Philip Michael Johns

Science Division (Life Sciences)
Yale-NUS College
28 College Avenue West, #01-501
Singapore 138533

+65 6601 5248 (office)
+65 8798 6560 (cell)
philip.johns@yale-nus.edu.sg
philip.m.johns@gmail.com

Education

Degree Programs

Ph.D. Department of Ecology and Evolution, University of Chicago, 1997

M.Sc. Department of Ecology and Evolution, University of Chicago, 1994

B.A. Department of Biological Sciences, *cum laude*, Carleton College, 1991
Concentration in Natural History

Field and Summer Programs

Summer Institute for Statistical Genetics. North Carolina State University, 2003
Tropical Biology: An Ecological Approach. Organization for Tropical Studies, 1993
Itasca Biology Field Program. University of Minnesota, 1990, 1992, 2001

Academic Honors and Fellowships

National Institutes of Health Neuroethology Training Program, Postdoctoral Fellow, University of Maryland, 2003-2005
Century Graduate Fellow, University of Chicago, 1991-1997
Distinction, Senior Comprehensive Exercise, Carleton College, 1991
National Science Foundation Research Experience for Undergraduate Fellow, Carleton College, 1989
Dean's List, Carleton College, 1988

Professional Experience

Assistant Professor. 2015-present. Division of Science (Life Sciences), Yale-National University of Singapore College, Singapore.

Lecturer. 2014-2015. Department of Ecology and Evolutionary Biology. University of California, Los Angeles, CA.

Assistant Professor. 2007-2014. Biology Program, Bard College, Annandale-on-Hudson, NY.

Postdoctoral Research Associate. 2005-2007. Entomology Department, University of Maryland, College Park. Barbara Thorne, Principal Investigator.

Sequence Facility Manager. 2005. University of Maryland, College Park.

National Institutes of Health Neuroethology Training Program Postdoctoral Fellow. 2003-2005. University of Maryland, College Park. Gerald Wilkinson, Principal Investigator.

Postdoctoral Research Associate. 2002-2003. Biology Department, University of Maryland, College Park. Gerald Wilkinson, Principal Investigator.

Visiting Assistant Professor in Evolutionary and Insect Biology. 2000-2002. Biology Department, Swarthmore College.

Teaching Postdoctoral Fellow in Population Genetics, Evolution, and Animal Behavior. 1997- 2000. Biology Department, Villanova University.

Postdoctoral Researcher. 1998, Summer. University of Tennessee, Knoxville. Susan Riechert, Principal Investigator.

Field Researcher. 1996, Summer. University of Tennessee, Knoxville. Susan Riechert and Fred Singer, Principal Investigators.

Teaching Assistant. 1992-1997. Department of Ecology and Evolution, University of Chicago.

Field Assistant. 1991. University of Minnesota. Susan Lewis, Principal Investigator.

National Science Foundation Undergraduate Research Fellow. 1989, Summer. Carleton College. NSF-REU program. Fred Singer, Principal Investigator.

Grants

National University of Singapore, Centre for Teaching and Learning, Teaching Innovation Grant. 2017. Barcoding in the field: an extension of “Genomics in the Jungle”. $5000.

Yale-NUS College, Research Cluster Award, Co-PI. 2016-2017. Citizen science: enhancing research, improving pedagogy. $20,000.

National Science Foundation, Research Opportunity Award. 2012. Phylogenomics of spermatogenesis genes in the stalk-eyed fly genus *Teleopsis* (Family: Diopsidae). $29,864.

Bard Summer Research Institute. 2012. Gene expression and sexually selected behaviors in the stalk-eyed fly, *Teleopsis dalmanni.* $2500.

Bard Summer Research Institute**.** 2010. Transcriptome studies of stalk-eyed flies in the genus *Teleopsis*. $2500.

National Science Foundation, Research Opportunity Award. 2009. Pleiotropy and sex-biased gene expression for sexually selected traits in the stalk-eyed fly, *Cyrtodiopsis dalmanni*. $26,820.

