects of Caffeine Consumption on Sympathetic Responses to Orthostatic Stress*” National Aeronautics and Space Administration – Michigan Space Grant Consortium (Seed Grant). \$5,000 (direct).
- 2010-2011: K. Lufkin (PI) and **J. Carter (co-PI)**: “*Neural and Cardiovascular Responses to Anxiety Induced by Social Technology Removal*” American Physiological Society \$5,600 (direct). [Faculty mentor for Undergraduate Student Fellowship]
- 2009-2011: **J. Carter (PI)**: “*Fish Oil and Neurovascular Control in Humans: Research Supplement to Promote Diversity in Health-Related Research*” National Institutes of Health – Heart, Lung and Blood Institute; R15 HL088689. \$13,400 (direct), \$20,904 (total).
- 2009-2010: J. Klein (PI) and **J. Carter (co-PI)**: “*Influence of Heat and Mental Stress on Neurovascular Control in Humans*” American Physiological Society \$5,600 (direct). [Faculty mentor for Undergraduate Student Fellowship]
- 2008-2011: **J. Carter (PI)**: “*Fish Oil and Neurovascular Control in Humans*” National Institutes of Health – Heart, Lung and Blood Institute; R15 HL088689. \$150,000 (direct), \$211,490 (total).
- 2008-2010: **J. Carter (PI)**: “*Aerobic Capacity of Elite Collegiate Hockey Players: Sport Specific Assessment*” Portage Sports Medicine Institute. \$10,000 (direct).
- 2008-2009: **J. Carter (PI)** and M. Joyner (sponsor): “*Enhancement of Neural Control and Autonomic Regulation Research Using Limb Blood Flow Methodologies*” American Physiological Society; Research Career Enhancement Award. \$3,000 (direct)
- 2008-2009: J. Durocher (PI) and **J. Carter (co-PI)**: “*Mental Stress during Acute Loading of the Baroreceptors*” National Aeronautics and Space Administration - Michigan Space Grant Consortium. \$5,000 (direct). [Faculty mentor for Graduate Student Fellowship]
- 2007-2008: D. Helton (PI), J. Tan (co-PI), A. Mukherjee (co-PI), Y. Li (co-PI), R. Pastel (co-PI), N. Onder (co-PI), **J. Carter (co-PI)**: “*A Collaborative Laboratory for Human-Robot Interaction*” United States Department of Defense – Defense University Research Instrumentation Program. \$467,017 (direct).

2007-2008: **J. Carter (PI)** and J. Durocher (co-PI): “*Optimizing Lactate Clearance in Collegiate Athletes*” Portage Sports Medicine Institute. \$2,273 (direct), \$2,500 (total).

2007-2008: M. Neuman (PI), J. Adler (co-PI), **J. Carter (co-PI)**. “*Animal Facility Improvement Grant*” Michigan Technological University Research Excellence Fund – Infrastructure Enhancement Grant. \$47,124 (direct).

2007-2008: **J. Carter (PI)**: “*Enhancement of the Exercise Science Research Infrastructure at Michigan Tech*” Michigan Technological University Research Excellence Fund – Infrastructure Enhancement Grant. \$34,520 (direct).

2006-2007: **J. Carter (PI)**: “*The Influence of Reproductive Hormones on Sympathetic Responses to Mental Stress*” Michigan Technological University Research Excellence Fund. \$50,000 (direct).

2006-2007: **J. Carter (PI)**: “*Physiological Gender Differences in Hockey Players during On-Ice Graded Exercise*” Portage Sports Medicine Institute. \$2,273 (direct), \$2,500 (total).

2002-2003: **J. Carter (PI)** and WH Cooke (co-PI): “*Effects of Mental Stress on the Vestibulosympathetic Reflex*” National Aeronautics and Space Administration, Michigan Space Grant Consortium. \$5,000 (direct).

2001-2002: **J. Carter (PI)** and WH Cooke (co-PI): “*Human Neural Organization During Acute Simulated Microgravity*” National Aeronautics and Space Administration, Michigan Space Grant Consortium. \$5,000 (direct).

## PEER-REVIEWED JOURNAL PUBLICATIONS (72 total publications)

### Scientific:

**Carter JR**, Grimaldi D, Fonkoue IT, Medalie L, Mokhlesi B, and Van Cauter E. Assessment of sympathetic neural activity in chronic insomnia: Evidence for elevated cardiovascular risk. *SLEEP* 41:1-9, 2018. Epub March 7, 2018.

Fonkoue IT, Schwartz CE, and **Carter JR**. Sympathetic neural reactivity to mental stress differs in black and non-Hispanic white adults. *Journal of Applied Physiology* 124: 201-201, 2018. Epub Sept 28, 2017.

Hart EC, Head G, **Carter JR**, Wallin BG, May C, Hamza SM, Hall JE, Charkoudian N, and Osborn J. Recording sympathetic nerve activity in conscious humans and other mammals: guidelines and the road to standardization. *American Journal of Physiology - Heart and Circulatory Physiology* 312:H1031-H1051, 2017. Epub March 31, 2017.

Fonkoue IT, Wang M, **Carter JR**. Family history of hypertension and sympathetic neural reactivity to mental stress in humans. *American Journal of Physiology - Heart and Circulatory Physiology* 311:H426-432, 2016. Epub July 1, 2016.

Larson RA and **Carter JR**. Total sleep deprivation and pain perception during cold noxious stimuli in humans. *Scand J Pain* 13:12-16, 2016. Epub June 15, 2016.

Grimaldi D, **Carter JR**, Van Cauter E, and Leproult R. Adverse impact of sleep restriction and circadian misalignment on autonomic function in healthy young adults. *Hypertension* 68:243-250, 2016. Epub June 6, 2016.

**Carter JR**, Fonkoue IT, Grimaldi D, Emami L, Gozal D, Sullivan CE, and Mokhlesi B. Positive airway pressure therapy improves nocturnal beat-to-beat blood pressure surges in obesity hypoventilation syndrome with obstructive sleep apnea. *American Journal of Physiology - Regulatory, Integrative, and Comparative Physiology* 310: R602-R611, 2016. Epub Jan 27, 2016.

Fonkoue IT and **Carter JR**. Mental stress and sympathetic neural reactivity in humans: Test-retest reproducibility. *American Journal of Physiology - Regulatory, Integrative, and Comparative Physiology* 309:R1380-1386, 2015. Epub Sept 23, 2015.

Mokhlesi B, Hagen EW, Finn LA, Hla KM, **Carter JR**, and Peppard PE. Obstructive sleep apnea during REM sleep and incident nondipping of nocturnal blood pressure: A longitudinal analysis of the Wisconsin Sleep Cohort. *Thorax* 70:1062-1069, 2015. Epub Aug 25, 2015.

Harvey RE, Hart EC, Charkoudian N, Curry TB, **Carter JR**, Fu Q, Minson CT, Joyner MJ, and Barnes JN. The relationship between muscle sympathetic nerve activity and hemodynamics in women taking oral contraceptive pills. *Hypertension* 66:590-597, 2015. Epub June 22, 2015.

Durocher JJ, **Carter JR**, Cooke WH, Young AH, Harwood MH. Cerebral blood flow velocity during combined lower body negative pressure and cognitive stress. *Aerospace Medicine and Human Performance* 86:688-692, 2015.

**Carter JR** and Goldstein DS. Sympathoneural and adrenomedullary responses to mental stress. *Comprehensive Physiology* 5: 119-146, 2015.

Yang H, Durocher JJ, Larson RA, and **Carter JR**. Role of the ovarian cycle on neural cardiovascular control in sleep deprived women. *Journal of Applied Physiology* 118: 419-426, 2015. Epub Dec 24, 2014.

**Carter JR** and Ray CA. Sympathetic neural adaptations to exercise training in humans. *Autonomic Neuroscience* 188: 36-43, 2015. Epub Oct 24, 2014.

Eisenach JH, Sprung J, Clark MM, Shanafelt TD, Johnson BD, Kruse TN, Chantigian DP, **Carter JR**, and Long TR. The psychological and physiological effects of acute occupational stress in new anesthesiology residents: a pilot trial. *Anesthesiology* 121:878-893, 2014. Epub Aug 4, 2014.

