

CURRICULUM VITAE

Tanja Babic, PhD

Research Associate (Research Assistant Professor equivalent)

WORK ADDRESS

Department of Neural and Behavioral Sciences
Penn State College of Medicine
500 University Drive
Hershey, PA 17033
Tub13@psu.edu
Phone (717) 533-0003 ext. 280477

HOME ADDRESS

212 Kelker St. Apt B
Harrisburg, PA 17102
Cell Phone (717) 329-3307

CITIZENSHIP: Canadian
STATUS IN US: TN Visa

EDUCATION

- 2007 PhD Neuroscience, University of Western Ontario, Canada
Thesis: Contribution of the Paraventricular and Dorsomedial Nuclei of the Hypothalamus to the Development of Diet-Induced Hypertension in the Female Rat
- 2003 MSc Neuroscience, University of Western Ontario, Canada
Thesis: Role of the Rostral Ventromedial Medulla in Cardiovascular Control
- 1999 HBSc Zoology, University of Western Ontario, Canada

POSITIONS

- 2011-present **Research Associate**, Department of Neural and Behavioral Sciences, Penn State College Of Medicine, Hershey, Pennsylvania
- 2010-2011 **Postdoctoral Fellow**, Department of Neural and Behavioral Sciences, Penn State College of Medicine, Hershey, Pennsylvania
- 2009 **Adjunct Instructor**, Our Lady of the Lake Medical College, Baton Rouge, Louisiana
- 2007-2010 **Postdoctoral Fellow**, Department of Neuroscience, PBRC - Louisiana State University, Baton Rouge, Louisiana
- 2003-2007 **Teaching Assistant**, Department of Physiology and Pharmacology, University of Western Ontario, London, Ontario, Canada

TEACHING EXPERIENCE

- 2012-2013 **Instructor**, Systems Neuroscience (graduate course) Department of Neural and Behavioral Sciences, Penn State University. Lecture: Hypothalamus and Stress, 2 hours, 3 students
- 2010-2011 **Teaching Assistant**, Neuroanatomy (medical course). Department of Neural and Behavioral Sciences, Penn State University. Laboratory, 24 hours, 50 students
- 2009 **Adjunct Instructor**, Cell Biology (undergraduate course). Our Lady of The Lake Medical College. 55 hours, 10 students.
- 2006-2007 **Laboratory Demonstrator**, Physiology Laboratory (undergraduate course). Department of Physiology and Pharmacology, University of Western Ontario. Laboratory, 45 hours, 10 students.
- 2004-2007 **Tutorial Leader**, Human Physiology (undergraduate course). Department of Physiology and Pharmacology, University of Western Ontario. Tutorial, 50 hours, 50 students.
- 2000-2001 **Laboratory Demonstrator**, Animal Behaviour (undergraduate course). Department of Biology, University of Western Ontario. Laboratory, 45 hours, 50 students.

AWARDS

- 2010 New Investigator Award, Central Nervous System Section, American Physiological Society
- 2004-2007 Ontario Graduate Scholarship, Ontario, Canada
- 2004 MSc Thesis Award, University of Western Ontario, London, Ontario, Canada

PUBLICATIONS

Peer-Reviewed Research Papers

1. Holmes GM, Browning KN, Babic T, Fortna SR, Coleman FH, Travagli RA. (2013). Vagal afferent fibres determine the oxytocin-induced modulation of gastric tone. J Physiol. 591 (Pt12):3081-100. PMID: 23587885
2. Browning KN, Babic T, Holmes GM, Swartz EM and Travagli RA. (2013) A critical re-evaluation of the specificity of action of perivagal capsaicin. J Physiol 591 (Pt6):1563-80. PMID: 23297311
3. Babic T*, Bhagat R*, Wan S, Browning KN, Snyder M, Fortna SR and Travagli RA. (2013) Role of the vagus in the reduced pancreatic exocrine function in copper deficient rats. Am J Physiol. Gastrointest Liver Physiol. 304(4): G437-48. PMID 23275611 * Equal contribution