Bard Summer Research Institute. 2009. Development of Technique to Ascertain Mate Choice in the Stalk-Eyed Fly, *Cyrtodiopsis dalmanni*. $3200.

Washington Biologists Field Club. 2004. $2000. Reproductive morphology and phylogeny of stalk-eyed flies in the Potomac Basin.

Sigma Xi, Sigma Xi Award. 1995. $500. Within-brood relatedness and fecundity in the praying mantid, *Tenodera aridifolia*: implications for sexual selection.

University of Chicago, Hinds Fund Award. 1995. $300. Within-brood relatedness and fecundity in the praying mantid, *Tenodera aridifolia*: implications for sexual selection.

University of Chicago, Hinds Fund Award. 1994. $1000. The effects of sexual cannibalism on the mating system of a praying mantid, *Tenodera aridifolia*.

Organization for Tropical Studies, Post Course Award. 1993. $350. Mating behavior of tropical mantids in Corcovado National Park, Costa Rica.

Publications

Tan MK, Yong CYH*, Ingrisch S, Wahab RHA, **Johns PM**. In press. Inferring species boundaries using acoustic and morphological data in the ground cricket genus Gymnogryllus (Orthoptera: Grylloidea: Gryllinae). Systematics and Biodiversity.

Baker RH,Narechania A, DeSalle R, **Johns PM**, Reinhardt JA, Wilkinson GS. 2016. Spermatogenesis drives rapid gene creation and masculinization of the X chromosome in stalk-eyed flies (Diopsidae). Genome Biology and Evolution. doi: 10.1093/gbe/evw043.

Reinhardt JA, Brand CL, Paczolt KA, **Johns PM**, Baker RH, Wilkinson GS. 2014. Meiotic drive impacts expression and evolution of X-linked genes in stalk-eyed flies. PLoS Genetics 10(5): e1004362. doi:10.1371/journal.pgen.1004362.

Howard KJ, **Johns PM**, Breisch NL, Thorne BL. 2013. Frequent colony fusions provide opportunities for helpers to become reproductives in the termite *Zootermopsis nevadensis*. Behavioral Ecology and Sociobiology 67:1575-1585.

Wilkinson GS, **Johns PM**, Metheney JD, Baker RH. 2013. Sex-biased gene expression and development of sexually dimorphic heads in stalk-eyed flies. PLoS ONE 8(3): e59826.

Baker RH, Narechania A, **Johns PM**, Wilkinson GS. 2012. Gene duplication, tissue-specific gene expression and sexual conflict in stalk-eyed flies (Diopsidae). Philosophical Transactions of the Royal Society of London, B, 367: 2357-2375.

Keesing, F, Oberoi P*, Vaicekonyte R, Gowen K*, Henry L, Mount S, **Johns P**, R Ostfeld. 2011. Effects of garlic mustard (*Alliaria petiolata*) on entomopathogenic fungi. Ecoscience 18: 164-168.

Maxwell MR, Barry KL, **Johns PM**. 2010. Examinations of female pheromone use in two praying mantids, *Stagmomantis limbata* and *Tenodera aridifolia sinensis* (Mantodea: Mantidae). Annals of the Entomological Society of America 103: 103: 120-127.

Johns PM, Howard KJ, Breisch NL, Rivera A*, Thorne BL. 2009. Nonrelatives inherit colony resources in a primitive termite. Proceedings of the National Academy of Sciences 106: 17452-7456.

Johns PM and Wilkinson GS. 2007. X chromosome influences sperm length in the stalk-eyed fly *Cyrtodiopsis dalmanni*. Heredity 99:56-61.

Wilkinson GS**, Johns PM**, Kelleher ES, and Muscedere ML. 2006. Fitness effects of X chromosome drive in the stalk-eyed fly, *Cyrtodiopsis dalmanni*. Journal of Evolutionary Biology, currently published online.

