

Joseph Gyekis

Department of Biobehavioral Health
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Professional Experience

2012-present Assistant/Associate Teaching Professor of Biobehavioral Health, PSU
2011-2012 Post-doctoral Fellow, Center for Developmental and Health Genetics, PSU
2006-2011 Research and Teaching Assistant in Biobehavioral Health, PSU
2005-2007 Research Assistant in Geography, PSU
2004-2005 Science Writing Intern, Research Penn State magazine, PSU
2003-2005 Peer Tutor in Writing, Center for Excellence in Writing, PSU

Education

Ph.D. 2011 Biobehavioral Health, Pennsylvania State University
M.S. 2007 Geography, Pennsylvania State University
B.S. 2006 Life Science (with Honors), Pennsylvania State University

Teaching

High student ratings of teaching effectiveness in challenging courses, very positive feedback from both outstanding and struggling students.

Courses

BBH 411W: Research Applications in BBH

Research methods, multi-level analyses, and applications in biobehavioral health. Writing intensive course. Rewrote curriculum, new assignments, very positive feedback, my sections are strongly preferred at registration.

BBH 310: Research Methods

Surveys the various research methodologies used in biomedical research, including case, epidemiological, quasiexperimental and experimental approaches. Rewrote curriculum, drafted textbook, creating modules for novel stats teaching techniques.

BBH 143: Drugs, Behavior, and Health

Health and behavior effects of common drugs of abuse.

BBH 440: Epidemiology

Theory of epidemiology and significant case studies; potential applications to health care.

BBH 410: Developmental and Health Genetics

Discussion of genetic influences on development and the interrelationships between genetics and health. Wrote my own curriculum to replace a multiple choice exam based course into a project-based learning course.

BBH 119: Behavior, Health, and Disease

Principles of health promotion, disease prevention, and treatment of acute and chronic illness.

BBH 101: Introduction to Biobehavioral Health

Introduction to an interdisciplinary study of health, examining the interaction of biological processes and behavior on health.

Guest Teaching/Single Lectures: BIO 444 Field Ecology, BIO 446 Physiological Ecology, BBH 504 Health Intervention Strategies; MOOC on "Creativity, Innovation and Change" (over 10,000 viewers), BBH 203 Neurobiological Basis of Health, BBH 451 Psychopharmacology

Advising and Mentorship

Undergraduate research advising and mentorship: 18 independent study research projects, 60 students doing honors options in course sections

Research Publications

Dunn, E., A. Dreelin, P. Heveran, L. Goodrich, D. Potter, A. Florea, B. Ewald, and J. Gyekis. 2022. Community science reveals biennial irruptive migration in the White-breasted Nuthatch (*Sitta carolinensis*). *Journal of Field Ornithology* 93(2):2.

Gyekis, J., J.M. Hill, and B. Evans. 2019. Spring migration timing of Grasshopper Sparrows in Central Pennsylvania as estimated from eBird records and two nocturnal flight call stations. *Pennsylvania Birds* 33(2):89-92

Gyekis JP, Lang DH, Vandenberg DJ, Gerhard GS, Griffith JW, Dodds JW, Shihabi ZK, Tilley MK, Blizard DA. A Chromosome 13 locus is associated with male-specific mortality in mice. *Aging Clinical and Experimental Research*, 2016 Feb; 28(1):59-67.

Carbonetto P, Cheng R, Gyekis JP, Parker CC, Blizard DA, Palmer AA, Lionikas A. Discovery and refinement of muscle weight QTLs in B6 x D2 advanced intercross mice. *Physiological Genomics*. 2014 Aug 15;46(16):571-82.

Heiderstadt KM, Vandenberg DJ, Gyekis JP, Blizard DA. Communal nesting increases pup growth but has limited effects on adult behavior and neurophysiology in inbred mice. *Journal of the American Association of Laboratory Animal Science*. 2014 Mar;53(2):152-60.

Weinhouse C, Anderson OS, Bergin IL, Vandenberg DJ, Gyekis JP, Dingman MA, Yang JY, Dolinoy DC. Dose-dependent incidence of hepatic tumors in adult mice following perinatal exposure to bisphenol A. *Environmental Health Perspectives*. 2014 May;122(5):485-91.

O'Connell T, Brooks R, Prosser D, Gaudette M, Gyekis J, Farrell K, Casalena M. "Wetland-Riparian Birds of the Mid-Atlantic Region." In *Mid-Atlantic Freshwater Wetlands: Advances in Wetlands Science, Management, Policy, and Practice*, Brooks R and Wardrop D eds. Springer, 2013.