Ross AJ, Yang H, Larson RA, and **Carter JR**. Sleep efficiency and nocturnal hemodynamic dipping in young, normotensive adults. *American Journal of Physiology - Regulatory, Integrative, and Comparative Physiology* 307:R888-R892, 2014. Epub July 16, 2014.

Chapp A, Gui L, Huber MJ, Liu J, Larson RA, Zhu J, **Carter JR**, and Chen QH. Sympathoexcitation and pressor responses induced by ethanol in the central nucleus of amygdala involves activation of NMDA receptors in rats. *American Journal of Physiology - Heart and Circulatory Physiology* 307:H701-H709, 2014. Epub July 3, 2014.

Yang H and **Carter JR**. Sympathetic and cardiovagal baroreflex sensitivity in humans: Comparison of spontaneous methodologies and Valsalva's maneuver. *Clinical Autonomic Research* 23:133-139, 2013. Epub May 16, 2013.

**Carter JR** Schwartz CE, Yang H, and Joyner MJ. Fish oil and the neurovascular reactivity to mental stress in humans. *American Journal of Physiology - Regulatory, Integrative, and Comparative Physiology* 304:R523-R530, 2013. Epub Feb 13, 2013.

Yang H, Drummer TD, and **Carter JR**. Sex differences in sympathetic neural and limb vascular reactivity to mental stress in humans. *American Journal of Physiology - Heart and Circulatory Physiology* 304:H436-H443, 2013. Epub Nov 30, 2012.

**Carter JR**, Fu Q, Minson CT, and Joyner MJ. The ovarian cycle and sympathoexcitation in premenopausal women. *Hypertension* 61:395-399, 2013. Epub Nov 19, 2012.

Yang H, Durocher JJ, Larson RA, DellaValla JP, and **Carter JR**. Total sleep deprivation alters cardiovascular reactivity to acute stressors in humans. *Journal of Applied Physiology* 113:903-908, 2012. Epub, July 19, 2012

**Carter JR**, Schwartz CE, Yang H, and Joyner MJ. Fish oil and neurovascular control in humans. *American Journal of Physiology - Heart and Circulatory Physiology* 303:H450-H456, 2012. Epub June 15, 2012.

**Carter JR**, Durocher JJ, Larson RA, DellaValla JP, and Yang H. Sympathetic neural responses to 24-hour sleep deprivation in humans: sex differences. *American Journal of Physiology – Heart and Circulation Physiology* 302:H1991-H1997, 2012. Epub March 9, 2012.

Yang H, Cooke WH, Reed KS, and **Carter JR**. Sex differences in hemodynamic and sympathetic neural firing patterns during orthostatic challenge in humans. *Journal of Applied Physiology* 112:1744-1751, 2012. Epub March 8, 2012.

Durocher JJ, Lufkin KM, King ME, and **Carter JR**. Social technology restriction alters state anxiety but not autonomic activity in humans. *American Journal of Physiology - Regulatory, Integrative, and Comparative Physiology* 301:R1773-R1778, 2011. Epub Sept 28, 2011.

Durocher JJ, Klein JC, and **Carter JR**. Attenuation of sympathetic baroreflex sensitivity during the onset of acute mental stress in humans. *American Journal of Physiology - Heart and Circulatory Physiology* 300:H1788-H1793, 2011. Epub Feb 25, 2011.

**Carter JR**, Stream SF, Durocher JJ, and Larson RA. Influence of acute alcohol ingestion on sympathetic neural responses to orthostatic stress in humans. *American Journal of Physiology - Endocrinology and Metabolism* 300:E771-E780, 2011. Epub Feb 15, 2011.

Schwartz CE, Durocher JJ, and **Carter JR**. Neurovascular responses to mental stress in prehypertensive humans. *Journal of Applied Physiology* 110:76-82, 2011. Epub Nov 5, 2010.

Klein JC, Crandall CG, Brothers RM, and **Carter JR**. Combined heat and mental stress alters neurovascular control in humans. *Journal of Applied Physiology* 109:1880-1886, 2010. Epub Sept 30, 2010.

Durocher JJ, Guisfredi AJ, Leetun DT and **Carter JR**. Comparison of on-ice and off-ice graded exercise testing in collegiate hockey players. *Applied Physiology, Nutrition, and Metabolism* 35:35-39, 2010.

Helton WS and **Carter JR**. The effect of investigator gender on lateral membrane tympanic temperature. *Laterality* 17:1-8, 2010.

Lawrence JE, Klein JC and **Carter JR**. Menstrual cycle elicits divergent forearm vascular responses to vestibular activation in humans. *Autonomic Neuroscience* 154:89-93, 2010. Epub Nov 23, 2009.

Ray CA and **Carter JR**. Effects of aerobic exercise training on neural and renal responses to mental stress in humans. *American Journal of Physiology – Heart and Circulatory Physiology* 298:H229-H234, 2010. Epub Nov 13, 2009.

**Carter JR**, Klein JC, and Schwartz CE. Effects of oral contraceptives on sympathetic neural responses to orthostatic stress in young, healthy women. *American Journal of Physiology - Regulatory, Integrative, and Comparative Physiology* 298:R9-R14, 2010. Epub Oct 14, 2009.

Durocher JJ, Schwartz CE, and **Carter JR**. Sympathetic neural responses to mental stress during acute simulated microgravity. *Journal of Applied Physiology* 107:518-522, 2009. Epub June 18, 2009.

**Carter JR**, Lawrence JE, and Klein JC. Menstrual cycle alters sympathetic neural responses to orthostatic stress in young, eumenorrheic women. *American Journal of Physiology - Endocrinology and Metabolism* 297:E85-E91, 2009. Epub April 28, 2009.

**Carter JR** and Ray CA. Sympathetic neural response to mental stress: responders, nonresponders, and sex differences. *American Journal of Physiology - Heart and Circulatory Physiology* 296:H847-H853, 2009. Epub Jan 23, 2009.

**Carter JR**, Durocher JJ, and Kern RP. Neural and cardiovascular responses to emotional stress in humans. *American Journal of Physiology - Regulatory, Integrative, and Comparative Physiology* 295:R1898-R1903, 2008. Epub Sept 10, 2008.

Durocher JJ, Leetun DT, and **Carter JR**. Sport-specific assessment of lactate threshold and aerobic capacity throughout a collegiate hockey season. *Applied Physiology, Nutrition, and Metabolism* 33:1165-1171, 2008.

Lawrence JE, Ray CA and **Carter JR**. Vestibulosympathetic reflex during the early follicular and mid-luteal phases of the menstrual cycle. *American Journal of Physiology - Endocrinology and Metabolism* 294:E1046-E1050, 2008. Epub Apr 8, 2008.

Kuipers NT, Sauder CL, **Carter JR**, and Ray CA. Neurovascular responses to mental stress in the supine and upright postures. *Journal of Applied Physiology* 104:1129-1136, 2008. Epub Jan 24, 2008.

Durocher JJ, Jensen DR, Arredondo AL, Leetun DL, and **Carter JR**. Gender differences in hockey players during on-ice graded exercise. *Journal of Strength and Conditioning Research* 22:1327-1331, 2008.

**Carter JR** and Ray CA. Sympathetic responses to vestibular activation in humans. *American Journal of Physiology - Regulatory, Integrative, and Comparative Physiology* 294:R681-R689, 2008. Epub Jan 16, 2008.

**Carter JR** and Lawrence JE. Effects of the menstrual cycle on sympathetic neural responses to mental stress in humans. *Journal of Physiology (London)* 585(Part 2):635-641, 2007. Epub Oct 11, 2007.

Ray CA and **Carter JR**. Central modulation of exercise-induced muscle pain in humans. *Journal of Physiology (London)* 585(Part 1):287-294, 2007. Epub Oct 11, 2007.

**Carter JR** and Ray CA. Effects of dimenhydrinate on autonomic activity in humans. *Clinical Autonomic Research* 17:186-92, 2007. Epub Mar 25, 2007.