Johns PM, Wolfenbarger LM, Wilkinson GS. 2005. Genetic linkage between a sexually selected trait and X chromosome meiotic drive. Proceedings of the Royal Society of London, B 272: 2097-2103

Nobile CJM* and **Johns PM**. 2005. Prelude to a kiss: mate discrimination in the striped bark scorpion, *Centruroides vittatus*. Journal of Insect Behavior, 18: 405-413.

Wilkinson GS and **Johns PM**. 2005. Sexual selection and the evolution of fly mating systems. In: The Biology of the Diptera. (D.K. Yeates and B.M. Weigmann, eds.) pp. 312-339. Columbia University Press, New York.

Wilkinson GS, Amitin EG, and **Johns PM**. 2005. Sex-linked correlated responses in female reproductive traits to selection on male eye span in stalk-eyed flies. Integrative and Comparative Biology 45: 500-510

Swallow JG, Wallace LE, Christianson SJ, **Johns PM**, and Wilkinson GS. 2005. Genetic divergence does not predict change in ornament expression among populations of stalk-eyed flies. *MolecularEcology* 14: 3787-3800.

Wright TF, **Johns PM**, Walters JR, Lerner AP, Swallow JG, and Wilkinson GS. 2004. Microsatellite variation among divergent populations of stalk-eyed flies, genus *Cyrtodiopsis*. Genetical Research 84: 27-40.

Riechert SE and **Johns PM**. 2003. Do female spiders select heavier males for the “good genes” they possess? Evolution 57: 1367-1373.

Johns PM and Maxwell MR. 1997. Sexual cannibalism: who benefits? Trends in Ecology and Evolution 12: 127-128.

Johns PM. 1997. Mate choice, mating success, and fecundity in the sexually cannibalistic praying mantid, *Tenodera aridifolia*: Implications for sexual selection. Doctoral Dissertation, University of Chicago.

* research student

In Preparation

Johnson-Ulrich Z* and **Johns PM**. Dunking Behaviors in the Kea (*Nestor notabilis*). In preparation for Behavioral Processes.

Johns PM, Mayer EM*, Sicurella A*. Metabolic costs of sexual dimorphism and contest behaviours in stalk-eyed flies. In prep for PLoS One.

Johns PM, Yeo ZH*, Tan HT*, Yong YH*. Cooperative fishing tactics and teaching in smooth-coated otters, *Lutrogale perspicillata.* In prep for Scientific Reports.

Pohl S, Bunnag N, Baker RH, **Johns PM**. Extensive gene duplication and diversification of the highly conserved nuclear membrane transport genes in stalk-eyed flies. In preparation for Evolution.

Johns PM, Grace JL, Bunnag N. Fight sequences in two species of stalk-eyed flies. In prep for Animal Behaviour.

Johns PM, Putnam B, Pauly G, Blumstein B. Citizen science and animal behaviour. In prep for Trends in Ecology and Evolution.

Howard KH, **Johns PM,** Badger E*. Influence of *Wolbachia* infection on colony structure in the ant, *Temnothorax longispinosus*. In preparation for Behavioral Ecology.

* research student

Conference Presentations

Pohl S, Bunnag N*, Wahab R, Baker RH, **Johns** PM. 2018. Tissue-specific expression of highly duplicated nuclear import genes in stalk-eyed flies (Diopsidae). Joint Congress on Evolutionary Biology: the European Society for Evolutionary Biology, the American Society of Naturalists, the Society for the Study of Evolution and the Society of Systematic Biologists. Montpellier, France.

Grace JL, Lee I*, Kannangath A*, Wahab R, **Johns PM**. 2018. Analysis of male contest behavior in a recently described species of stalk-eyed fly from Borneo, *Teleopsis pallifacies*. Joint Congress on Evolutionary Biology: the European Society for Evolutionary Biology, the American Society of Naturalists, the Society for the Study of Evolution and the Society of Systematic Biologists. Montpellier, France.

Johns PM, Yeo ZY*, Tan M-M*, Yong C*. 2018. Group foraging and between-group conflict in Singapore's urban otters. Annual Meetings for the International Society for Behavioural Ecology, Minneapolis, Minnesota USA.

