

## *Curriculum Vitae*

### **Jessica C Taylor, PhD**

Assistant Professor of Physiology and Biophysics  
Case Western Reserve University  
10900 Euclid Ave.  
Cleveland, OH 44106  
[jct101@case.edu](mailto:jct101@case.edu)

#### *Education*

- 2003-2008** PhD with Honors, Biomedical Sciences; University of Missouri, Columbia, Missouri.  
Mentors: Ronald L. Terjung, PhD and  
M. Harold Laughlin, PhD  
Dissertation Title: “*Sympathetic Control of the Collateral Circulation: Effects of Time Post-Occlusion and Exercise Training*”
- 1998-2002** Bachelor of Science (Magna cum Laude) in Exercise Science; University of Southern Mississippi, Hattiesburg, Mississippi.  
• Minors in Chemistry and Latin  
Mentor: Ronald Evans, PhD  
Thesis Title: “*Effects of Hormone Replacement Therapy on Cardiovascular Risk Factors in Postmenopausal Women*”

#### *Employment*

- 2020-Present** **Assistant Professor of Physiology and Biophysics, Department of Physiology and Biophysics, School of Medicine, Case Western Reserve University (CWRU), Cleveland, OH**
- 2018-Present** Senior Vice President of Research, Primates Plus, LLC, Lexington, KY
- 2019-2020** Visiting Assistant Professor of Biology, Biology Department, Centre College, Danville, KY
- 2017-2018** Senior Manager, Higher Education Programs, American Physiology Society, Bethesda, MD
- 2016-2017** Executive Director, Mississippi Osteopathic Medical Association, Hattiesburg, MS

- 2010-2016** Assistant Professor of Physiology, College of Osteopathic Medicine, William Carey University (WCUCOM), Hattiesburg, Mississippi
- 2010-2012** Assistant Professor, Department of Biological Sciences, William Carey University, Hattiesburg, Mississippi
- 2008-2009** Postdoctoral Fellow, Pharmacology and Neuroscience, University of North Texas Health Science Center at Fort Worth, Fort Worth, TX  
Mentor: Shaohua Yang, MD, PhD
- 2002-2003** Research Technician, Department of Anesthesiology and Physiology Medical College of Wisconsin, Milwaukee, Wisconsin  
Mentor: Phillip S. Clifford, PhD

### *Teaching Experience*

#### *Undergraduate Education*

- 2020** Physiology of Becoming Batman, Department of Biology, Centre College
- 2019-2020** Evolution, Ecology and Diversity, Department of Biology, Centre College
- 2019** Animal Physiology, Department of Biology, University of Kentucky
- 2018** Advanced Physiology, Department of Biology, University of Kentucky
- 2014** General Biology, Department of Biological Sciences, William Carey University
- 2010-2012** Anatomy and Physiology, Department of Biological Sciences, William Carey University  
General Biology, Department of Biological Sciences, William Carey University  
Biology Capstone, Department of Biological Sciences, William Carey University
- 2007** Introduction to Human Physiology, Department of Medical Pharmacology and Physiology, University of Missouri

*Graduate Education*

- 2020-Present** Medical Physiology, Department of Physiology and Biophysics, CWRU
- 2021-Present** Physiological Basis of Disease, Department of Physiology and Biophysics, CWRU
- 2018** Advanced Physiology, Department of Biology, University of Kentucky
- 2016** APS Professional Skills Training Online Course: How to Present a Scientific Poster, American Physiological Society
- 2012** Cardiovascular Physiology, Pathology and Genetics, Department of Biological Sciences, Course Director, William Carey University
- 2010-2014** Medical Physiology, Master of Biomedical Science Program, WCUCOM
- 2009** Research Methods, Department of Curriculum and Education, University of Texas at Arlington and Higher Ed Holdings

