

Curriculum vitae

Jennifer Ann Stokes, PhD

Assistant Professor
Department of Kinesiology
Southwestern University
1001 E. University Ave.
Georgetown, TX 78626

Office: (512) 863-1594

stokesj@southwestern.edu

www.jenniferannstokes.com

www.stokeslab.com

Education

Undergraduate: The University of Texas at Austin; Austin, TX; 2003 – 2006
BS Psychology

Graduate: University of California, San Diego; La Jolla, CA; 2007 – 2013
PhD Biomedical Sciences
Advisor: Tony L. Yaksh, PhD; Department of Anesthesiology

Postdoctoral Fellowship: University of California, San Diego; La Jolla, CA; 2014 – 2016
School of Medicine; Division of Physiology
Advisor: Frank L. Powell; Division of Physiology

Professional Experience

Assistant Professor. Department of Kinesiology, Southwestern University; Georgetown, TX;
2020 – Present

Assistant Professor. Department of Biology, Centenary College of Louisiana; Shreveport, LA;
2017 – 2020

Visiting Assistant Professor. Department of Biology, Beloit College; Beloit, WI; 2016 – 2017

Postdoctoral Fellow. School of Medicine, Division of Physiology; University of California San Diego; La Jolla, CA; 2014 – 2016

Instructor. Inclusive Teaching and Diversity Training Workshops. University of California San Diego; La Jolla, CA; 2015 – 2016

Scientist I – Study Director. Biotox Sciences; San Diego CA; 2013 – 2014

Research Assistant. Waggoner Center for Alcohol and Addiction Research, The University of Texas at Austin; Austin, TX; 2006 – 2007

Select Professional Development Activities

Institute on Teaching and Learning. The American Physiological Society; Virtual; June 2020

Associated Colleges of the South (ACS) Summer Teaching and Learning Workshop. The University of the South; Sewanee, TN; 2019

Institute on Teaching and Learning. The American Physiological Society; Madison, WI; 2018

Faculty Workshop: Diversity in Hiring and Implicit Bias. Dr. Anita Davis, Director for Diversity and Inclusion, Associated Colleges of the South. Sponsored by Centenary College of Louisiana; Shreveport, LA; 2018

Faculty Institute: Inclusive Classroom Environments and Student Success. Centenary College of Louisiana; Shreveport, LA; 2017

California Summer Institute on Scientific Teaching. Sponsored by the Howard Hughes Medical Institute. University of California, San Diego; La Jolla, CA; 2017

Institute on Teaching and Learning. The American Physiological Society; Madison, WI; 2016

Factors that Increase the Efficiency of Learning and the Myth of Learning Styles. Center for Advancing Mathematics, Science and Engineering Education (CAMSEE). University of California, San Diego; La Jolla, CA; 2016

Putting your best foot forward: perfecting your presentation. UCSD Women in Health Sciences. University of California, San Diego; La Jolla, CA; 2016

The College Classroom. Center for Engaged Teaching, University of California, San Diego; La Jolla, CA; 2015

Laboratory Management and Leadership Symposium. University of California, San Diego; La Jolla, CA; 2015

Ethical Challenges of Research: Special Topics. UC San Diego Office of Postdoctoral and Visiting Scholar Affairs, University of California, San Diego; La Jolla, CA; 2015

Courses Taught

Southwestern University*

- KIN48-254 Anatomy and Physiology I
 - KIN48-264 Anatomy and Physiology II
- *More courses to be introduced with 2021-2023 catalog*

Centenary College

- BIOL 301/302 Human Anatomy and Physiology I/II
- BIOL 251 Medical Terminology
- BIOL 306 Nutritional Physiology
- BIOL 319 Psychopharmacology
- BIOL 395 Exercise Physiology
- BIOL 202 Structure-Function