Grace JL, Lee I*, Kannangath A*, Wahab R, **Johns PM**. 2018. Analysis of male contest behavior in a recently described species of stalk-eyed fly from Borneo, Teleopsis pallifacies. International Society for Behavioural Ecology Biennial Meeting, Minneapolis, Minnesota USA.

Tan M-M*, **Johns PM**. 2018. Interactions between Singapore's wild smooth-coated otters and people. Presented at the The International Society for Anthrozoology

27th International Conference: Animals in Our Lives: Multidisciplinary Approaches to the Study of Human–Animal Interactions. Sydney, Australia.

Johns PM, Bunnag N*, Wahab R, Baker R**.** 2017. Widespread duplication and gonad-specific expression of nuclear import genes in stalk-eyed flies (Diopsidae). Joint conference of the American Society of Naturalists, the Society for the Study of Evolution, and the Society of Systematic Biologists, Portland, Oregon.

Johns PM. 2017. The otters and otter watchers of Singapore. International Urban Wildlife Conference, San Diego, California.

Johns PM. 2017. Magic and the internet: how to engage students in the 21st Century. STEM Singapore Innovation Symposium. Yale-NUS College. Singapore, Singapore.

Johns PM. 2016. Singapore otters: towards citizen cognitive science. In the symposium: Discussing science democratization, citizen science & community engagement: the amateur and the scientist. Meetings of the Society for Conservation Biology, Asia Section, and Association for Tropical Biology and Conservation, Asia-Pacific Chapter. Singapore, Singapore.

Johns PM. 2016. Otter behaviour and citizen science in Singapore. 13th International Otter Congress: "Otters and People". Singapore, Singapore.

Mayer* EM, Sclafanni S*, Sicurella A*, **Johns PM**. 2014. Measuring the costs of sexual dimorphism in stalk-eyed flies. In the symposium: Stalk-eyed flies (Diopsidae): a model organism for the study of mate competition and its consequences. 8th International Congress of Dipterology. Potsdam, Germany.

Baker RH, **Johns PM**, Narechania A, DeSalle R, Reinhardt JA, Wilkinson GS. 2013. Abundant gene duplication and X-linkage among testes expressed genes in stalk-eyed Flies (Diopsidae). Society for Molecular Biology and Evolution, Annual Meetings, Chicago, Illinois.

Johns PM, Baker RH, Wilkinson GS. 2012. Sexual competition in stalk-eyed flies (Family Diopsidae). 21st Annual Philippine Biodiversity Symposium of the Wildlife Conservation Society of the Philippines at the Philippine National Museum (Manila) and De La Salle University, Philippines.

Johnston-Ulrich Z* and **Johns PM**. 2012. A new method for studying physical cognition in non-human animals. Association for the Study of Animal Behavior, Interdisciplinary Workshop 2012: Physical Cognition and Problem Solving. University of Birmingham, Birmingham, UK.

Howard KJ, Badger E*, and **Johns PM**. 2011. Infection by *Wolbachia* correlates with social structure in the ant *Temnothorax longispinosus*. Entomological Society of America Annual Meetings. Reno, Nevada.

Johns PM. 2011. Gene expression differences between male and female heads in stalk-eyed flies. In the symposium: Stalk-eyed flies (Diopsidae): a model organism for studying the evolution of form and function. BioSystematics Conference: 7th International Congress of Systematic and Evolutionary Biology (ICSEB VII) of IOSEB (International Organization for Systematic and Evolutionary Biology), 12th Annual Meeting of the Society of Biological Systematics (GfBS), and 20th International Symposium "Biodiversity and Evolutionary Biology" of the German Botanical Society (DBG). Freie University, Berlin, Germany.

Johns PM, Howard H, Breisch NL, Thorne BL. 2008. Unrelated reproductives in the basal termite, *Zootermopsis nevadensis*: evolution of eusociality. Society for the Study of Evolution/American Society of Naturalists/Society for Systematic Biologists combined Annual Meetings. University of Minnesota, St. Paul, MN.