Dingman MA, Gyekis JP, Whetzel CA, Klein LC, Vandenberg DJ. Age-specific locomotor response to nicotine in yellow and mottled yellow A(vy)/a mice. *BMC Research Notes*. 2013 Dec 1;6:497.

Gyekis JP, Yu W, Dong S, Wang H, Qian J, Kota P, Yang J. No association of genetic variants in BDNF with major depression: a meta- and gene-based analysis. *American Journal of Medical Genetics B: Neuropsychiatric Genetics*. 2013 Jan;162(1):61-70.

Gyekis JP, Dingman MA, Revitsky AR, Bryant BP, Vandenberg DJ, Frank ME, Blizard DA. Gustatory, trigeminal, and olfactory aspects of nicotine intake in three mouse strains. *Behavioral Genetics*. 2012 Sep;42(5):820-9.

Gyekis J, Blizard DA, Stout JT, Vandenberg DJ, McClearn GE, Hager R. Genetic and maternal effects on offspring mortality in mice. *Evolutionary Biology*, 2011 Dec; 38(4):434-440.

Gyekis J, Anthony K, Foreman JE, Klein LC, Vandenberg DJ. Perinatal nicotine exposure delays genital development in mice. *Reproductive Toxicology*. 2010 Jun;29(3):378-380.

Gyekis J, Foreman JE, Anthony K, Klein LC, Vandenberg DJ. Activity-related behaviors in the hole-board predict nicotine consumption in C57B6 mice perinatally exposed to nicotine. *Behavioral Brain Research*. 2010 Jan 5;206(1):139-142.

Foreman JE, Lionikas A, Lang DH, Gyekis JP, Krishnan M, Sharkey NA, Gerhard GS, Grant MD, Vogler GP, Mack HA, Stout JT, Griffith JW, Lakoski JM, Hofer SM, McClearn GE, Vandenberg DJ, Blizard DA. Genetic architecture for hole-board behaviors across substantial time intervals in young, middle-aged and old mice. *Genes Brain and Behavior*. 2009 Oct;8(7):714-27.

Conference Presentations

Paul Heveran, Nick Pulcinella, Joe Gyekis. Highlights and Observations from Two Seasons of Morning Flight Migration Counts Over Southeastern Arizona. *Arizona Field Ornithologists*, 2024.

Paul Heveran, Joe Gyekis. Occasional Fall Movements of Tufted Titmice in the Mid-Atlantic Region. *Wilson Ornithological Society*, 2023.

Paul H. Heveran, Andrew Dreelin, Erica H. Dunn, Derek Potter, Andra Florea, and Joseph P. Gyekis. Irruption of White-breasted Nuthatches when mast yields are low in the northeast. *American Ornithological Society*, 2021.

Blizard DA, Vandenberg DJ, Gyekis J, Hettinger TP, Koide T, Frank ME. Reciprocal crosses between C57BL/6J and DBA/2J reveal chromosomal and epigenetic taste-preference signatures in laboratory mice. *Association for Chemoreception Sciences*, Bonita Springs, Florida, April 22-25th, 2015.

Gyekis J, Blizard D. Pellet eating behavior in C57BL/6J, DBA/2J, and hybrid mice. *Genes Brain and Behavior Annual Meeting*, Leuven, Belgium, May 20-24, 2013.

Dingman MA, Gyekis JP, Vandenberg DJ. Effect of nicotine concentration and number of nicotine bottles on oral nicotine consumption in adult and adolescent C57BL/6J mice of both sexes. *Society for Neuroscience*, New Orleans, LA, October 13-17, 2012.

Gyekis J, Dingman MA, Revitsky AR, Bryant B, Vandenberg DJ, Frank ME, Blizard DA. Taste, chemesthesis, and olfaction in nicotine drinking by mice. *International Behavioral and Neurogenetics*. Boulder Colorado. May 15-19, 2012.

Gyekis J, Dingman M, Klein LC, Vandenberg DJ. Perinatal methyl donor supplementation reduced adolescent nicotine consumption and ethanol drinking in the dark. Oral presentation at the *Society for Neuroscience*, Washington D.C., Nov 16, 2011.

Dingman MA, Gyekis JP, Vandenberg DJ. Age-Specific Locomotor Responses to Nicotine in Agouti Mice. *Society for Neuroscience*, Washington D.C., Nov 16, 2011.