4. Babic T., Troy AE, Fortna SR, Browning KN.(2012) Glucose-dependent trafficking of 5-HT(3) receptors in rat gastrointestinal vagal afferent neurons. *Neurogastroenterol Motil.* 2012: e476-88. PMID: 22845622
5. Babic T., Browning K.N., Kawaguchi Y, Tang X, Travagli RA. (2012) Pancreatic insulin and exocrine secretion are under the modulatory control of distinct subpopulations of vagal motoneurons in the rat. *J Physiol.* 590:3611-22. PMID: 22711959
6. Babic T., Browning K.N. and Travagli R.A. (2011) Differential organization of excitatory and inhibitory synapses within the rat dorsal vagal complex. *Am. J. Physiol.* 300: G21-32. PMID 20947702
7. Babic T., Purpera M.N., Banfield B.W., Berthoud H.R. and Morrison C.D. (2010) Innervation of skeletal muscle by leptin receptor-containing neurons. *Brain Res.* 1345: 146-55. PMID 20501326
8. Babic T., Townsend L.R., Patterson L.M., Sutton G.M., Zheng H and Berthoud H.R. (2009) Phenotype of neurons in the nucleus of the solitary tract that express CCK-induced activation of ERK signaling pathway. *Am. J.Physiol.* 296: R845-54. PMID 19176891
9. Babic T., de Oliveira C.V.R. and Ciriello J. (2008) Collateral axonal projections from rostral ventromedial medullary nitric oxide synthase containing neurons to brainstem cardiovascular sites. *Brain Res.* 1211: 44-56. PMID 18423427
10. Ciriello J., Solano-Flores L.P., Rosas-Arellano P.M., Kirouac G.J. and Babic T. (2008) Medullary pathways mediating the parasubthalamic nucleus depressor responses. *Am. J. Physiol.* 294: R1276-84. PMID 18287224
11. Babic T., Roder, S. and Ciriello, J. (2004) Direct projections from caudal ventrolateral medullary depressor sites to the subfornical organ. *Brain Res.*1003:113-21. PMID 15019570
12. Babic T. and Ciriello J. (2004) Medullary and spinal cord projections from cardiovascular sites in the rostral ventromedial medulla. *J. Comp. Neurol.* 469: 391-412. PMID 14730590
13. Ciriello J., McMurray JC, Babic T., de Oliveira C.V.R. (2003) Collateral axonal projections from hypothalamic hypocretin neurons to cardiovascular sites in nucleus ambiguus and nucleus tractus solitarius. *Brain Research*: 991(1-2): 133-41. PMID 14575885
14. de Oliveira C.V.R., Rosas-Arellano M.P., Solano-Flores L.P., Babic T., Li Z. and Ciriello J. (2003) Estrogen alters the bradycardia response to hypocretin-1 in the nucleus tractus solitarius of the ovariectomized female. *Brain Res.* 978: 14-23. PMID 12834893

Invited Reviews

1. Browning, K.N. and Babic, T. (2013) The role of vagal neurocircuits in the regulation of nausea and vomiting. *European Journal of Pharmacology*. Submitted.
2. Babic, T. and Travagli R.A. (2013) Role of metabotropic glutamate receptors in the regulation of pancreatic functions. *Biochemical Pharmacology*. In preparation (due date Oct 1 2013).

ORAL PRESENTATIONS

1. Plasticity of vagal circuits in acute pancreatitis. Experimental Biology Meeting 2013. Boston, MA
2. In vitro and in vivo studies on the effects of oxytocin in a rat model of functional dyspepsia. Little Brain Big Brain Meeting 2012. Leuven, Belgium
3. Acute pancreatitis alters the sensitivity of the dorsal motor nucleus of the vagus neurons to group II metabotropic glutamate receptors. Digestive Diseases Week 2012. San Diego, CA
4. Sex differences in the connectivity of rostral ventromedial medulla. Society for Neuroscience Meeting, 2002. Orlando, FL.

SERVICE

Guest Judge. 2012 Early Career Awards and Michael Brody Awards, Neural Control of Autonomic Function, American Physiological Society

Featured Topic Organizer. 2012. Brainstem pathways in health and disease, Experimental Biology Meeting, Boston, MA 2012

Paper Reviewer

Neurogastroenterology and Motility
Brain Research
BMC Physiology
American Journal of Physiology

RELEVANT PROFESSIONAL TRAINING

Sept 2013-May 2014: Junior Faculty Development Program. Penn State Hershey College of Medicine, Hershey, PA

Sept 2002: Teaching Assistant Training Program. University of Western Ontario, London, Ontario

MEMBERSHIP IN SCIENTIFIC SOCIETIES

American Physiological Society
American Gastroenterology Association
American Neurogastroenterology and Motility Society