Howard K, **Johns PM**, Breisch NL, and Thorne BL. 2007. Genetic analysis of parentage of replacement reproductives and alates in a primitive termite, *Zootermopsis nevadensis* (Isoptera). Entomological Society of America Annual Meetings, San Diego, CA.

Johns PM, Thorne BL, and Breisch NL. 2006. Differentiation of new reproductives in dampwood termite colonies (*Zootermopsis nevadensis*): their origin and implications for the evolution of eusociality. XV Congress of the International Union for the Study of Social Insects, Washington, DC.

Thorne BL, Breisch NL, **Johns PM**, Abdul-Haqq RA*. 2006. The extended royal family: origin, persistence, polyphenism, and evolutionary implications of termite neotenics and reproductive soldiers. XV Congress of the International Union for the Study of Social Insects, Washington, DC.

Swallow JG, Wallace L, Christianson SJ, **Johns PM**, and Wilkinson GS. 2005. Genetic divergence does not predict change in ornament expression among populations of stalk-eyed flies. Society for the Study of Evolution/American Society of Naturalists/Society for Systematic Biologists combined Annual Meetings.

Johns PM, and Wilkinson GS. 2004. Effects of *sex ratio* on sperm length in the stalk eyed fly, *Cyrtodiopsis dalmanni*. Society for the Study of Evolution/American Society of Naturalists/Society for Systematic Biologists combined Annual Meetings. Colorado State University, Fort Collins, CO.

Wilkinson GS, Amitin EG, **Johns PM**. 2004. Correlated responses to long-term artificial sexual selection in stalk-eyed flies. Society for Integrative and Comparative Biology Symposium. Selection Experiments as a Tool in Evolutionary and Comparative Physiology: Insights into Complex Traits. New Orleans, Louisiana.

Johns PM and Wilkinson GS. 2003. Linkage between genes for eyestalk length and meiotic drive in *Cyrtodiopsis dalmanni. Society for the Study of Evolution/American Society of Naturalists/Society for Systematic Biologists* combined Annual Meetings. California State University, Chico, CA.

Wilkinson GS, and **Johns PM**. 2003. Maintenance of sex chromosome meiotic drive in stalk-eyed flies. *Society for the Study of Evolution/American Society of Naturalists/Society for Systematic Biologists* combined Annual Meetings. California State University, Chico, CA.

Nobile CJ * and **Johns PM**. 2001. Prelude to a kiss: mate discrimination in the bark scorpion, *Centruroides vittatus*. *Animal Behavior Society* Annual Meetings. Oregon State University, Corvallis, Oregon.

Riechert SE and **Johns PM**. 2001. Do female spiders select heavier males for the 'good genes' they possess? *Society for the Study of Evolution/American Society of Naturalists/Society for Systematic Biologists* combined Annual Meetings. University of Tennessee, Knoxville, Tennessee.

Johns PM. 1998. Male mate discrimination in the face of sexual cannibalism. *Animal Behavior Society* Annual Meetings. Southern Illinois University, Carbondale, Illinois.

Hogan J*, Dollahan NR, **Johns PM**. 1998. Effects of *Leptimonus* parasites on male mating success in the milkweed bug, *Oncopeltus fasciatus*. *Animal Behavior Society* Annual Meetings. Southern Illinois University, Carbondale, Illinois.

Singer F, Riechert S, **Johns PM**. 1997. Sexual cannibalism in the desert spider *Agelenopsis aperta*. *Animal Behavior Society* Meeting. College Park, MD.

Johns PM. 1996. Female mating success and female size in the sexually cannibalistic mantid, *Tenodera aridifolia*. *Midwestern Ecology and Evolution Conference*. Michigan State University, East Lansing, Michigan.

Johns PM. 1996. Female mating success in a sexually cannibalistic mantid. *Animal Behavior Society* Annual Meetings. Northern Arizona University, Flagstaff, Arizona.