Beloit College

- BIOL 101 Human Biology
- BIOL 256 Anatomy
- BIOL 357 Human Physiology

Basic Science Research

**Denotes mentored student contribution*

Publications

1. De La Zerda DJ, **Stokes JA**, Do J, Go A, Fu Z, Powell FL (2018). *Ibuprofen does not Reverse Ventilatory Acclimatization to Chronic Hypoxia in Rats*. *Respir Physiol Neurobiol.* 256:29-35
2. **Stokes JA**, Arbogast TE*, Moya, E, Fu Z, Powell FL (2017). *Minocycline blocks glial cell activation and ventilatory acclimatization to hypoxia*. *J Neurophysiol.* 117(4):1625-1635.
3. Hocker A, **Stokes JA**, Powell FL, Huxtable AG (2017). *The impact of inflammation on respiratory plasticity*. *Experimental Neurology.* 287(Pt 2):243-253
4. Park HJ, **Stokes JA**, Corr M, Yaksh TL (2014). *Toll-like receptor signaling regulates cisplatin-induced mechanical allodynia in mice*. *Cancer Chemother Pharmacol.* 73 (1), 25-34.
5. **Stokes JA**, Cheung J*, Eddinger KA, Corr M, Yaksh TL (2013). *Toll-like receptor signaling adapter proteins govern spread of neuropathic pain and recovery following nerve injury in male mice*. *J Neuroinflammation.* 10(1):148.

6. **Stokes JA**, Corr M, Yaksh TL (2013). *Spinal Toll-like receptor signaling and nociceptive processing: Regulatory balance between TIRAP and TRIF cascades mediated by TNF and IFN β* . *Pain*. 154(5):733-42.
7. Park HJ, **Stokes JA**, Pirie E*, Skahen J, Shtaerman Y, Yaksh TL (2013). *Persistent hyperalgesia in the Cisplatin treated mouse as defined by threshold measures and the conditioned place preference paradigm and changes in DRG ATF3: Effects of gabapentin, ketorolac, and etanercept*. *Anesth Analg*. 116(1):224-31.
8. Christianson CA, Dumlao D, **Stokes JA**, Dennis EA, Svensson CI, Corr M, Yaksh TL (2011). *Spinal TLR4 mediates the transition to a persistent mechanical hypersensitivity after the resolution of inflammation in serum-transferred arthritis*. *Pain*. 152(12):2881-91.
9. **Stokes JA**, Corr M, Yaksh TL (2011). *Transient tactile allodynia following intrathecal puncture in mouse: contributions of toll-like receptor signaling*. *Neurosci Lett*. 504(3):215-8.

Conference Abstracts and Poster Presentations

1. Faul JR*, Powell FL, **Stokes JA** (2020). *Microglia Activation and IL-1 β Expression in Select Ventilatory Control Regions Following Exposure to Chronic Sustained Hypoxia*. [poster abstract]. Experimental Biology; San Diego, CA. Abstract nr 986.2/G54 (Conference Cancelled - Abstract Published)
2. Faul JR*, Barron KT*, Morgan WA*, Powell FL, **Stokes JA** (2019). *Microglia and Astrocyte Activation in Select Ventilatory Control Regions Following Exposure to Chronic Sustained Hypoxia*. [poster abstract]. Centenary College Research Forum; Shreveport, LA
3. Morgan WA*, Faul JR*, Barron KT*, Powell FL, **Stokes JA** (2019). *Glial Cell Activation in the Retrotrapezoid Nucleus following Chronic Sustained Hypoxia*. [poster abstract]. Centenary College Research Forum; Shreveport, LA
4. Faul JR*, Barron KT*, Morgan WA*, Powell FL, **Stokes JA** (2019). *Microglia and Astrocyte Activation in Select Ventilatory Control Regions Following Exposure to Chronic Sustained Hypoxia*. [poster abstract]. Louisiana State University – Shreveport Scholars Forum; Shreveport, LA
5. **Stokes JA**, Arbogast TE*, Powell FL (2016). *Microglia activation occurs early in sustained hypoxia and is necessary for ventilatory acclimatization to hypoxia* [poster abstract]. Society for Neuroscience Annual Meeting; San Diego, CA. Abstract nr. 7659.
6. **Stokes JA**, Arbogast TE*, Powell FL (2016). *Ventilatory acclimatization to hypoxia requires early microglia activation* [poster abstract]. Experimental Biology; San Diego, CA. Abstract nr 1262.2

