

Katie Wilkinson, Ph.D.

*San Jose State University
Department of Biological Sciences
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Academic Appointments

- 2012-** Assistant Professor of Biological Sciences, San Jose State University
- 2011** Adjunct Faculty, Morehouse College Department of Biology
- 2009-12** Postdoctoral Training–Fellowships in Research and Science Teaching (FIRST)
Emory University School of Medicine, Department of Physiology
Research Mentor: Shawn Hochman, Professor of Physiology

Education

- 2004-09** **Ph.D. in Biomedical Sciences, University of California, San Diego**
Dissertation Advisor: Frank Powell, Professor of Medicine
Dissertation: “The Role of Nucleus Tractus Solitarius in Ventilatory Acclimatization to Chronic Hypoxia”
- 2000-04** **B.S./B.A. in Neuroscience & History, University of Pittsburgh**

Fellowships

- 2009- 12** Fellowship in Research and Scientific Teaching (FIRST), Emory University (NIH IRACDA)
- 2006-08** American Heart Association, Western States Pre-doctoral Fellowship
- 2003-04** Howard Hughes Medical Institute Academic Year Undergraduate Research Fellowship
- 2003** Center for Neuroscience, University of Pittsburgh Summer Research Fellowship
- 2003** University Honors College Teaching Fellowship

Honors

- 2007** Highlights in Graduate Student Research, Experimental Biology 2007
- 2006** Highlights in Graduate Student Research, Experimental Biology 2006
- 2004** Dept. of Neuroscience James E. Bradler, Jr. Award for Excellence in Research
- 2004** Phi Beta Kappa

Publications

K.A. Wilkinson, H.E. Kloefkorn*, S. Hochman (2012) Characterization of Muscle Spindle Afferents in the Adult Mouse Using an *In Vitro* Muscle-Nerve Preparation. *PLoS ONE* 7(6): e39140.
doi:10.1371/journal.pone.0039140

K.A. Wilkinson, Z. Fu, F.L. Powell. Ventilatory effects of substance P-saporin lesions in the Nucleus Tractus Solitarius of chronically hypoxic rats. *Am J Physiol Regul Integr Comp Physiol.* 301(2):R343-50, 2011.

K.A. Wilkinson, K.A. Huey, B. Dinger, L. He, S.J. Fidone, F.L. Powell. Chronic hypoxia increases the

gain of the hypoxic ventilator response by a mechanism in the central nervous system. *J Appl Physiol.* 109(2):424-30, 2010.

N.L. Nichols, **K.A. Wilkinson**, F.L. Powell, J.B. Dean, R.W. Putnam. Chronic hypoxia suppresses the CO₂ response of solitary complex (SC) neurons from rats. *Resp Physiol Neurobiol.* 168(3): 272-80, 2009.

N.L. Nichols, D.K. Mulkey, **K.A. Wilkinson**, F.L. Powell, J.B. Dean, R.W. Putnam. Characterization of the chemosensitive response of individual solitary complex (SC) neurons from adult rats. *Am J Physiol Regul Integr Comp Physiol.* 296(3): R763-73, 2009.

R.W. Bavis, F.L. Powell, ...et al., **K.A. Wilkinson**. Respiratory plasticity in response to changes in oxygen supply and demand. *Int & Comp Bio.* 47(4): 532-51, 2007.

J.R. Mauban, **K.A. Wilkinson**, C. Schac, J.X. Yuan. Histamine-mediated increase in cytosolic [Ca²⁺] involve different mechanisms in human pulmonary artery smooth muscle and endothelial cells. *Am J Physiol Cell Physiol.* 290(2): C325-36, 2005.

K. A. Wilkinson, A. P. Maurer, B. F. Sadacca, and B. J. Yates. Responses of feline medial medullary reticular formation neurons with projections to the C5-C6 ventral horn to vestibular stimulation. *Brain Research* 1018: 247-256, 2004.

L. A. Cotter, H. E. Arendt, S. P. Cass, B. J. Jian, D. F. Mays II, C. J. Olsheski, **K. A. Wilkinson**, and B. J. Yates. Effects of postural changes and vestibular lesions on genioglossal muscle activity in conscious cats. *J Appl Physiol* 96: 923-930, 2004.