* research student

Invited Presentations

The departments and groups below invited me to speak, often for small honoraria

2018 Fall (Scheduled). Cooperation and conflict in Singapore's smooth-coated otters: citizen science and an urban carnivore. Bucknell University, Lewisburg, Pennsylvania, USA.

2018 Fall (Scheduled). Cooperation and conflict in Singapore's smooth-coated otters: citizen science and an urban carnivore. Haverford College, Haverford, Pennsylvania, USA.

2018 Spring. The otters and otter watchers of Singapore: citizen science and the study of an urban carnivore. Invited presentation at the Los Angeles Natural History Museum, Los Angeles, California, USA.

2017 Fall. The otters and otter watchers of Singapore: citizen science and the study of an urban carnivore. Invited presentation at the California Academy of Science, San Francisco, California, USA.

2017 Spring. Gut flora and behaviour. Invited presentation to the GutHub Group Talk Series: Microbial March for the Free Movement of Cultures. ArtScience Museum, Singapore, Singapore.

2016 Fall. Citizen science and conservation: the otters of Singapore. Invited presentation to the Mindset Public Talk Series at The University of Nottingham, Malaysia Campus, Kuala Lumpur, Malaysia.

2016 Fall. The otter watchers of Singapore: citizen science and an approach to studying an urban carnivore. Invited presentation at James Madison University, Harrisonburg, Virginia, USA.

2016 Spring. Stalk-eyed flies in Southeast Asia. Biodiversity Connections, Singapore, Singapore.

2015 Spring. Highs and lows: highs. Commencement speech to Posse Scholars from Atlanta Posse-3. Bard College Commencement, Annandale-on-Hudson, NY.

2014 Summer. Sexy males, selfish genes, and mate-competition in stalk-eyed flies. University of Brunei Darussalam, Brunei.

2013 Fall. Sexy males, selfish genes, and sex-biased gene expression: mate competition in stalk-eyed flies. Bucknell University, Lewisburg, PA.

2012 Fall. Genes and mate competition in stalk-eyed flies. Illinois State University, Normal IL.

2012 Summer. Mate competition, genes, and gene expression in stalk-eyed flies. University of Brunei Darussalam, Brunei.

2010 Fall. The eyes have it: how meiotic drive influences sexual selection in stalk-eyed flies, *Teleopsis dalmanni*. Mount Holyoke College, South Hadley, MA.

2010 Spring. Sexy males and selfish genes: why females choose the mates they do in stalk-eyed flies. University of Massachusetts, Amherst, MA.

2009 Fall. Sexy males and selfish genes: why females choose the mates they do in stalk-eyed flies. Siena College, Loudonville, NY.

2009 Spring. Sexy males and selfish genes: the evolution of a sexual ornament in stalk-eyed flies. In Celebration of Darwin's 200th Birthday and Origin of Species 150th Anniversary. Carleton College, Northfield MN.

2006 Fall. Answers to two big questions: mate choice in stalk-eyed flies, and eusociality in termites. Colby College, Waterville, ME.

2005 Spring. Eye span and sperm length in the stalk-eyed fly, *Cyrtodiopsis dalmanni*. . Neuroethology Symposium: Evolution and Mechanisms of Timing and Rhythmic Behaviors University of Maryland, College Park.

2004 Fall. Sexy males and selfish genes: the influence of meiotic drive on sexual selection in the stalk-eyed fly, *Cyrtodiopsis dalmanni*. Entomology Colloquium. University of Maryland, College Park, MD.

2004 Spring. Sexy males and selfish genes. Neuroethology Symposium: Genes, Neurons, and Behavior. University of Maryland, College Park.

2003 Fall. Sexy males and selfish genes. Neuroethology Group. University of Maryland, College Park, MD.

2003 Winter. Evolution of mate choice in spiders and flies. National Zoo, Smithsonian Institute, Washington DC.

2002 Fall. What females look for in males and why – if you're a spider, or a fly. Biology Honors Student Colloquium, University of Maryland, College Park.