**Carter JR**, Kupiers NT, and Ray CA. Neurovascular responses to mental stress. *Journal of Physiology (London)* 564(Part 1):321-327, 2005. Epub Feb 10, 2005.

Cooke WH and **Carter JR**. Strength training does not affect vagal-cardiac control or cardiovagal baroreflex sensitivity in young healthy subjects. *European Journal of Applied Physiology* 93:719-725, 2005. Epub Oct 29, 2004.



**Carter JR**, Cooke WH, and Ray CA. Forearm neurovascular responses during mental stress and vestibular activation. *American Journal of Physiology - Heart and Circulatory Physiology* 288:H904-H907, 2005. Epub Oct 14, 2004.

Cooke WH, **Carter JR**, and Kuusela TA. Human cerebrovascular and autonomic rhythms during vestibular activation. *American Journal of Physiology - Regulatory, Integrative, and Comparative Physiology* 286:R838-843, 2004. Epub Jan 8, 2004.

Cooke WH, **Carter JR**, and Kuusela TA. Muscle sympathetic nerve activation during the Valsalva maneuver: interpretive and analytical caveats. *Aviation, Space, and Environmental Medicine* 74:731-737, 2003.

**Carter JR**, Ray CA, Downs EM, and Cooke WH. Strength training reduces arterial blood pressure but not sympathetic neural activity in young normotensive subjects. *Journal of Applied Physiology* 94:2212-2216, 2003. Epub Jan 31, 2003.

Ray CA and **Carter JR**. Vestibular activation of sympathetic nerve activity. *Acta Physiologica Scandinavica* 177:313-319, 2003.

**Carter JR**, Sauder CL, and Ray CA. Effect of morphine on sympathetic nerve activity in humans. *Journal of Applied Physiology* 93:1764-1769, 2002.

**Carter JR**, Ray CA, and Cooke WH. Vestibulosympathetic reflex during mental stress. *Journal of Applied Physiology* 93:1260-1264, 2002.

Cooke WH, Reynolds BV, Yandl MG, **Carter JR**, Tahvanainen KUO, and Kuusela TA. Effects of exercise training on cardiovagal and sympathetic responses to Valsalva's maneuver. *Medicine and Science in Sports and Exercise* 34:928-935, 2002.

### **Educational:**

Templin TJ, Carter JR, and Graber KC. Promoting quality education in kinesiology. *Kinesiology Review* 7:277-278, 2018.

Elmer SJ, Joyner MJ, and **Carter JR**. Two-hour marathon: What do students think? *Advances in Physiology Education* 41:522-525, 2017.

**Carter JR**, Williams NI, and Chodzko-Zajko WJ. Building department visibility and support through strategic partnerships and innovation. *Kinesiology Review* 5:244-250, 2016.

**Carter JR**, McCullagh P and Krieder R. Innovation and entrepreneurship within kinesiology: Survey results from the 2016 AKA workshop. *Kinesiology Review* 5:205-214, 2016.

Elmer SJ, Carter KR, Armga AJ, and **Carter JR**. Blended learning within an undergraduate exercise physiology laboratory. *Advances in Physiology Education* 40:64-69, 2016.

**Carter JR** and West JB. Space physiology within an exercise physiology curriculum. *Advances in Physiology Education* 37:220-226, 2013.

### **Editorials:**

**Carter JR** and Mokhlesi B. Sex differences in the risk of incident hypertension with sleep apnea: Does postmenopausal status matter? *Chest* (In Press)

**Carter JR.** Taking a *sympathetic* approach to posttraumatic stress disorder. *Journal of Physiology (London)* 595:4569-4570, 2017. Epub June 6, 2017.

**Carter JR** and Cooke WH. Sympathetic nerve activity and blood pressure: Who leads, who follows and why sex matters. *Journal of Physiology (London)* 594:4705-4706, 2016.

Mokhlesi B and **Carter JR.** Growing evidence linking REM OSA to hypertension. *Chest* 150:475-477, 2016.

Mokhlesi B and **Carter JR.** Efficacy of CPAP modalities in lowering blood pressure in OSA: Does the method used to measure blood pressure matter? *Thorax* 71:677-678, 2016. Epub June 14, 2016.

Wehrwein EA and **Carter JR.** The mind matters: psychology as an overlooked variable within physiology. *Physiology* 31:74-75, 2016.

**Carter JR,** Fu Q, Minson CT, and Joyner MJ. Response to roles of sex steroid hormones and nitric oxide in the regulation of sympathetic nerve activity in women. *Hypertension* 61:37, 2013.

**Carter JR.** Testosterone and sympathetic nerve activity during pregnancy. *Hypertension* 61:44, 2013. Epub March 25, 2013.

**Carter JR.** Sympathetic neural tone: Large and in charge throughout pregnancy. *Journal of Physiology (London)*. 590:3411-3412, 2012.

#### PEER-REVIEWED JOURNAL PUBLICATIONS (Submitted/Under Review)

**Carter JR.** Microneurography: A decade-by-decade journey across 50 years. *Journal of Neurophysiology*. JN-00570-2018. [INVITED REVIEW]

Greenlund IM, Suriano PE, Elmer SJ, **Carter JR,** and Durocher JJ. Chronic standing desk use and arterial stiffness. *Medicine and Science in Sports and Exercise* MSSE-S-18-01173.

#### ABSTRACT PUBLICATIONS (71 total abstracts)

Grimaldi D, **Carter JR,** Medali L, Whitmore H, Mokhlesi B, and Van Cauter E. Chronic insomnia and altered nocturnal blood pressure and heart rate modulation. *Sleep* 41:A160-A161, 2018.

Greenlund IM, Fonkoue IT, Schwartz CE, Smoot CA, Ehrmann DA, Mokhlesi B, and **Carter JR.** Sex differences in sympathetic neural responses to total sleep deprivation in older adults: Implications for postmenopausal hypertension. *Sleep* 41:A104, 2018.

Adomeit JL, Gervais BM, Dietrich SL, Mokhlesi B, and **Carter JR.** Sex differences in objective and subjective sleep in collegiate athletes. *Medicine and Science in Sports and Exercise* 50:98, 2018.

Fonkoue IT, Greenlund IM, Schwartz CE, Smoot CA, Mokhlesi B, and **Carter JR.** Sleep deprivation and sympathetic neural control in older adults. *Federation of American Societies for Experimental Biology* 32:730.5, 2018.

Holwerda SW, **Carter JR**, Yang H, Pierce GL, and Fadel PJ. Spontaneous baroreflex control of muscle sympathetic nerve activity in humans: Standardizing analysis procedures. *Federation of American Societies for Experimental Biology* 32:595.8, 2018.

**Carter JR**, Grimaldi D, Fonkoue IT, Medalie L, Mokhlesi B, and Van Cauter E. Sympathoneural and cardiovascular hyperarousal in chronic insomnia. *Sleep* 40: A113, 2017.

**Carter JR**, Grimaldi D, Fonkoue IT, Medalie L, Mokhlesi B, and Van Cauter E. Sympathetic neural control in chronic insomnia. *Federation of American Societies for Experimental Biology* 31:1086.6, 2017.

Fonkoue IT, Schwartz CE, Gervais BM, and **Carter JR**. Black adults display reduced sympathetic reactivity to mental stress compared to non-Hispanic white adults. *Federation of American Societies for Experimental Biology* 31:720.4, 2017.

Wakeham TR, Fonkoue IT, Durocher JJ, Cooke WH, and **Carter JR**. Reliability of heart rate variability as an assessment of cardiac sympathetic activity in humans. *Federation of American Societies for Experimental Biology* 31:1071.6, 2017.

**Carter JR**, Grimaldi D, Fonkoue IT, Medalie L, Whitmore H, Msallek S, Mokhlesi B, Van Cauter E. Sympathetic neural and cardiovascular control in chronic insomnia. *Sleep* 39: A180-A181, 2016.

Fonkoue IT, Gervais B, Chen QH, and **Carter JR**. Acute alcohol consumption blunts the muscle sympathetic nerve activity response to mental stress in humans. *Federation of American Societies for Experimental Biology* 30:757.12, 2016.