*Medical/Professional Education*

- 2020-Present** SAMI, School of Medicine, CWRU
- 2013-2016** Medical Pharmacology, WCUCOM
- 2010-2016** Doctoring Skills, WCUCOM
- 2014-2016** Anatomy and Physiology for Anesthesia I, Nurse Anesthetist Program, The University of Southern Mississippi
- 2013-2016** Contemporary Foundations of Medicine, WCUCOM Course Director, 2013-2015
- 2013, 2015** Pathophysiology, Nurse Anesthetist Program, The University of Southern Mississippi
- 2012-2016** Clinical Anatomy (Neuroscience), WCUCOM
- 2010-2016** Medical Physiology, WCUCOM

*Service**Institutional Service*

- 2020-Present** Admissions Committee, Masters of Science in Medical Physiology Program, CWRU, Member
- 2019** “What’s up with Generation Z? – “Oof shots fired, that’s some hot tea,”; Building Bridges and Community Day, Centre College, Forum Facilitator
- 2015** Mississippi Osteopathic Medical Association Silent Auction Donation Committee, WCUCOM, Member
- 2014** Biomedical Science Course Directors Meeting, WCUCOM, Coordinator
- 2013- 2016** Admissions Committee, WCUCOM, Member
- 2013-2016** Faculty Affairs Committee, WCUCOM  
Chair (2014-2016)  
Vice-chair (2013)
- 2012** Faculty Congress Corresponding Secretary, Executive Committee of Faculty Congress, WCUCOM
- 2010-2016** Promotion and Matriculation Committee, WCUCOM, Member
- 2010-2013** Faculty Ethics and Grievance Committee, WCUCOM, Member
- 2010-2012** Master of Biomedical Science Degree Program Committee, WCUCOM, Member
- 2010-2011** Research Committee, WCUCOM, Member

*Educational Service*

- 2020-Present** SAMI Design Team, CWRU
- 2010-2012** Committee for a Master’s of Biological Science for Graduate Student Benji Sessums, Department of Biological Science, Chair

*Professional Society Service*

- 2015-2017** Education Committee (National), American Physiological Society, Member

- 2015-2017** Joint Programming Committee, Education Committee  
Representative, American Physiological Society, Member
- 2015-2017** Teaching Section Steering Committee, American Physiological  
Society, Member

*Other Professional Activities*

- 2017-present** Institutional Animal Care and Use Committee Chair, Primates  
Plus/SKN Primates
- 2017-2019** American Journal of Physiology: Advances in Physiology  
Education (Reviewer)
- 2015-2018** Life Science Teaching Resource Community (LifeSciTRC.org),  
American Physiological Society, Reviewer

*Community/Outreach/Student Organization Service*

- 2019** BioBonanza, Department of Biology, University of Kentucky,  
Lexington, KY (outreach)
- 2011-2017** Physiology Understanding Week, Sponsored by the American  
Physiological Society, Hattiesburg, MS and North Bethesda, MD  
(outreach)
- 2016** Science is Stupendous! Science Outreach Room, Mississippi  
Osteopathic Medical Association, Coast Conference, Sandestin, FL  
(outreach)
- 2016** USA Science and Engineering Festival, American Physiological  
Society Booth, Washington, DC (outreach)
- 2014-2016** Medical Encounters, Mississippi Rural Physicians Scholarship  
Program, Co-Director, (outreach/student organization)
- 2014-2016** Institute of Health Careers, Founding Director, WCUCOM/Jackson  
Public Schools/JROTC (outreach)
- 2014-2015** P2P, Pathways2Possibilities, Career Expo for 8<sup>th</sup> graders, MS Coast  
Convention Center, Biloxi, MS
- 2014-2015** WCUCOM Preventive Medicine Group, Advisor (student  
organization)

- 2014-2015** WCUCOM AMA-MSS, Advisor (student organization)
- 2014** Human Body Fair, Oak Grove Primary School (outreach)
- 2013-2016** Biomedical Scientist and Chair, Oak Grove Lower Elementary and Middle School IRB Committee (community)
- 2013** What is WCUCOM? Presentation, Area Development Partnership, Hattiesburg, MS (community)
- 2013** Exercise and Nutrition for the Ballet Dancer, Informal Presentation, South Mississippi Ballet Theatre (community)
- 2013, 2016-7** MS Science Olympiad, Judge, Author, Level B Anatomy and Physiology Exam (community)
- 2013** MS Region 1 Science and Engineering Upper Fair, Judge (community)
- 2012- 2015** WCUCOM American Medical Women's Association, Student Internal Medicine Club, Student Anesthesiology Club (AOCA), Advisor (student organization)
- 2012-2013** WCUCOM Student Osteopathic Medical Association Exercise Program, Coordinator (community)

