

July 30, 2015

CURRICULUM VITAE
Peter D. Brodfuehrer, Ph.D.

Position

Professor of Biology
Neuroscience minor Head and Adviser for Biology

Work Address

Department of Biology
Bryn Mawr College
101 N. Merion Ave.
Bryn Mawr, PA 19010
6105265095

Education

B.A. in Biology,

9/e43 3U54 55.226j EM[(8j /TT(m nv0.018 Tc 0.018U65.226jt46l)-46l)-4i 0 Td

Administrative Positions

9/99 5/06 Chair of Biology, Bryn Mawr College
9/96 5/02 Program Chair, Neural and Behavioral Sciences
9/03 present Minor in Neuroscience (formally Neural and Behavioral Sciences
Concentration) Adviser Biology
9/08 5/09 Director of the Center for Science in Society
9/13 present Head of Minor in Neuroscience
9/15 5/15 Chair Faculty Curriculum Committee
5/14 present Director STEM Posse Program and Summer Immersion Program
8/15 present Faculty Fellow for LILAC

Publications

Peer reviewed research articles

Brodfehrer, P.D. and Fourtner, C.R. (1983) Reflexes evoked by the femoral and coxal chordotonal organs in the cockroach, *Periplaneta americana*. *Comp. Biochem. Physiol.* 74A:169-174.

Brodfehrer, P.D. and Friesen, W.O. (1984) A sensory system initiating swimming activity in the medicinal leech. *J. Comp. Biol.* 108:343-355.

Friesen, W.O. and Brodfehrer, P.D. (1984) Identification of neurons in the leech through local manipulations. *J. Exp. Biol.* 113:445-455.

Brodfehrer, P.D. and Friesen, W.O. (1986) Stimulation to undulation: A neuronal pathway for the control of swimming in the leech. *Science* 234:1002-1004.

Brodfehrer, P.D. and Friesen, W.O. (1986) Initiation of swimming activity by trigger neurons in the leech subesophageal ganglion. I. Output connections of Tr1 and Tr2. *J. Comp. Physiol. A* 159:485-502.

Brodfehrer, P.D. and Friesen, W.O. (1986) Initiation of swimming activity by trigger neurons in the leech subesophageal ganglion. II. Role of segmental swimming interneurons. *J. Comp. Physiol. A* 159:503-510.

Brodfehrer, P.D. and Friesen, W.O. (1986) Initiation of swimming activity by trigger neurons in the leech subesophageal ganglion. III. Sensory input to Tr1 and Tr2. *J. Comp. Physiol. A* 159:515-519.

Brodfehrer, P.D. and Friesen, W.O. (1986) Control of leech swimming activity by cephalic ganglia. *J. Neurobiol.*

Brodfehrer, Peter D.
Curriculum vitae

May, M. L., Brodfehrer, P.D. and Hoy, R.R. (1988) Kinematic and aerodynamic aspects of ultrasound induced negative phonotaxis in flying Australian field crickets (*Teleogryllus oceanicus*). *J. Comp. Physiol. A* 164:243-249.

Brodfehrer, P.D. and Hoy, R.R. (1989) Integration of ultrasound and flight inputs on descending neurons in the cricket brain. *Brain* 112: 1517-1531.

Hoy, R., Nolen, T. and Brodfehrer, P. (1989) The neuroethology of acoustic startle and escape in flying insects. In: Principles of Sensory-Motor Integration. In: av6

Broduehrer, Peter D.
Curriculum vitae

Cellucci, C.J., Broduehrer, P.D., AceraPozzi, R., Dobrovoly, H., Engler, E., Thompson, R., Los, J. and Albano, A.M. (2000) Linear and nonlinear measures predict swimming in the leech. *Phys. Rev. E* 62, 4826-4834.

Broduehrer, P.D. and Thorogood, M.S.E. (2001). Identified Neurons and the Initiation of Leech Swimming. *Prog Neurobio.* 63(7) 381.

Albano, A. M., Brodueher, P. D., Tapyrik, L., and Sundera, S. (2006) Linear and nonlinear properties of prestimulus ventral cord signals distinguish swimming response of the leech intracellular stimulation. *International Journal of Bifurcation and Chaos* 14:55.

Broduehrer, P.D., Tapyrik, L., Convery, M., Zekavat, G., and Pietras, N. (2006) Modification of Behavioral Responsiveness Following Foraging for Artificial Blood in the Medicinal Leech. *Comp. Physiol. A.* 192:817-825.