**Carter JR** and Fonkoue IT. Does trait anxiety influence muscle sympathetic nerve activity responsiveness in humans? *Federation of American Societies for Experimental Biology* 30:1238.12, 2016.

Elmer SJ, Carter KR, Armga AJ, and **Carter JR**. Blended learning within an undergraduate exercise physiology laboratory. *Federation of American Societies for Experimental Biology* 30:776.31, 2016.

**Carter JR**, Fonkoue IT, Grimaldi D, Emami L, Gozal D, and Mokhlesi B. Positive airway pressure therapy improves nocturnal beat-to-beat blood pressure reactivity in patients with obesity hypoventilation syndrome. *Federation of American Societies for Experimental Biology* 30:758.4, 2016.

Chapp AD, Driscoll KM, Shan Z, **Carter JR**, and Chen QH. Intra-neuronal acidification with acetic acid, an ethanol metabolite, increases excitability of central nucleus of amygdala neurons with axon projecting to rostral ventrolateral medulla (CeA-RVLM). *Federation of American Societies for Experimental Biology* 30:992.8, 2016.

Wakeham TW, Fonkoue IT, Wang M, **Carter JR** and Durocher JJ. Predicting muscle sympathetic nerve activity and mean arterial blood pressure responses to mental stress. *Federation of American Societies for Experimental Biology* 30:994.4, 2016.

Fonkoue IT, Wang M, and **Carter JR**. Family history of hypertension and sympathetic neural reactivity to mental stress in humans. *Hypertension* 66:A036, 2015.

Fonkoue IT, Chen QH, and **Carter JR**. Acute oral ingestion of alcohol modulates muscle sympathetic neural activity differently in Caucasians and African Americans. *Federation of American Societies for Experimental Biology* 29:652.15, 2015.

Wakeham T, Harwood MH, **Carter JR**, and Durocher JJ. Obesity and neural cardiovascular responses to mental stress in humans. *Federation of American Societies for Experimental Biology* 29:806.5, 2015.

Chapp AD, Huber MJ, Gui MJ, **Carter, JR**, and Chen QH. Acetate is an active metabolite of ethanol: Increases firing and evokes inward currents through activation of NMDA receptors in RVLM projecting CeA neurons. *Federation of American Societies for Experimental Biology* 29:652.12, 2015.

Chen QH, Chapp AD, Larson RA, Huber MJ, Gui MJ, **Carter JR**. Acetate increases firing and evokes inward currents through activation of NMDA receptors in RVLM projecting CeA neurons. *Alcoholism – Clinical and Experimental Research*. 38:163A, 2014.

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Chapp A, Larson RA, Huber M, **Carter JR**, and Chen QH. Ethanol metabolite increases activity of CeA neurons and requires activation of local NMDA receptors. *Federation of American Societies for Experimental Biology* 28:1125.5, 2014.

Harwood MH, Strong CR, DeCramer C, **Carter JR**, and Durocher JJ. Reliability of finger blood pressures with simultaneous ipsilateral radial applanation tonometry. *Federation of American Societies for Experimental Biology* 28:1156.11, 2014.

Larson RA, Yang H, Durocher JJ, and **Carter JR**. Total sleep deprivation and pain perception during cold noxious stimuli in humans: Role of sex. *Federation of American Societies for Experimental Biology* 28:1106.8, 2014.

Fonkoue IT, King ME, Durocher JJ, and **Carter JR**. Mental stress and cardiovascular reactivity in humans: A time-dependent response. *Federation of American Societies for Experimental Biology* 28:852.6, 2014.

Ross AJ, Yang H, Larson RA, and **Carter JR**. Sleep efficiency associated with nocturnal blood pressure and heart rate dipping in young adults. *Federation of American Societies for Experimental Biology* 28:883.1, 2014.

**Carter JR**, Yang H, Durocher JJ, Larson RA, and DellaValla JP. The role of the ovarian cycle on neural cardiovascular control in sleep deprived women. *Clinical Autonomic Research* 23(5):256, 2013.

**Carter JR**, Durocher JJ, Yang H, and Larson RA. Effects of the ovarian cycle on sympathetic neural and cardiovascular control during total sleep deprivation in humans. *Sleep* 36:A400, 2013.

Yang H, Durocher JJ, Larson RA, **Carter JR**. Ovarian cycle, total sleep deprivation, and cardiovascular reactivity in humans. *Sleep* 36:A402, 2013.

**Carter JR** and West JB. Aerospace physiology within an exercise physiology curriculum. *Federation of American Societies for Experimental Biology* 27:517.15, 2013.

**Carter JR**, Schwartz CE, Yang H, and Joyner MJ. Fish oil and neurovascular reactivity to mental stress in humans. *Federation of American Societies for Experimental Biology* 27:1192.1, 2013.

Yang H and **Carter JR**. Sympathetic and cardiovagal baroreflex sensitivity in humans: Comparison of Valsalva's maneuver and spontaneous methodologies. *Federation of American Societies for Experimental Biology* 27:1117.4, 2013.

Young AH, Strong CR, Cooke WH, **Carter JR**, and Durocher JJ. The influence of combined lower body negative pressure and mental stress on cerebral blood flow in men and women. *Federation of American Societies for Experimental Biology* 27:1186.9, 2013.

**Carter JR**, Yang H, and Drummer TD. Sex differences in limb vascular reactivity to mental stress in humans. *Clinical Autonomic Research* 22(5):226, 2012.

Yang H, Durocher JJ, Larson RA, DellaValla JP, and **Carter JR**. Sleep deprivation augments cardiovascular reactivity to acute stress in humans *Clinical Autonomic Research* 22(5):242, 2012.

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**Carter JR**, Durocher JJ, Larson RA, DellaValla JP, and Yang H. Sleep deprivation and neural cardiovascular reactivity in humans. *Sleep* 35:A418, 2012.

Yang H, Durocher JJ, Larson RA, DellaValla JP, and **Carter JR**. Influence of 24-hour sleep deprivation on sympathetic and cardiovagal baroreflex function in humans. *Sleep* 35:A122, 2012.

Larson RA, Durocher JJ, DellaValla JP, and Yang H, **Carter JR**. Influence of sleep deprivation on cardiovascular reactivity and pain perception to cold pressor test. *Sleep* 35:A121, 2012.

Durocher JJ, Witting JL, Drummer TD, and **Carter JR**. Influence of night shift on sleep-wake cycle, 24-hour blood pressure and state anxiety. *Sleep* 35:A209, 2012.

**Carter JR**, Fu Q, Minson MT, and Joyner MJ. Menstrual cycle and sympathetic neural activity in humans: A retrospective study. *Federation of American Societies for Experimental Biology* 26:1091.41, 2012.

Durocher JJ and **Carter JR**. Influence of body mass index on neural cardiovascular reactivity to mental stress in humans. *Federation of American Societies for Experimental Biology* 26.1091.40, 2012.

Larson RA, Durocher JJ, Yang H, DellaValla JP, and **Carter JR**. Influence of 24-hour sleep deprivation on anxiety and cardiovascular reactivity in humans. *Federation of American Societies for Experimental Biology* 26.684.15, 2012.

Schwartz CE, Joyner MJ, Yang H, and **Carter JR**. Fish oil and sympathetic nerve activity in normotensive and prehypertensive humans. *Federation of American Societies for Experimental Biology* 26.1092.2, 2012.

Yang H, Durocher JJ, Larson RA, DellaValla JP, and **Carter JR**. Sex differences in sympathetic neural responses to 24-hour sleep deprivation in humans. *Federation of American Societies for Experimental Biology* 26:893.12, 2012.

Durocher JJ, Larson RA, DellaValla JP, and **Carter JR**. Influence of sleep deprivation on state-anxiety and arterial blood pressure in humans. *Sleep* 34:A104, 2011.

Yang H, Cooke WH, Reed KS, and **Carter JR**. Sex-related differences in firing patterns on integrated muscle sympathetic nerve activity in humans. *Federation of American Societies for Experimental Biology* 25:647.2, 2011.

Durocher JJ, Larson RA, and **Carter JR**. Acute alcohol ingestion lengthens sympathetic burst latency in humans. *Federation of American Societies for Experimental Biology* 25:647.2, 2011.