### *Honors, Awards, and Support*

- Centre College Faculty Travel Award, 2020 (Awarded, but unused due to COVID)
- American Physiological Society Travel Award, Physiology 2016 (Joint APS-TPS Meeting), May 2016
- Five-year Participation Award, PhUn week, American Physiological Society, April 2016
- Director's Award, Jackson Public Schools JROTC, 2015
- *Use of Interactive Technology to Facilitate Understanding of Challenging Physiology Topics*, October 2012 – May 2013. WCUCOM Grant, \$5000.00
- Society for Experimental Biology and Medicine Young Investigator Award, Experimental Biology Meeting, May 2007
- University of Missouri Graduate Student Association Outstanding Graduate Student in Biomedical Sciences Award, April 2007
- Biomedical Sciences Departmental Fellowship, PhD Student Support, University of Missouri, 2003-2005

*Professional Development and Continuing Education*

- Faculty Learning Community, Centre College, *Understanding GenZ!*, Based on the book *Generation Z: A Century in the Making*, 2019-2020
- Crown Bioscience, How to Optimize Preclinical Diabetes Studies using Stress Free Methods in Non-Human Primates, Webinar, April 25, 2019
- Dale Carnegie Training Seminar, “Step Up to Leadership,” Gulfport, MS, April 14, 2015
- Turning Technologies 2014 User Conference, Las Vegas, NV, March 30-April 1, 2014
- National Center for Case Study Teaching in Science: 14<sup>th</sup> Annual Conference, Case Study Teaching in Science, Amherst, NY, September 20-21, 2013
- National Center for Case Study Teaching in Science: 13<sup>th</sup> Annual Conference, Case Study Teaching in Science, Amherst, NY, September 21-22, 2012

*Presentations and Workshops*

*Career Presentations*

Advice for Young Professionals, American Medical Women’s Association, CWRU, January 26, 2021

Lane Changes, Detours, Merges and Hitchhikers...Navigating Highways Along Your Career Journey, CWRU, September 20, 2018

Lane Changes, Detours, Merges and Hitchhikers...Navigating Highways Along Your Career Journey, Cleveland Clinic, September 19, 2018

How to Craft a Resume, National Postdoctoral Association, myPostdoc Monthly Webinar Series, June 6, 2018

Lane Changes, Detours, Merges and Hitchhikers...Navigating Highways Along Your Career Journey, Nationwide Children’s Hospital, May 29, 2018

How to Succeed in an Osteopathic Medical School Faculty Position Without Really Trying, Auburn University Graduate Program in Kinesiology, July, 11, 2014

*Scientific/Educational Presentations*

Physiology Undergraduate Students and APS: Past, Present and Future, Physiology Majors Interest Group Annual Meeting, June 28, 2018

Cardiovascular Physiology for the Next Generation: Taking an “App” Approach to Teaching Difficult Topics in Physiology, “Fiber for Breakfast,” LITE, April 23, 2014

Sympathetic Control of the Collateral Circulation: Effects of Time Post-Occlusion and Exercise Training, Department of Biology, University of Southern Mississippi, February 3, 2012

Sympathetic Control of the Collateral Circulation: Effects of Time Post-Occlusion and Exercise Training, College of Osteopathic Medicine, William Carey University, February 8, 2011

Sympathetic Control of the Collateral Circulation: Effects of Time Post-Occlusion and Exercise Training, Department of Integrative Physiology, University of North Texas Health Sciences Center, 2008

Sympathetic Control of the Collateral Circulation: Effects of Time Post-Occlusion and Exercise Training, Department of Biomedical Sciences, University of Missouri, 2008