Broduehrer, P.D., McCormick, K., Garybeal, C., Tapyrik, L., and Albano, A.M. (2008) Initiation of Swimming or Crawling by a Trigger Interneuron in the Medicinal Leech. *Neurosci.* 8:3139.

Meacham, C.A., Broduehrer, P.D., Watkins, J.A., and Shafiq, J. (2008) Developmentally regulated sodium channel subunits are differentially sensitive to containing pyrethroids. *Toxicology and Applied Pharmacology.* 231(3) 273

Albano, A.M., Broduehrer, P.D., Cellucci, C.J., Tigno, X.T., and Rapp, P.E. (2009) Time Series Analysis, or the Quest for Quantitative Measures of Time Dependent Behavior. *Philippine Science Letters,* 1:1830.

Mullins OJ, Broduehrer P D, Jusufovi S, Hackett JH, Friesen WO (2010) Specialized cephalic regions and sensory inputs that control locomotion in leeches. *J. Comp. Physiol. A* 198:97-108.

Technical Notes, Gene Sequences, and Laboratory Exercises

Broduehrer, P.D. and Parker, H.J. (1994) Neurophysiologist Analysis. In: SuperScope Applications GW Instruments, Somerville, MA.

Sweeney, L.M., Broduehrer, P.D. and Raughley, B. (2004) An Introductory Biology Laboratory that Uses Enzyme Histochemistry to Teach Students about Skeletal Muscle Fiber Types. *Adv. Physiol. Educ* 28: 238.

Broduehrer, P.D. glutamate receptor 1, *partial cDNA* *verbanaa*78.

Brodfehrer, Peter D.
Curriculum vitae

Brodfehrer, P.D. and Friesen, W.O. (1982) Activation of vibration receptors initiates swimming in a semi-intact leech preparation. Neurosci. Abstr. Vol. 8, pp. 529.

Brodfehrer, P.D. and Friesen, W.O. (1983) Responses of vibration receptors in the medicinal leech to head stimulation. Neurosci. Abstr. Vol. 9, pp. 324.

Brodfehrer, P.D. and Friesen, W.O. (1984) Swim initiation by neurons in the leech brain occurs by independent pathways. Neurosci. Abstr. Vol. 10, pp. 148.

Brodfehrer, P.D. and Hoy, R.R. (1987) Effect of auditory deafferentation on the synaptic connectivity of identified interneurons in adult crickets. Neurosci. Abstr. Vol. 13, pp. 1144.

May, M. L. and Brodfehrer, P.D. (1987) Changes in wing parameters in Teleogryllus oceanicus due to ultrasonic stimuli. Neurosci. Abstr. Vol. 13, pp. 398.

May, M.L., Land, B.R., Brodfehrer, P.D. and Hoy, R.R. (1988) A three-dimensional model of the ultrasound-induced negative phonotactic response in the Australian field cricket (Teleogryllus oceanicus). Neurosci. Abstr. Vol. 14, pp. 311.

Brodfehrer, P.D., May, M.L. and Hoy, R.R. (1988). Ultrasonic neurons in the brain of crickets. Neurosci. Abstr. Vol. 14, pp. 311.

Brodfehrer, P.D. and Cohen, A.H. (1990) Localization of glutamate-like immunoreactivity in the leech central nervous system. Neurosci. Abstr. Vol. 16, pp. 306.

Johnson, B.R., May, M.L. and Brodfehrer, P.D. (1990) Intracellular recording from brain cells in the land snail: A student laboratory exercise for examining neuronal excitability. Physiologist 33:40.

Johnson, B.R., May, M.L. and Brodfehrer, P.D. (1991) Current events: A student laboratory exercise for examining ionic currents under voltage clamp in snail neurons. Neurosci. Abstr. Vol. 17, pp. 516.

Brodfehrer, P.D. (1992) Suppression of activity in an identified interneuron predicts the initiation of leech swimming. Bird International Congress of Neuroethology Abstract # 244.

Brodfehrer, P.D., Burns, A and Berg, M. (1993) Regulation of segmental swimming interneurons by a pair of identified interneurons in the leech head ganglion. Neurosci. Abstr. Vol. 19, pp. 1600.

Grobstein, P., Brodfehrer, P. and Oristaglio, J. (1993) The fill problem: motor choice and intrinsic value. Neurosci. Abstr. Vol. 19, pp. 222.36

Jones, R.F. and Brodfehrer, P.D.(2002) Intracellular calcium level and long
excitation in leech neurons. The 13

insecticide deltamethrin. 12th International Neurotoxicology Conference September 11-2005.