Schwartz CE, Joyner MJ, Durocher JJ, and **Carter JR**. Influence of omega-3 fatty acids on neurovascular responses to mental stress in normotensive humans. *Federation of American Societies for Experimental Biology* 25:647.14, 2011.

**Carter JR**, Durocher JJ, Schwartz CE, and Klein JC. Mental stress attenuates sympathetic baroreflex sensitivity in humans. *Clinical Autonomic Research* 20(5):315, 2010.

Klein JC, Crandall CG, Brothers RM, and **Carter JR**. Combined heat and mental stress alters neurovascular control in humans. *Federation of American Societies for Experimental Biology* 24:1020.9, 2010.

Schwartz CE, Durocher JJ, and **Carter JR**. Prehypertension alters arterial pressure and forearm vascular responses to mental stress in humans. *Federation of American Societies for Experimental Biology* 24:1020.8, 2010.

Stream SF, Schwartz CE, Klein JC, and **Carter JR**. Acute alcohol ingestion blunts arterial pressure but not sympathetic neural responses to orthostatic stress in humans. *Federation of American Societies for Experimental Biology* 24:1020.5, 2010.

**Carter JR**, Klein JC, and Schwartz CE. Effects of oral contraceptives on sympathetic neural responses to orthostatic stress in young, healthy women. *Clinical Autonomic Research* 19(5):285, 2009.

Ray CA and **Carter JR**. Effects of aerobic exercise training on sympathetic and renal responses to mental stress in humans. *Clinical Autonomic Research* 19(5):286, 2009.

**Carter JR**, Klein JC, Lawrence JE, Cross JL. Sympathetic neural responses to lower body negative pressure during early follicular and midluteal phases of the menstrual cycle. *Federation of American Societies for Experimental Biology* 23:786.5, 2009.

Lawrence JE, Klein JC, **Carter JR**. Effects of oral contraceptives on sympathetic baroreflex sensitivity during Valsalva's maneuver. *Federation of American Societies for Experimental Biology* 23:786.4, 2009.

Lucas AK, Drummer TD, **Carter JR**. Effects of pediatric adiposity on heart rate variability. *Federation of American Societies for Experimental Biology* 23:612.5, 2009.

Durocher JJ, Schwartz CE, and **Carter JR**. Mental stress during acute loading of the baroreceptors. *Federation of American Societies for Experimental Biology* 23:786.9, 2009.

**Carter JR** and Ray CA. Muscle sympathetic nerve activity during mental stress: responders vs. nonresponders. *Clinical Autonomic Research* 18(5):243, 2008.

Durocher JJ, Bustos DJ, Schwartz CE, and **Carter JR**. Post-game cycling does not enhance blood lactate removal in collegiate hockey players. *The Physiologist* 51(6):22.13, 2008.

Lawrence JE, Lucas AK, Ray CA, and **Carter JR**. Vestibulosympathetic reflex during the early follicular and mid-luteal phases of the menstrual cycle. *Federation of American Societies for Experimental Biology* 22:740.4, 2008.

Durocher JJ, Kern JP, and **Carter JR**. Effects of emotional and mental stress on muscle sympathetic nerve activity in humans. *Federation of American Societies for Experimental Biology* 22:740.6, 2008.

**Carter JR** and Ray CA. Effect of dimenhydrinate on the vestibulosympathetic reflex and baroreflexes in humans. *Federation of American Societies for Experimental Biology* 21:612.10, 2007.

**Carter JR**, Kupiers NT, Cooke WH, and Ray CA. Forearm vascular responses during mental stress and vestibular activation. *Federation of American Societies for Experimental Biology* 18(4), 2004.

**Carter JR**, Cooke WH, and Ray CA. Mental stress and cardiovascular control: a comprehensive examination. *Federation of American Societies for Experimental Biology* 17(4), 2003.

Cooke WH, Pellegrini GL, and **Carter JR**. Hemodynamic and neural adaptations to circuit weight training. *Medicine and Science in Sports and Exercise* 35(5), 2003.

**Carter J**, Cooke W, and Ray C. Vestibulosympathetic reflex during mental stress. *Clinical Autonomic Research* 12:299, 2002.

Martin SE, Grandjean PW, Cooke WH, **Carter JR**, and Crouse SF. The influence of resistance training on blood lipid responses to resistance exercise. *Medicine and Science in Sports and Exercise* 34(5) Suppl. S260, 2002.

**Carter JR**, Downs EM, and Cooke WH. Resistance training reduces resting arterial pressure but not muscle sympathetic nerve activity. *Medicine and Science in Sports and Exercise* 34(5) Suppl. S295, 2002.

## INVITED NATIONAL & INTERNATIONAL ORAL PRESENTATIONS

### American Autonomic Society

2013	Featured Oral (Session Co-Chair and Speaker)	<i>Session: Microneurography and Cardiovascular Reflexes in Humans</i> Role of the Ovarian Cycle on Neural Cardiovascular Control in Sleep Deprived Women	Big Island, HI
2012	Featured Oral (Speaker)	Sleep Deprivation Augments Cardiovascular Reactivity to Acute Stress in Humans	Paradise Island, Bahamas
2010	Featured Oral (Session Co-Chair)	Control of Sympathetic Nerve Activity and Blood Flow in Humans	Marco Island, FL
2010	Featured Oral (Speaker)	Mental Stress Attenuates Sympathetic Baroreflex Sensitivity in Humans	Marco Island, FL
2009	Featured Oral (Speaker)	Effects of Oral Contraceptives on Sympathetic Neural Responses to Orthostatic Stress in Women	St. Thomas, Virgin Islands
2009	Featured Oral (Speaker)	Effects of Aerobic Exercise Training on Sympathetic and Renal Responses to Mental Stress in Humans	St. Thomas, Virgin Islands

2008	Featured Oral (Speaker)	Muscle Sympathetic Nerve Activity during Mental Stress: Responders vs. Nonresponders	Kauai, HI
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**American College of Sports Medicine**

2011	Tutorial Lecture (Session Co-Chair and Speaker)	Autonomic Adjustments to Mental Stress: Historical Perspectives and Future Directions	Denver, CO
2009	Symposium (Speaker)	Stress Physiology – Neurovascular Responses to Mental Stress ( <i>Mid-Atlantic Meeting</i> )	Harrisburg, PA

**American Kinesiology Association**

2016	Featured Oral (Session Chair and Speaker)	<i>Session: Building Support Within The Department</i> Building Departmental Support through Strategic Partnerships	San Antonio, TX
2016	Featured Oral (Speaker)	2016 AKA Workshop Survey: Innovation and Entrepreneurship in a Time of Shrinking Budgets	San Antonio, TX

**Federation of American Societies for Experimental Biology**

2017	Symposium (Speaker)	Consequences of Sleep Deprivation and Circadian Misalignment on Sympathoneural and Adrenomedullary Control	Chicago, IL
2016	Featured Topic (Session Co-Chair and Speaker)	<i>Session – The Mind Matters: Psychology as an Overlooked Variable in Autonomic Physiology</i> Does Trait Anxiety Influence Muscle Sympathetic Nerve Activity Responsiveness in Humans?	San Diego, CA
2014	XSEC Symposium (Session Co-Chair and Speaker)	<i>Session - Sleepless in San Diego: Is Sleep Deprivation the New Silent Killer?</i> Sleep Deprivation, Sleep Apnea, and Neurovascular Control in Humans	San Diego, CA
2012	Featured Topic (Session Co-Chair)	Neural Control and Autonomic Regulation: Trainee Featured Topic	San Diego, CA
2010	Symposium (Session Co-Chair and Speaker)	<i>Session - Autonomic Adjustments to Stress</i> Differential Patterns of Sympathetic Neural Activity During Mental Stress	Anaheim, CA
2004	Featured Topic (Trainee Speaker)	Forearm Vascular Responses to Mental Stress and Otolithic Activation	Washington, D.C.