Sympathetic Control of the Collateral Circulation, Department of Biomedical Sciences, University of Missouri, 2007

Platelet Microparticles: A role in skeletal muscle angiogenesis? Department of Biomedical Sciences, University of Missouri, 2006

The Ischemic Pressor Response, Department of Biomedical Sciences, University of Missouri, 2005

Role of Nitric Oxide in Exercise Sympatholysis, American College of Sports Medicine Meeting, 2004

#### *Workshops*

Professional Skills for Undergraduate Students, Human Anatomy and Physiology Society (HAPS) Annual Meeting, May 30, 2018

Introduction to Turning Point, Hands-on Application of Technology in the Classroom, Faculty Development Seminar, College of Osteopathic Medicine, William Carey University, November 3, 2014

“The Opiate Mystery,” Introduction to Case Studies, Faculty Development Seminar, College of Osteopathic Medicine, William Carey University, October 16, 2013

#### *Symposia*

Different Models of Public Engagement with Physiology in Different Countries and Different Sections of the Community; and Their Translatability Both Within and to Different Countries (Particularly Developing Nations), Co-organizer,

Physiology 2016, Joint Meeting of the American Physiological Society and The Physiological Society, Dublin, Ireland

Standing on the Edge: Transformational Teaching and Learning Beyond the Classroom Walls, Co-chair, Teaching of Physiology Section, American Physiological Society; Experimental Biology 2016, San Diego, CA

### *Publications*

#### *Submitted Manuscripts*

Weaver, C.C., Osborn, J.L, and **Taylor, J.C.** An Active-Learning Approach to Teaching Scientific Writing to Undergraduate Physiology Students. *American Journal of Physiology: Advances in Physiology Education*.

#### *Refereed Manuscripts*

Winters, B.A., **Taylor, J.C.** Ren, M., Ma, R., Liu, R., Yang, S.H. Transient Focal Cerebral Ischemia Induces Long-Term Cerebral Vasculature Dysfunction in a Rodent Experimental Stroke Model. *Translational Stroke Research*. June; 3(2): 279-85, 2012

Yang, H.T., Prior, B.M, Lloyd, P.G., **Taylor, J.C.**, Li, Z., Laughlin, M.H. and Terjung, R.L. Training-induced Vascular Adaptations to Ischemic Muscle. *Journal of Physiology and Pharmacology*. Dec; 59(Suppl 7): 57-70, 2008

**Taylor, J.C.**, Yang, H.T., Laughlin, M.H. and Terjung, R.L. Alpha-adrenergic and NPY Y1 receptor control of collateral circuit conductance: Influence of Exercise Training. *Journal of Physiology*. Dec; 586(Pt 24): 5983-98, 2008

Newcomer, S.C., **Taylor, J.C.**, McAllister, R.M. and Laughlin, M.H. Effects of Chronic Nitric Oxide Synthase Inhibition on Endothelium-Dependent and -Independent Relaxation in Swine Forelimb and Hindlimb Vasculatures. *Endothelium*. Jan-Feb; 15(1): 17-31, 2008

**Taylor, J.C.**, Li, Z., Yang, H.T., Laughlin, M.H. and Terjung, R.L. Alpha-Adrenergic Inhibition Increases Collateral Circuit Conductance in Rats Following Acute Occlusion of the Femoral Artery. *Journal of Physiology*. March; 586(6): 1649-67, 2008

Barrier B.F., Frazier S.R., Brennaman L.M., **Taylor, J.C.**, and Ramshaw, B.J. Catamenial Appendicitis. *Obstetrics and Gynecology*. Feb; 111(2 Pt 2): 558-61, 2008

Newcomer, S.C., **Taylor, J.C.**, Bowles D.K. and Laughlin, M.H. Endothelium-dependent and –independent relaxation in the forelimb and hindlimb vasculature of swine. *Comparative Biochemistry and Physiology*. Oct; 148(2): 292-300, 2007