Ragan CM, Gyekis J, Dingman MA, Vandenberg DJ, Cavigelli SA. Early life experiences and behavior are related to adult GR and SERT mRNA expression in a sex specific manner. *Society for Neuroscience and International Society for Developmental Psychobiology*, Washington, DC, November 2011.

Gyekis J, Klein LC, Vandenberg DJ. No effect of maternal oral nicotine consumption on the coat color spectrum of Agouti viable yellow (A^{vy/a}) offspring. *Environmental Epigenomics and Disease Susceptibility*, Asheville, North Carolina, March 27 - April 1, 2011.

Gyekis J, Ragan CM, Dingman M, Cavigelli SA, Vandenberg DJ. Adolescent nicotine consumption predicts anxiety-related behavior in agouti mice. *The Society for Neuroscience*, San Diego, CA, November 13-17, 2010.

Ragan CM, Gyekis J, Dingman M, Vandenberg DJ, Cavigelli, SA. Within-litter variance in maternal behavior predicts adult sibling variance in anxiety-related behaviors in inbred mice. *The Society for Neuroscience*, San Diego, CA, November 13-17, 2010.

Gyekis J, Blizard DA, Stout JT, Vogler GP, Griffith JW, Lakoski JM, Vandenberg DJ, McClearn GE. Influence of parent of origin on pre-weaning offspring mortality in reciprocal crosses of F1 C57BL/6J and DBA/2J hybrid mice. *International Behavioral and Neurogenetics Society Annual Meeting*, Halifax, Nova Scotia, May 12-16, 2010.

Gyekis J, Foreman JE, Anthony K, Klein LC, Vandenberg DJ. Locomotor predictors of nicotine consumption in C57B6 mice perinatally exposed to nicotine. *The Society for Neuroscience*, Chicago, Illinois, October 17-21, 2009.

Altieri SC, Gyekis J, Osborne BB, Vandenberg DJ, Andrews, AM. BDNF transcript variants and anxiety behavior in SERT-deficient mice after chronic antidepressant treatment. *Society for Neuroscience*, Washington, DC, November 15-19, 2008.

Gyekis J, O'Connell T, Bishop J, Easterling M, Brooks R. Bird communities are efficient indicators of landscape and site-specific ecological condition. Oral presentation at the Pennsylvania Chapter of the Wildlife Society meeting on *Raw Material of Conservation: Inventorying and Ranking Species and Habitats of Concern*, State College, PA, March 18, 2006.

Gyekis J, Bishop J, Easterling M, O'Connell T, Brooks R. Comparing the Bird Community Index with riparian habitat bioassays in the Mid-Atlantic Highlands—are they consistent? Oral presentation at the *Northeast Ecology and Evolution Conference*, University Park, Pennsylvania, March 18-20, 2005.

Gyekis J. Bird communities and water quality in the Upper Penns Creek Watershed of Central Pennsylvania. *Fourth Goddard Forum for Sustainable Development*, Camp Hill, PA, May 10-12, 2004.

Academic Service at Penn State University

BBH Scholarships and Awards Committee Chair, 2013-current
BBH Undergraduate Programs Committee, 2016-current
Teaching Excellence Committee, 2024-current
Bird Safe Penn State Living Lab, 2022-current
PSU Avian Education Advisory Committee, 2019-current
PSU Classroom Technology Subgroup, 2020
PSU and CHHD hiring committees, 2017, 2018, 2019, 2021, 2022, 2023
mHealth Challenge, 2013-2020
Wellness Task Force, College of Health and Human Development, 2016
BBH Newsletter Committee, 2013
BBH Graduate Admissions Committee, 2009-2011
PSU Graduate Student Association President, 2007-2008

Awards and Honors

2017 Biobehavioral Health Teaching Excellence Award
2015 Biobehavioral Health “Impactful Professor” Award
2015 Biobehavioral Health Alumni Program Group Faculty Mentoring Award
2011 Dept. of Biobehavioral Health Graduate Research Award
2010-2011 Kligman Graduate Fellowship
2010 NIH Training Grant Travel Award to Intl. Behavioral and Neurogenetics Conf.
2009-2011 Hintz Graduate Enhancement Fellowship
2006-2007 Graham Research Fellowship
2005 Phi Beta Kappa Membership
2003, 2004 Schreyer Summer Research Grant
2002-2006 Schreyer Honors Scholarship
2004 Hauser Prize for Best Presentation of Undergraduate Research, PSU