**Gordon Conference**

2018	Symposium (Session Speaker)	<i>Session – Sleep, Sleep Loss and Vascular Control</i> Neural Cardiovascular Control in Sleep Deprivation: Individual Responses	Galveston, TX
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**The Physiological Society (PhysSoc)**



2011	Symposium (Session Co-Chair and Speaker)	<i>Session – Sex and Autonomic Control in Humans</i> Sex and Sympathetic Neural Firing Patterns in Humans	Oxford, England
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## **SLEEP**

2017	Symposium (Speaker)	Sympathetic Neural Activity in Chronic Insomnia	Boston, MA
2016	Featured Oral (Speaker)	Sympathetic Neural and Cardiovascular Control in Chronic Insomnia	Denver, CO
2014	Symposium (Speaker)	Sleep Deprivation and Neural Cardiovascular Control in Humans: Does Sex Matter?	Minneapolis, MN
2013	Featured Oral (Speaker)	Effects of the Ovarian Cycle on Sympathetic Neural and Cardiovascular Control after Total Sleep Deprivation	Baltimore, MD

## **COMMUNITY AND CAMPUS OUTREACH**

***Importance of Sleep for High School Health and Performance.*** Houghton-Portage Township Schools, Houghton, MI [March, 2018]. Provided a presentation to over 400 high schoolers on the importance of sleep to their health and school performance

***Importance of Sleep for Middle School Health and Performance.*** Houghton-Portage Township Schools, Houghton, MI [February, 2018]. Provided a presentation to over 300 middle schoolers on the importance of sleep to their health and school performance.

***MTU Research Development Day.*** Michigan Technological University, Houghton, MI [Jan, 2018]. Organized and facilitated a daylong training for both junior and senior faculty, with engaging case studies and federal agency presentations. Approximately 80 faculty and staff participated.

***VPR Office Review Workshop: New Clinical Trials Definitions and Requirements.*** Michigan Technological University, Houghton, MI [November, 2017] Featured speakers to discuss the new NIH “clinical trials” definition, and the additional forms and review criteria. Lunch workshop sponsored by the Vice President for Research office.

***Concussions, Strength and Conditioning, and Sleep: Impact for High School and Middle School Student-Athletes.*** Copper Country Intermediate School District. Houghton, MI [October, 2017]. Co-director of a 1 day workshop for high school and middle school teachers (area in-service day) focused on sports concussions, best-practices in youth strength and conditioning, and sleep.

***Physiology Understanding (PhUn) Week Coordinator.*** Copper Country Intermediate School District. Houghton, MI [October, 2017]. Facilitated and organized visits by ~30 Michigan Tech undergraduate students into elementary, middle, and high schools to explore exercise physiology.

***MTU Research Development Day.*** Michigan Technological University, Houghton, MI [Jan, 2017]. Organized and facilitated a daylong training for both junior and senior faculty, with engaging case studies and federal agency presentations. Approximately 55 faculty and staff participated.

**Physiology Understanding (PhUn) Week Coordinator.** Copper Country Intermediate School District. Houghton, MI [October, 2016]. Facilitated and organized visits by ~24 Michigan Tech undergraduate students into elementary, middle, and high schools to explore exercise physiology.

**VPR Office Review Workshop: Navigating RePorter.** Michigan Technological University, Houghton, MI [March, 2013] One of two featured speakers to discuss NIH tips, with an emphasis on using RePorter; afternoon workshop sponsored by the Vice President for Research office.

**VPR Office Review Workshop: National Research Service Award (NRSA).** Michigan Technological University, Houghton, MI [March, 2011] One of two featured speakers to discuss NIH NRSA applications; afternoon workshop sponsored by the Vice President for Research office.

**VPR Office Review Workshop: Peer-Review Process.** Michigan Technological University, Houghton, MI [November, 2010] One of four featured speakers to discuss NIH review process; afternoon workshop sponsored by the Vice President for Research office.

**Strategic Faculty Hiring Initiative in Health.** Michigan Technological University, Houghton, MI [March, 2009] One of three finalist for a strategic faculty hiring initiative at Michigan Tech. Our proposal was accepted by upper administration and Michigan Tech Board of Control, with 10 planned hires in fiscal years 2010 and 2011.

**Physical Education and Athletics: More than X's and O's.** Copper Country Intermediate School District. Houghton, MI [October, 2008] Co-director of a 1 day workshop for high school and middle school teachers (area in-service day).

**Science Explorations at Michigan Tech: Exercise Science.** Houghton Middle School, Houghton, MI [May, 2008] Director of a 2 day workshop with 6 sessions.

**Exercise Science, Health and Physical Education at Michigan Tech.** Copper Country Guidance Counselors, Houghton, MI [December, 2007]

**Exercise Science at Michigan Tech.** Hancock Rotary, Hancock, MI [November, 2006] and Houghton Rotary, Houghton, MI [January, 2007]

**Cardiovascular Disease in America: Are You at Risk?** Science Department, Cass Tech High School, Detroit, MI [November, 2006]

**Physical Activity at Michigan Tech: What are Your Options?** Graduate School, Michigan Technological University, Houghton, MI [August, 2006]

**High School Science in a United States Classroom: a Teacher's Perspective.** Korean Teachers Summer Institute, Department of Education, Michigan Technological University, Houghton, MI [August, 2004]

## GRADUATE STUDENT ADVISORY – IN PROGRESS

### PRIMARY ADVISOR:

Ian Greenlund	PhD candidate, Integrative Physiology	05/2018 – present
Hannah Cunningham	MS candidate, Kinesiology	08/2018 – present

### COMMITTEE MEMBER:

Jeremy Bigalke	MS candidate, Kinesiology	01/2018 – present
Josh Gonzalez	PhD candidate, Integrative Physiology	08/2017 – present

## GRADUATE STUDENT ADVISORY – COMPLETED

**PRIMARY ADVISOR:** (9 students-- 5 Ph.D. and 4 M.S. awarded)

**Ida Fonkoue, Ph.D. (December, 2016)**

Biological Sciences, Michigan Technological University

*Sympathetic Neural Reactivity to Stress in Humans: Reliability, Heredity and Race*

Accepted a post-doctoral fellowship with Dr. Jeanie Parks at Emory Medical School (Atlanta, GA)

**Huan Yang, Ph.D. (August, 2013)**

Biological Sciences, Michigan Technological University

*Influence of 24-hour Sleep Deprivation on Cardiovascular and Neural Control and Rest and during Stress Tests in Humans*

Currently a post-doctoral fellow Dr. Janet Mullington at Harvard Medical School (Boston, MA)

**Robert A. Larson, M.S. (December, 2012)**

Biological Sciences, Michigan Technological University

*Sleep Deprivation and Pain Intensity in Humans*

Currently pursuing a Ph.D. with Dr. Qing-Hui Chen at Michigan Technological University (Houghton, MI)

**Sarah F. Stream, M.S. (August, 2012)**

Biological Sciences, Michigan Technological University

*Acute Alcohol Ingestion and Sympathetic Neural Responses during Orthostatic Stress*

Currently pursuing a Doctorate in Physical Therapy at University of Wisconsin (Madison, WI)

**Christopher E. Schwartz, Ph.D. (December, 2011)**

Biological Sciences, Michigan Technological University

*Omega-3 Fatty Acids and the Neurovascular Responses to Mental Stress in Humans*

Currently a Lecturer for the Department of Health & Human Physiology (Iowa City, IA)

**Jennifer L. Witting, M.S. (December, 2011)**

Biological Sciences, Michigan Technological University

*Effects of Fixed Night Shift Work on 24 Hour Blood Pressure, State Anxiety Levels and Total Sleep Time*

Currently working for Aspirus Hospital (Calumet, MI).