Buckwalter, J.B., **Taylor, J.C.**, Hamann, J.J. and Clifford, P.S. Role of Nitric Oxide in Exercise Sympatholysis. *Journal of Applied Physiology*. 97: 417-423, 2004

Buckwalter, J.B., **Taylor, J.C.**, Hamann, J.J. and Clifford, P.S. Do P2X Purinergic Receptors Regulate Skeletal Muscle Blood Flow During Exercise? *American Journal of Physiology – Heart and Circulation*. 286: H633-H639, 2004

*Educational Materials*

**Taylor, J.C.** Contributing Editor, Universal Notes, [www.myuniversalnotes.com](http://www.myuniversalnotes.com). December 2015

Sections: Neuron Action Potential, Synapse, Autonomic Nervous System

**Taylor, J.C.** Become a Dragon Parent, A Genetics Laboratory Exercise, Life Science Teaching Resource Community. May 2015

**Taylor, J.C.**, Bailey, J.B. and Porter, J.R. Use of Colored Fabric to Denote Blood Oxygenation Status to Various Simulated Body Tissues During Rest and Exercise, Life Science Teaching Resource Community. May 2012

*Blogs*

**Taylor, J.C.** 2020, July 1. *Wild and Weird Ways Animals Keep Cool*. <https://ispyphysiology.com/2020/07/01/wild-and-weird-ways-animals-keep-cool/>

**Taylor, J.C.** 2020, February 12. *For the Love of a Dog*. <https://ispyphysiology.com/2020/02/12/for-the-love-of-a-dog/>

**Taylor, J.C.** 2019, July 10. *Sea Water vs. Saline: Why Not All Salty Water Is Created Equal*. <https://ispyphysiology.com/2019/07/10/sea-water-vs-saline-why-not-all-salty-water-is-created-equal/>

**Taylor, J.C.** 2019, March 8. *Gut Health: You May Lose More than Your Luggage When You Travel*. <https://ispyphysiology.com/2019/03/08/gut-health-you-may-lose-more-than-your-luggage-when-you-travel/>

**Taylor, J.C.** 2018, November 20. *Pumpkins: Orange, Tasty and Good for Your Health*. <https://ispyphysiology.com/2018/11/20/pumpkins-orange-tasty-and-good-for-your-health/>

**Taylor, J.C.** 2018, September 3. *Spotlight On: Hypertension*. <https://ispyphysiology.com/2018/09/05/spotlight-on-hypertension/>

**Taylor, J.C.** 2018, May 30. *Spotlight On: Preeclampsia*. <https://ispyphysiology.com/2018/05/30/spotlight-on-preeclampsia/>

**Taylor, J.C.** 2018, February 15. *Diary of an Adventure Junkie – Part Trois...Try Something That Frightens You...It Could Turn Out to be PhUn.* <https://blog.lifescitrc.org/phunweek/2018/02/15/diary-of-an-adventure-junkie-part-troistry-something-that-frightens-youit-could-turn-out-to-be-phun/>

**Taylor, J.C.** 2018, February 7. *In Hot Water.* <https://ispyphysiology.com/2018/02/07/in-hot-water/>

**Taylor, J.C.** 2017, June 5. *Diary of an Adventure Junkie – Part Deux: The Path Diverges.* <https://blog.lifescitrc.org/pecop/2017/06/05/639/>

**Taylor, J.C.** 2017, May 31. *Is running barefoot better than wearing shoes?* <https://ispyphysiology.com/2017/05/31/is-running-barefoot-better-than-wearing-shoes/>

**Taylor, J.C.** 2016, December 7. *Exercise: It does your body – no, your brain – good!* <https://ispyphysiology.com/2016/12/07/exercise-it-does-a-body-no-your-brain-good/>

**Taylor, J.C.** 2016, July 4. *Diary of an Adventure Junkie: Be Daring...Step Outside Your Comfort Zone!* <http://blog.lifescitrc.org/pecop/2016/07/04/diary-of-an-adventure-junkie-be-daringstep-outside-your-comfort-zone/>