7. Arbogast TE*, **Stokes JA**, Powell FL (2016). *Time course of brainstem glial activation following exposure to chronic sustained hypoxia* [poster abstract]. Experimental Biology; San Diego, CA. Abstract nr 1262.1
8. **Stokes JA**, Arbogast TE*, Powell FL (2016). *Ventilatory acclimatization to hypoxia requires early microglia activation* [poster abstract]. 9th Annual SoCal Symposium on Glial-Neuronal Interactions in Health and Disease; Riverside, CA. Abstract nr 49.
9. **Stokes JA**, Fu Z, Powell FL (2015). *Glial inhibitor blocks ventilatory acclimatization to chronic sustained hypoxia* [poster abstract]. Experimental Biology; 2015 Mar 28-Apr 1; Boston, MA. Abstract nr 659.1.
10. **Stokes JA**, Cheung J*, Corr MP, Yaksh TL (2011). *Spinal Toll-like receptor adaptor proteins modulate central pain processing*. Society for Neuroscience, Symposium Abstracts.
11. **Stokes JA**, Corr MP, Yaksh TL (2010). *Spinal toll-like receptors: initiation of tactile allodynia*. Frontiers of Clinical Investigation Symposium: Pain, Symposium Abstracts.
12. **Stokes JA**, Christianson C, Corr MP, Yaksh TL (2010). *Spinal toll-like receptors; initiation of tactile allodynia and glial activation*. International Association for the Study of Pain, Symposium Abstracts.
13. Christianson C, **Stokes JA**, Corr MP, Yaksh TL (2010). *Toll-like receptor 4 is required for continual mechanical hypersensitivity during K/BxN serum transfer arthritis*. International Association for the Study of Pain, Symposium Abstracts.
14. **Stokes JA**, Yaksh TL (2009). *Phospho-NR1 and its role in spinal pain processing*. Society for Neuroscience, Symposium Abstracts.
15. **Stokes JA**, Ozburn AR, Seymour J, Blednov Y, and Harris RA (2006). *The effect of alcohol experience on subsequent alcohol intake in two F1 hybrid mouse strains: C57Bl/6J x FVB/NJ and C57Bl/6J x NZB/B1NJ*. Society for Neuroscience, Symposium Abstracts.

Oral Presentations

1. **Stokes JA**, Arbogast TE*, Powell FL (2016). *Ventilatory acclimatization to hypoxia requires early microglia activation* [Symposium Oral Presentation – Featured Topic]. Experimental Biology; San Diego, CA. Abstract nr 1262.2
2. **Stokes JA** (2012). *Spinal Toll-like receptors and nociceptive processing*. Ph.D. thesis defense presentation; University of California, San Diego; La Jolla, CA
3. **Stokes JA**, Yaksh TL (2010). *Spinal toll-like receptors; glial activation and neuropathic pain*. Pharmacology Research Discussions, Presentation; University of California, San Diego; La Jolla, CA
4. **Stokes JA**, Cui J, Lipton SA (2006). *Mouse embryonic stem cells injected into the ischemic mouse brain*. University of California, San Diego Summer Research Symposium, Presentation.

Mentored Students

Jada Faul. Undergraduate Student; [Stokes Lab](#), Centenary College of Louisiana, Shreveport, LA; 2018 – 2020

Kyle Barron. Undergraduate Student; [Stokes Lab](#), Centenary College of Louisiana, Shreveport, LA; 2018, Summer

William Alex Morgan. Undergraduate Student; [Stokes Lab](#), Centenary College of Louisiana, Shreveport, LA; 2018, Summer

Tara Arbogast. Master's Student; Mentor: Frank L. Powell, School of Medicine; Division of Physiology; University of California, San Diego; La Jolla, CA; 2014 – 2016

Jonathan Cheung. Undergraduate Student; Mentor: Tony L. Yaksh, Department of Anesthesiology; University of California, San Diego; La Jolla, CA; 2010 - 2012

Elaine Pirie. Undergraduate Student; Mentor: Tony L. Yaksh, Department of Anesthesiology; University of California, San Diego; La Jolla, CA; 2011

Pedagogical Research and Scholarly Activities

Publications

1. **Stokes JA** and Silverthorn DU. *Updating anatomy and physiology lab delivery: Shifting from a paper-based to an online lab instruction platform, just in time for a global pandemic*. *Advances in Physiology Education* 14 April 2021.
<https://doi.org/10.1152/advan.00190.2020>

Oral Presentations

1. **Stokes JA** (2020). *Using Lt to Create an Interactive, Data-Driven Endocrinology Activity*. Lt Brain Trust (International Conference) Virtual Event. [Recording](#)
2. **Stokes JA** (2019). *Collaborative Exams in an Undergraduate Anatomy and Physiology Classroom Enhance Students' Perceived Learning and Knowledge Retention*. [Symposium Oral Presentation – Featured Topic]. *Experimental Biology*; Orlando, FL. Abstract nr 598.1
3. Grososky A, **Stokes JA** (2017). *Case Study for Teaching Neuroanatomy Structure and Function* [symposium presentation]. 89th Annual Meeting of the Midwestern Psychological Association; Chicago, IL.