**Johnathan E. Lawrence, Ph.D. (May, 2009)**

Biological Sciences, Michigan Technological University

*Effects of Endogenous Female Gonadal Hormones on the Vestibulosympathetic Reflex*

Currently a post-doctoral fellow with Dr. Robert Winn at Northern Michigan University (Marquette, MI)

**Angela K. Lucas, M.S. (May, 2009)**

Biological Sciences, Michigan Technological University

*Effects of Pediatric Adiposity on Heart Rate Variability*

Currently the Director of Community Health at Portage Health Hospital (Houghton, MI)

**John J. Durocher, Ph.D. (December, 2008)**

Biological Sciences, Michigan Technological University

*Aerobic Fitness and Lactate Metabolism in Collegiate Hockey Players*

Currently an assistant professor of Biological Sciences at Michigan Tech University (Houghton, MI)

**COMMITTEE MEMBER:** (2 Ph.D. and 3 M.S. awarded)

**Ian Greenlund, M.S. (May, 2018)**

Biological Sciences, Michigan Technological University

**Andrew Chapp, Ph.D. (Dec, 2017)**

Biological Sciences, Michigan Technological University

**Robert A. Larson, Ph.D. (May, 2016)**

Biological Sciences, Michigan Technological University

**John J. Durocher, M.S. (May, 2006)**

Exercise Science, Northern Michigan University

**Jason E. Mayes, M.S. (December 2004)**

Mechanical Engineering, Michigan Technological University

**UNDERGRADUATE STUDENT RESEARCH ADVISORY**

- 2018 Bo Depuis, Courtney Kurkie, Elizabeth Bloch, Hannah Cunningham, Abbie Botz, Morgan Colling
- 2017 Stephanie Deitrich, Courtney Kurkie, Elizabeth Bloch, Hannah Cunningham, Nick Carlson
- 2016 Stephanie Deitrich, Abbie Botz, Courtney Kurkie, Elizabeth Bloch, Hannah Cunningham
- 2015 Brett Gervais, Alyssa Chappman, Maria Frick
- 2014 Abby DeWitt, Kate Gladowski
- 2013 Abby DeWitt, Kate Gladowski, Taylor Kaurala
- 2012 Taylor Kaurala, Michelle King, Eli Gerard
- 2011 Melanie Hoffman, Michelle King, Kristen Reed
- 2010 Michelle King, Jenna Klein, Kelly Lufkin, Kristen Reed
- 2009 Angela Guisfredi, Jenna Klein, Kristen Reed, Ashley Yenior
- 2008 Derek Bustos, Jessica Cross, Jenna Klein
- 2007 Sarah Stream
- 2006 Aaron Arredondo

**GRADUATE/POST-DOCTORAL TRAINEE RESEARCH AWARDS**

**EXTERNAL AWARDS**

*I have mentored 6 graduate students and 1 post-doctoral fellow who received the Caroline tum Suden Award from the American Physiological Society, and 2 graduate students who received the Michigan Space Grant Consortium Graduate Research Fellowship from the National Aeronautics and Space Administration.*

- 2015 Ida T. Fonkoue, PhD (graduate student)  
Outstanding Graduate Student Oral Award  
Michigan Physiological Society
- 2015 Ida T. Fonkoue, PhD (graduate student)  
Caroline tum Suden/Francis A. Hellebrandt Professional Opportunity National Award  
American Physiological Society
- 2014 Robert A. Larson, PhD (graduate student)  
Caroline tum Suden/Francis A. Hellebrandt Professional Opportunity National Award  
American Physiological Society (Declined due to CNS Research Recognition Award w/ QH Chen)

- 2011 John J. Durocher, PhD (post-doctoral fellow)  
Caroline tum Suden/Francis A. Hellebrandt Professional Opportunity National Award American Physiological Society
- 2011 Huan Yang (graduate student)  
Caroline tum Suden/Francis A. Hellebrandt Professional Opportunity National Award American Physiological Society
- 2010 Christopher E. Schwartz (graduate student)  
Michigan Space Grant Consortium Graduate Research Fellowship  
National Aeronautics and Space Administration – Michigan Space Grant Consortium
- 2010 Sarah F. Stream (graduate student)  
Caroline tum Suden/Francis A. Hellebrandt Professional Opportunity National Award American Physiological Society
- 2010 Christopher E. Schwartz (graduate student)  
Caroline tum Suden/Francis A. Hellebrandt Professional Opportunity National Award American Physiological Society
- 2009 John E. Lawrence (graduate student)  
Caroline tum Suden/Francis A. Hellebrandt Professional Opportunity National Award, American Physiological Society
- 2008 John J. Durocher (graduate student)  
Michigan Space Grant Consortium Graduate Research Fellowship,  
National Aeronautics and Space Administration – Michigan Space Grant Consortium

### **INTERNAL AWARDS**

- 2015 Ida T. Fonkoue, PhD (graduate student)  
King-Chavez-Parks Graduate Fellowship, MTU Graduate School
- 2015 Ida T. Fonkoue, PhD (graduate student)  
1<sup>st</sup> Place Poster Presentation Award, MTU Annual Graduate Student Colloquium
- 2012 Huan Yang (graduate student)  
1<sup>st</sup> Place Oral Presentation Award, MTU Annual Graduate Student Colloquium

### **UNDERGRADUATE STUDENT RESEARCH AWARDS**

### **EXTERNAL AWARDS**

*I have mentored undergraduate research assistants that were funded by the American Physiological Society (3 fellowships) and National Institutes of Health (1 supplemental grant).*

- 2013 Amanda Ross, Johns Hopkins University  
Summer Undergraduate Research Fellowship - STRIDE  
American Physiological Society
- 2010 Kelly Lufkin, Hope College (Kinesiology)  
Summer Undergraduate Research Fellowship

American Physiological Society

- 2010 Jenna C. Klein, Michigan Tech University (Exercise Science)  
ARRA-Funded NIH Research Supplement Grant for Undergraduate Research (R-15)  
National Institutes of Health – National Heart, Lung and Blood Institute
- 2009 Jenna C. Klein, Michigan Tech University (Exercise Science)  
Summer Undergraduate Research Fellowship  
American Physiological Society

**INTERNAL AWARDS**

- 2017 Stephanie Deitrich, Michigan Tech University (Exercise Science)  
1<sup>st</sup> Place in Undergraduate Research Expo (campus poster competition w/ over 70 participants)  
Michigan Tech University – Pavlis Honors College
- 2016 Stephanie Deitrich, Michigan Tech University (Exercise Science)  
Undergraduate Research Internship Program  
Michigan Tech University – Pavlis Honors College
- 2016 Courtney Kurkie, Michigan Tech University (Exercise Science)  
Undergraduate Research Internship Program  
Michigan Tech University – Pavlis Honors College
- 2016 Abbie Botz, Michigan Tech University (Exercise Science)  
Undergraduate Research Internship Program  
Michigan Tech University – Pavlis Honors College
- 2012 Taylor Kaurala, Michigan Tech University (Exercise Science)  
Summer Undergraduate Research Fellowship  
Michigan Tech University – Vice President for Research Office
- 2011 Michelle K. King, Michigan Tech University (Exercise Science)  
Summer Undergraduate Research Fellowship  
Michigan Tech University – Vice President for Research Office
- 2009 Ashley S. Yenior, Michigan Tech University (Biological Sciences)  
Summer Undergraduate Research Fellowship  
Michigan Tech University – Vice President for Research Office
- 2009 Angela J. Guisfredi, Michigan Tech University (Exercise Science)  
Summer Undergraduate Research Fellowship  
Michigan Tech University – Vice President for Research Office
- 2008 Jenna C. Klein, Michigan Tech University (Biological Sciences)  
Summer Undergraduate Research Fellowship  
Michigan Tech University – Vice President for Research Office
- 2007 Sarah F. Stream, Michigan Tech University (Exercise Science)  
Summer Undergraduate Research Fellowship  
Michigan Tech University – Vice President for Research Office

## UNIVERSITY COURSES TAUGHT

### Michigan Technological University: (2002 – present)

#### **Biological Sciences**

BL 1040: Principles of Biology  
BL 5350: Special Topics in Autonomic Physiology

#### **Kinesiology & Integrative Physiology**

EH 1000: Intro to Exercise Science  
EH 4200: Sports Nutrition Seminar  
EH 4210: Exercise Physiology  
EH 4211: Exercise Physiology Laboratory  
EH 4990: Exercise Science Internship  
EH 5350: Special Topics in Kinesiology