**Taylor, J.C.** 2016, June 1. *Go for a Longer Run...Your Bones Will Thank You.* <https://ispyphysiology.com/2016/06/01/go-for-a-longer-runyour-bones-will-thank-you/>

**Taylor, J.C.** 2015, September 23. *So, You Want to Be a Scientist?* <http://ispyphysiology.com/2015/09/23/so-you-want-to-be-a-scientist/>

**Taylor, J.C.** 2015, May 13. *Can You Work Off Depression with a Workout?* <http://ispyphysiology.com/2015/05/13/can-you-work-off-depression-with-a-workout/>

#### *Selected Abstracts*

Venegas M.A., **Taylor, J.C.**, Osborn, J.L. Female African Green Monkeys Exhibit Higher Insulin Sensitivity and Lower Blood Pressure than Age-matched Males. *Experimental Biology*, 2021.

Weaver C.C., Rivera, P, Xiang, L. **Taylor, J.C.**, Osborn, J.L. Open Problem-Based Instruction Improves Student Outcome on Short Answer Critical Thinking Physiology Questions. *Experimental Biology*, 2020.

Venegas M.A., **Taylor, J.C.**, Weaver C.C., Osborn, J.L. Female African Green Monkeys Exhibit Protection Against Glucose Loading Indicative of Type 2 Diabetes Mellitus. *Experimental Biology*, 2020.

Sickles, S.E., Weaver C.C., **Taylor, J.C.**, Osborn, J.L. Adolescent Offspring of Preeclamptic Nonhuman Primate Mothers Have Impaired Glucose Tolerance and Proteinuria. *Experimental Biology*, 2020.

Weaver C.C., **Taylor, J.C.**, Osborn, J.L. Elevated Fasting Glucose and Proteinuria in Offspring Born to Gestational Hypertensive African Green Monkeys. *Council on Hypertension*, 2019.

Santillan, M.K., Scroggins, S. M., Weaver C.C., Santillan, D.A., **Taylor, J.C.**, Osborn, J.L. Reduced Renal Responsiveness and Altered Fluid Volume In A African Green Monkey (*Chlorocebus aethiops sabaesus*) Preeclampsia Model. *Council on Hypertension*, 2019.

Weaver, C.C., **Taylor, J.C.**, Osborn, J.L. Offspring Born to Gestational Hypertensive Pregnancies Have Increased Fasting Glucose and Proteinuria in Early Adolescence. *APS/ASN Conference: Control of Renal Function in Health and Disease*, 2019.

Weaver, C.C., **Taylor, J.C.**, Osborn, J.L. An Active Learning and Draft-Revision Approach to Teaching Scientific Writing to Undergraduate Physiology Students. *Experimental Biology*, 2019.

Barrett, L.D.G., Weaver, C.C., Rhoads, M.K., **Taylor, J.C.**, Osborn, J.L. Insertion in APOL1-Like Gene is Associated with Increased Blood Pressure but Not Renal Dysfunction in African Green Monkeys. *Experimental Biology*, 2019.

Dixit, S.M. Weaver, C.C., **Taylor, J.C.**, Osborn, J.L. Structured Breeding Groups for the Transmission of Spontaneous Hypertension in African Green Monkeys. *Experimental Biology*, 2019.

**Taylor, J.C.**, Hood, A. and Matyas, M.L. Undergraduate Summer Research Programs Encourage Life-Long Research Pursuits. *Institute on Teaching and Learning*, 2018

Diener, L.M., **Taylor, J.C.**, and Matyas, M.L. Taking Advantage of the LifeSciTRC and What it Offers. *Institute on Teaching and Learning*, 2018

**Taylor, J.C.**, Osthus R., Eaton D. and Eisen A. What Isn't in Your Toolkit: Broadening Non-Lab Skills During Your Postdoc. *National Postdoctoral Association Annual Meeting*, 2018

**Taylor, J.C.** and Mercier, B. Utilizing Pre- and Post-Exercise Changes in Heart Rate as a Method of Teaching the Scientific Method to Second Grade Students. *Experimental Biology*, 2017