McCormick, K., and Brodfehrer, P.D. (2005) Initiation of Swimming or Crawling by a Trigger Interneuron in the Medicinal Leech. East Coast Nerve Net meeting, April 1 Marine Biological Laboratory, Woods Hole, MA.

Bryant, A., Still, E. and Brodfehrer, P.D. (2007) Role of NMDA Receptors in Sustaining Swimming in the Leech. East Coast Nerve Net meeting, April 2007, Marine Biological Laboratory, Woods Hole, MA.

Bryant, A., Still, E. and Brodfehrer, P.D. (2007) Role of NMDA Receptors in Sustaining Leech Swimming. Eighth International Congress of Neuroethology, Vancouver, Canada, July 1007.

Brodfehrer, P.D., Tapyrik, L., McCormick, K., and Graybeal, C. (2007) Multifunctional Trigger Interneuron in the Medicinal Leech. Eighth International Congress of Neuroethology, Vancouver, Canada, July 2007. [http://www.mbl.edu/~brodfehrer/8logy-33.96-1-Hr\(a\)4\(t\)-2-Tc6\(in\)2\(g\)12\(\)-10\(L-4\(P\)\(,\)-10oBodigitalLaiehrer8logy24.BodaJuly1007.tigy4\(-8\(a\)1b\)-2\(tir\)6\)2\(y\)208\(e\)-6\(\(8\)C\(R\)P2cit](http://www.mbl.edu/~brodfehrer/8logy-33.96-1-Hr(a)4(t)-2-Tc6(in)2(g)12()-10(L-4(P)(,)-10oBodigitalLaiehrer8logy24.BodaJuly1007.tigy4(-8(a)1b)-2(tir)6)2(y)208(e)-6((8)C(R)P2cit)

Brøfæhrer, Peter D.
Curriculum vitae

Brodie, Peter D.
Curriculum vitae

- 9/06 8/10 National Science Foundation Collaborative Research on the Control of Animal Movements. (Award = \$159,394) includes one year no cost extension
- 5/07 8/07 REU supplement to my National Science Foundation grant. (Award = \$5,600)

Institutional Grants

- 6/04 5/09 Sherman Fairchild Foundation Scientific Front Program, Phase IX. Program Director (Total Award = \$484,438).
- 9/04 8/08 Howard Hughes Medical Institute Undergraduate Science Education Program. Program Director.

Brodie, Peter D.
Curriculum vitae

- 5/95 Participant in Camden Conference on the Brain for Educators, May 20, 1995. University of Rutgers-Camden.
- 12/96 NEC Research Institute, Princeton, NJ.
- 7/99 University of Kaiserslautern, Department of Physiology, Germany.
- 3/01 Invited to serve on 2001 Major Research Instrumentation (MRI) Advisory Panels National Science Foundation. Declined invitation due to teaching obligations.
- 9/01 Dickinson College, Department of Biology
- 2/03 Member of 2003 NSF Graduate Research Fellowship panel in Neuroscience, Physiology and Microbiology.
- 3/03

7/09 Outside reviewer for promotion to associate professor at the University of
Richmond.
11/09

Brdfeher, Peter D.
Curriculum vitae

Chair of the Search Committee for Instructor to teach post ~~baccalaureates~~ ^{Baccalaureates}
Biology, spring 2004. Hired Dr. Wien.

Chair of the Search Committee for the Biochemist / Molecular Biologist position in
Biology, 2002-2006. Offered job to top candidate, declined position.

Play a key role in the structuring of secretarial support for the Departments of Biology,
Geology and Chemistry, 2005-2006.

Biology representative to the Science Node, 2007-2006-

Associate Director of Center for Science and Society, 2007

Hosted classroom visits for prospective students attended *Introductory*
Biology (Biology 102)25.221(o)-ch Co

Brdfeher, Peter D.
Curriculum vitae

- Member of the Search Committee for Laboratory Instructor position in Biology, Spring 2013.
- Member of the Search Committee for Computational Ecologist Biology fall 2013.
- Talk entitled, "Time Scales in Biology" for Family Weekend, October 2013.
- Member of Undergraduate Curriculum Committee, 2013-
- Member of Quantitative Reading Steering Committee. 2013 -present
- Member of *Ad hoc* Search Committee for Opportunity Hire in Mathematics, Fall 2014.

Majority Inspector for Haverford Township 5th ward 1 precinct