### Central Michigan University: (2014 – 2015)

#### **Doctorate of Physical Therapy Program**

HSC 631: Advanced Exercise Physiology

## ACTIVE PROFESSIONAL MEMBERSHIPS

American Autonomic Society  
American College of Sports Medicine  
American Physiological Society  
Sleep Research Society

## PROFESSIONAL SERVICE\*

(\*Excludes leadership positions listed on pg 2)

#### **American Autonomic Society**

- Meeting Committee (2013-2015)

#### **American Kinesiology Association**

- Workshop Planning Committee (2017-present)
- Presidential Task Force – AKA Leadership Institute (2017)
- Membership Committee (2012-2015)

#### **American Physiological Society**

- Presidential Task Force #4 – Enhancing Scientific Interaction and Exchange (2011-12)

#### **Federation of American Societies for Experimental Biology**

- Experimental Biology Conference Itinerary Builder Review Committee (2009)

#### **Federal Demonstration Partnership**

- Faculty Mentor (2013-present)
- Faculty Representative (2011-present)
- Task Force – Parental/Family Leave for Trainees (2011)

#### **Journal Editorial Board**

- *Am J Physiol - Regulatory, Integrative and Comp Physiology* (2010-present)
- *Experimental Physiology* (2016-present)

**Manuscript peer-review for:**

- *Alcohol*
- *American Journal of Physiology - Heart and Circulatory Physiology*
- *American Journal of Physiology - Regulatory, Integrative and Comparative Physiology*
- *American Journal of Physiology - Renal Physiology*
- *Applied Physiology, Nutrition and Metabolism*
- *Biological Psychology*
- *Brain, Behavior, and Immunity*
- *Circulation*
- *Clinical Autonomic Research*
- *Experimental Brain Research*
- *Hypertension*
- *Journal of Applied Physiology*
- *Journal of Physiology (London)*
- *Medicine Science in Sports and Exercise*
- *Physiology*
- *Physiology and Behavior*

**National Aeronautics and Space Administration**

- Cardiovascular Risk Scientific Review Panel (2012-2016)

**National Institutes of Health**

- Special Emphasis Panel – ZRG1 BBBP-Z 04 (July 13-14, 2016)
- Special Emphasis Panel – ZRG1 BBBP-Y 02 (July 17, 2015)
- CICS Study Section – Ad hoc reviewer (Feb 17-18, 2011)
- CICS Study Section – Ad hoc reviewer (June 16-17, 2011)

**ADVANCEMENT WORK (only gifts ≥ \$25,000)****\$40,000 Gift for Roy ('59) and Ruth Jurva Student Lounge (2014)**

- Identified, cultivated, and managed (Dean of Sciences and Arts assisted with identification and cultivation; Major Gift Officer assisted with cultivation and ask)
- Used to partially fund the renovation/construction of a designated student lounge for the Doctorate in Physical Therapy (DPT) satellite program with Central Michigan University

**\$25,000 Gift from SuperiorIdeas Crowdfunding (2013)**

- Identified, cultivated, asked, received, and managed the over 15 gifts that totaled \$25k
- Used to enhance research collaborations with the Portage Health Sleep Disorders Center.

**\$250,000 Gift from multiple Upper Peninsula hospitals and healthcare units (2012)**

- Identified, cultivated, asked, received, and managed these gifts; received support from Dean of Sciences and Arts, who accompanied me on several visits
- One \$125,000 matching gift from the Upper Peninsula Health Care Network
- Four independent \$25,000 gifts from four local and regional hospitals (War Memorial Hospital, Portage Health, Aspirus-Kewennaw, Dickinson Memorial)
- One \$25k gift from a Michigan Tech alumnae
- Funds will be used to renovate for the developing Doctorate in Physical Therapy (DPT) satellite program with Central Michigan University

**\$25,000 Gift from Superior National Bank (2008)**



- Identified, cultivated, asked, received, and managed the gift
- Used to enhance Exercise Physiology Teaching Laboratory

## UNIVERSITY SERVICE

### University

2016-present	Assistant to the Vice President for Research for Research Development
2012-present	Vice President for Research Advisory Committee (FDP Representative)
2013-2015	Executive Committee, Biotechnology Research Center
2013	Vice President for Research Task Force – Core Facilities
2011	Research Excellence Fund Seed Grant Review Committee
2010, 2011	Internal Reviewer for Bhakta Rath Research Award
2010	Vice President for Research Task Force – Research Incentive Return
2009-2011	University Strategic Faculty Hiring Initiative in Health, Steering Committee
2008, 2009	Internal Reviewer for Summer Undergraduate Research Fellowships
2007	Internal Reviewer for Barry M. Goldwater Scholarship
2006-2008	AQIP Learning Space Enhancement Committee

### College

2012-2016	Associate Dean
2013-14	Psychology Chair Search Committee
2012-13	Biological Sciences Chair Search Committee
2009-2010	Psychology Faculty Search Committee
2007-2008	College of Sciences & Arts Dean Search Committee
2006, 2007	Summer Reading Program for Freshman Orientation (Discussion Leader)
2006-2007	Psychology Faculty Search Committee

### Department

2006-present	<p>Department Chair (primary duties listed below)</p> <ul style="list-style-type: none"> <li>• General operation of the department</li> <li>• Control and maintenance of the departmental budget</li> <li>• Faculty/staff recruitment and hiring</li> <li>• Oversee departmental reappointment, promotion, and tenure process</li> <li>• Assignment of teaching and service loads</li> <li>• Personnel and program development</li> <li>• Assignment of merit pay</li> <li>• Allocation and distribution of travel funds</li> <li>• Maintain an open, working relationship with other units on campus</li> <li>• An active role in fundraising and alumni relations</li> </ul>
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## ***Curriculum Vitae Highlights***

\$8,571,690 in total **external** funding

- \$6,070,646 as PI (primarily NIH, industry, and foundation grants)
- \$2,474,224 as co-PI (includes completed DoD grant and completed industry grant)
- \$26,800 as faculty mentor for external student fellowships (3 undergraduate, 2 graduate)

70+ peer-review journal publications

- Majority within *Am J Physiol* series; several within *J Physiol* and *Hypertension*
- Invited Review in *Comprehensive Physiology*

National/International Oral Sessions

- 9 invited session chair/co-chair symposia at AAS, ACSM, AKA, FASEB, and PhysSoc
- 22 invited oral presentations at AAS, ACSM, AKA, FASEB, PhysSoc, and SLEEP

Graduate/Undergraduate Mentorship

- 9 completed graduate students in last 8 years (5 Ph.D. and 4 M.S.)
- 5 graduate students and 1 post-doctoral fellow who received APS Caroline tum Suden award
- 2 graduate student fellowships funded by the Michigan Space Grant Consortium
- 4 undergraduate summer research fellowships funded by APS or NIH supplemental grant

Professional Society Leadership

- President-Elect for American Kinesiology Association (2017-present)
- Executive Committee for American Kinesiology Association (2015-present)
- Board of Directors for American Kinesiology Association (2012-present)
- President of the Michigan Physiological Society (2014-2015)
- Neural Control & Autonomic Regulation (NCAR) Steering Committee (2008-2012, 2015-present)
- Joint Programming Committee for American Physiological Society (2008-2011)
- Committee-on-Committees for American Physiological Society (2015-present)

Key Professional Service

- Editorial Board for *Am J Physiol – Regulatory, Integrative, and Comp Physiol* (2010-present)
- Cardiovascular Risk Scientific Review Panel for NASA (2012-present)
- Ad-hoc reviewer for NIH Clinical & Integrative Cardiovascular Sciences (CICS) Study Section

National Honors/Awards

- APLU Council on Research Leader Fellow (2017 – present)
- Elected Fellow, National Academy of Kinesiology (2017)
- 3 Research Recognition Award from APS sections – NCAR , CNS, and Teaching (2009-2012)

Advancement/Fundraising

- Primary on four major gifts from alumni and corporate sponsors totaling \$340,000; majority for renovation associated with Doctorate in Physical Therapy partnership w/ Central Michigan Univ
- Three endowed professor positions as part of the PHFoundation grant

**12 years of progressive advancement at home institution (department chair, associate dean, assistant/associate VPR) and key professional societies (APS and AKA).**