R. Nourbakhsh, K. Crowley, A. Bhawe, E. Hamner, T. Hsiu, A. Perez-Bergquist, S. Richards, and **K. Wilkinson**. The robotic autonomy mobile robotics course: Robot design, curriculum design and educational assessment. *Autonomous Robots* 18: 103-127, 2005.

**Denotes undergraduate researcher*

Abstracts

K.A. Wilkinson, H.E. Kloefkorn*, & S. Hochman. "Characterization of adult mouse muscle spindle afferents in an in vitro isolated muscle nerve preparation," Experimental Biology, 2011.

K.A. Wilkinson & S. Hochman. "Intermittent serotonin receptor-2 (5HT₂) activation leads to facilitation of muscle afferent activity in a mouse isolated hind limb muscle/nerve preparation," Society for Neuroscience, 2010.

N.L. Nichols, **K.A. Wilkinson**, F.L. Powell, R.W. Putnam. "Chronic Hypoxia (CHx) suppresses the chemosensitive response of individual Nucleus Tractus Solitarius (NTS) neurons from adult rats," FASEB J. 2008 22:1172.1.

K.A. Wilkinson, J. A. Carr*, Z. Fu, and F. L. Powell. NK1R expression in the caudal Nucleus of the Solitary Tract (cNTS) during chronic hypoxia and chronic hypercapnia in the rat. *FASEB J.* 21: Abstract #761.3, 2007.

K.A. Wilkinson, Z. Fu, F.L. Powell. Effect of lesions in the nucleus tractus solitarius (NTS) on hypercapnic ventilatory response (HCVR) in awake rats. *FASEB J.* 20(4): A786, 2006.

F.L. Powell, Z. Fu, G.S. Adams, **K.A. Wilkinson**. Effect of lesions in nucleus tractus solitarius (NTS) on hypercapnic ventilatory response (HCVR) before and after acclimatization to hypoxia. *FASEB J* 19(4): A648, Abstract #369.26, 2005.

J.R. Mauban, **K.A. Wilkinson**, C. Schac, J.X. Yuan. Histamine-mediated increase in cytosolic $[Ca^{2+}]$ involve different mechanisms in human pulmonary artery smooth muscle and endothelial cells. *Experimental Biology* 2005.

K.A. Wilkinson, A.P. Mauer, B.F. Sadacca, B.J. Yates. Responses of feline medial medullary reticular formation neurons with projections in the C5-C6 ventral horn to vestibular stimulation. *Experimental Biology* 2004.

L.A. Cotter, H.E. Arendt, S.P. Cass, B.J. Jian, D.F. Mays II, C. J. Olsheski, **K. A. Wilkinson**, and B.J. Yates. Effects of postural changes and vestibular lesions on genioglossal muscle activity in conscious cats. *Experimental Biology* 2004.

**Denotes undergraduate researcher*

Memberships in Professional Societies

2011-pres Faculty for the Understanding of Neuroscience Member

2009-pres Society for Neuroscience Member

2004-pres American Physiological Society Member

University and Professional Service

2011 Member, National Postdoctoral Association Teaching Workshop Committee

2006-07 UCSD Biomedical Sciences Graduate Program Admissions Committee, Student Member

Professional Development

2011 **Attendee Annual IRACDA Meeting for teaching and research postdocs**
Annual meeting for all IRACDA fellows that includes research, teaching, and career development sessions.

2010 **Just in Time Teaching Workshop—Morehouse College**
Attended a workshop on the use of online quizzes before class that then inform the material that is taught during the class.

2010 **Attendee Annual IRACDA Meeting for teaching and research postdocs**

2010 **Lecturer and Participant: FIRST Program “Class-within-a-Class”**
Participated as both student and lecturer in a class designed to introduce pedagogy and teaching techniques to FIRST program fellows.

Community Service

2012 Guest Speaker at Therell High School for Brain Awareness Week

2011 Guest Speaker at Northview High School for Brain Awareness Week

2011 Judge for scientific poster presentations for Innovation 2011 at Morehouse College

2010 Judge for oral presentations at the 16th Annual McNair Scholar Research Conference

2010 Guest Speaker at Alpharetta High School for Brain Awareness Week

2009 Judged oral & poster presentations at the Morehouse College McNair Scholars

	Research Day
2008	Judge for San Diego High School Science Fair Posters
2006-07	Developed and presented kindergarten science activities at the UCSD Daycare.