Conference Abstracts and Poster Presentations

1. **Stokes JA** and Silverthorn DU (2020). *Using Interactive Technology in an Integrated Human Physiology and Functional Anatomy Course to Enhance Student Engagement, Knowledge, and Retention.* [poster abstract]. Human Anatomy and Physiology Society Annual Conference; Ottawa, Ontario, Canada. (Conference Cancelled - Abstract Published)
2. **Stokes JA** and Silverthorn DU (2020). *Using Interactive Technology in an Integrated Human Physiology and Functional Anatomy Course to Enhance Student Engagement, Knowledge, and Retention.* [poster abstract]. Experimental Biology; San Diego, CA. Abstract nr 669.28/H76 (Conference Cancelled - Abstract Published)
3. **Stokes JA** (2019). *Collaborative Exams in an Undergraduate Anatomy and Physiology Classroom Enhance Students' Perceived Learning and Knowledge Retention.* [poster abstract]. Experimental Biology; Orlando, FL. Abstract nr 598.1/E707
4. **Stokes JA** and Grosfoksky A (2017). *A case study for teaching neuroanatomy structure and function: Doctor, why am I so tired and dizzy?* [poster abstract]. Experimental Biology; Chicago, IL. Abstract nr 576.4/T10

Invited Workshops

1. **Stokes JA** and Kam L (2020). *"Teaching the gut microbiome in a physiology course."* Experimental Biology; San Diego, CA. (Conference Cancelled - Abstract Published)
2. **Stokes JA** (2020). *"Using Collaborative Exams, or Other Assessments, to Promote Group Work and Peer-to-Peer Teaching."* Institute on Teaching and Learning. The American Physiological Society; Minneapolis, MN. (Conference Cancelled - Abstract Published)

Manuscripts in Preparation

1. **Stokes JA.** *Collaborative Exams in an Undergraduate Anatomy and Physiology Classroom Enhance Students' Perceived Learning and Knowledge Retention.*

Other Peer-Reviewed Publications

1. **Stokes JA** (2020). *Teaching an integrated human anatomy and physiology course: Additional lessons learned and online course adjustments.* Physiology Education Community of Practice (PECOP) Blog. Life Science Teaching Resource Community. <https://blog.lifescitrc.org/pecop/2020/06/02/teaching-an-integrated-human-anatomy-and-physiology-course-additional-lessons-learned-and-online-course-adjustments/>
2. **Stokes JA** (2019). *My first run at teaching an integrated physiology course: Lessons learned.* Physiology Education Community of Practice (PECOP) Blog. Life Science Teaching Resource Community. <https://blog.lifescitrc.org/pecop/2019/01/14/my-first-run-at-teaching-an-integrated-physiology-course-lessons-learned/>

3. **Stokes JA** and Grososky A (2018). Case study activity for learning neuroanatomy and physiology: “Doctor, why am I so tired and dizzy?” The FASEB Journal 31, no. 1 Supplement; 576-4. <http://www.lifescitrc.org/resource.cfm?submissionID=11510>

Funding

External

- *Sam Taylor Fellowship*. United Methodist Church's Division of Higher Education; 2020
 - Project Title: Assessing the effects of short-term electronic nicotine delivery on adolescent rat lung function
 - Amount: \$2,000
- *Teaching Career Enhancement Award*. American Physiological Society; 2019 – 2020
 - Project title: Using interactive technology in an integrated human physiology and anatomy course to enhance student engagement, knowledge, and retention.
 - Amount: \$10,000

Internal

- Southwestern University
 - *Faculty Student Project (Summer 2021)*
 - Project title: Assessing the effects of short-term electronic nicotine delivery on adolescent rat lung function
 - Amount: \$12,376
- Previous Institution
 - *Faculty-Student Summer Research Award*. Centenary College. (Summer 2019)
 - Project title: Microglia Activation and IL-1 β Expression in Select Ventilatory Control Regions Following Exposure to Chronic Sustained Hypoxia
 - Amount: \$8,000 (estimate, 1 student)
 - *Faculty-Student Summer Research Award*. Centenary College. (Summer 2018)
 - Project title: Microglia and Astrocyte Activation in Select Ventilatory Control Regions Following Exposure to Chronic Sustained Hypoxia
 - Amount: \$13,000 (estimate, 3 students)

Honors and Awards

- *Robert B. Anthony Travel Award*. Human Anatomy and Physiology Society; 2020
- *Teaching Section Research Recognition Award*. American Physiological Society; 2019

- *Physiology Education Community of Practice (PECOP) Fellow. American Physiological Society; 2018 – 2019*
- *Teaching Section Research Recognition Award. American Physiological Society; 2018*
- *Respiration Section Research Recognition Award. American Physiological Society; 2015*
- *Summer Training Academy Research Sciences (STARS) Research Scholar. University of California, San Diego; 2006*
- *Outstanding Student Volunteer Award. The University of Texas at Austin; 2006*
- *Liberal Arts Undergraduate Research Award. The University of Texas at Austin; 2005*

Service

Professional Service

- American Physiological Society
 - Teaching Section Steering Committee Member; 2018 – Present
 - Guyton Awards Committee Past Chair; 2020 – 2021
 - Guyton Awards Committee Chair; 2019 – 2020
 - Guyton Awards Committee Chair-Elect; 2018 – 2019
 - APS Institute for Teaching and Learning
 - Organizing Committee Member for 2022 Institute; 2020 – Present
 - Organizing Committee Member for 2020 Institute; 2018 – 2020
 - Organizing Committee Member for 2018 Institute; 2016 – 2018
- Life Science Teaching and Resource Community
 - Community Member; 2016 – Present
 - Resource Review Board (*Peer-Review Activity*); 2017 – Present
- Reviewing Activities
 - *Advances in Physiology Education*; Ad-hoc reviewer; 2019 – Present

University Service

- Southwestern University
 - *Institutional Animal Care and Use Committee. Southwestern University; 2020 - Present*
- Previous Institutions
 - *Institutional Athletics Committee. Centenary College of Louisiana; 2018 – 2020*
 - *Enrollment Policy Committee. Centenary College of Louisiana; 2018 – 2020*
 - *Department of Biology Faculty Search Committee. Centenary College of Louisiana; 2019 – 2020*
 - *Department of Biology Faculty Search Committee. Centenary College of Louisiana; 2018 – 2019*
 - *Faculty Club President. Centenary College of Louisiana; 2017 – 2018*
 - *Department of Biology Faculty Search Committee. Centenary College of Louisiana; 2017 – 2018*

- o *Co-Director*. Department of Physiology Journal Club; University of California, San Diego 2015 – 2016

Community Service

- *Science Fair Judge*. Southfield School. Shreveport, LA; 2019
- *Resource Contributor*. Martin Luther King Health Center. Shreveport, LA; 2018
- *Coach and Mentor*. San Diego VeloYouth. San Diego, CA; 2014 – 2016
- *Board of Directors*. SkyFlash Racing. San Diego, CA; 2014 – 2016
- *Webmaster*. SkyFlash Racing. San Diego, CA; 2014 – 2016
- *IMPACT Tutor*. Reality Changers; San Diego CA; 2012 – 2013
- *Co-Captain*. UC San Diego Triathlon Team. San Diego, CA; 2009 – 2011
- *Logistics Chair, Executive Committee*. The Project – Volunteer and Service Learning Center. The University of Texas at Austin, Austin, TX; 2006 – 2007
- *Project Leader*. The Project – Volunteer and Service Learning Center. The University of Texas at Austin, Austin, TX; 2004 – 2006

Professional Society Membership

American College of Sports Medicine; 2020 – Present

Human Anatomy and Physiology Society; 2019 – Present

American Physiological Society; 2014 – Present

Society for Neuroscience; 2006 – 2015

International Association for the Study of Pain; 2010 – 2011