2001 Fall. Discussion Panel for Arthur Peacock's presentation, "Biology and Theology of Evolution: Welcoming the 'disguised friend' of Darwinism." Swarthmore College, Swarthmore, PA. Philadelphia Center for Religion and Science.

2001 Fall. Dangerous females and the males who love them. Department of Biology, University of Pennsylvania, Philadelphia, PA.

2001 Fall. Dangerous females and the males who love them. Department of Biology, Susquehanna University, Selinsgrove, PA.

2001 Summer. Interlocutor at the Templeton Foundation conference, “Interpreting Evolution: Scientific and religious perspectives.” Haverford College, Haverford PA. Philadelphia Center for Religion and Science.

2001 Spring. Dangerous females: the mating system of the Chinese mantis, *Tenodera aridifolia*. Middlebury College, Middlebury, VT.

1999 Spring. Male mate discrimination in the face of sexual cannibalism. Franklin and Marshall College, Lancaster, PA.

1999 Spring. Male mate discrimination in the face of sexual cannibalism. Millersville University, Millersville, PA.

1998 Fall. Male mate discrimination in the face of sexual cannibalism. Villanova University, Villanova, Pennsylvania.

1998 Fall. Male mate discrimination in the face of sexual cannibalism. National Zoo, Smithsonian Institute, Washington, D.C.

Invited Conferences and Workshops

2018 (Scheduled). National Geographic Citizen Science Regional Strategy Workshop for Asia. National Geographic Office. Hong Kong.

2018. IUCN Southeast Asia (SEA) Otter Conservation Strategy Planning Meeting. Wildlife Reserves of Singapore. Singapore.

2018. Globalising the Liberal Arts Conference. Soka University of America. California, USA.

In-house Presentations

2018 Spring. The truth about cats and dogs. Experience Yale-NUS Weekend. Yale-NUS College. Singapore, Singapore.

2018 Spring. Animal sounds. Guest lecture for Yale-NUS course on sound in the environment, taught through the Humanities Division.

2017 Spring. The truth about cats and dogs. Experience Yale-NUS Weekend. Yale-NUS College. Singapore, Singapore.

2017 Spring. Animal sounds. Guest lecture for Yale-NUS course on sound in the environment, taught through the Humanities Division.

2017 Spring. Interlocuter: Nature of ethics, being human, and religion: The Big Think. Panel discussion with Frans de Waal. Yale-NUS College. Singapore, Singapore.

2016 Fall. The truth about cats and dogs. NUS and Yale-NUS Benefactor Campus Experience. Yale-NUS College. Singapore, Singapore.

2016 Fall. Interlocuter: Evolution, Science, Faith: A Yale-NUS Dialogue with Jerry Coyne. Yale-NUS College. Singapore, Singapore.

2016 Spring. The truth about cats and dogs. Experience Yale-NUS Weekend. Yale-NUS College. Singapore, Singapore.

2013 Summer. Inclusive fitness, kin selection, group selection: muddying the waters. Language & Thinking Program. Bard College, Annandale-on-Hudson, New York.

2013 Spring. Bring 'em back alive: genomics in the jungle. All-Faculty Seminar. Bard College, Annandale-on-Hudson, New York.

2012 Fall. Dotting the eyes: mate competition and evolution in stalk-eyed flies. Lifetime Learning Institute, Bard Masters of Math and Science. Bard College, Annandale-on-Hudson, New York.

2011 Spring. Revolutions in science. First Year Seminar Symposium Panel. Bard College, Annandale-on-Hudson, New York.

2011 Spring. Genes and behavior: How to know what flies are thinking (at least in *Teleiopsis dalmanni*). All-Faculty Seminar. Bard College, Annandale-on-Hudson, New York.

2010 Fall. Paradigm lost: Is relatedness really essential to animal cooperation? Science on the Edge. Bard College, Annandale-on-Hudson, New York.

2010 Spring. Y-chromosome evolution: why? Science on the Edge. Bard College, Annandale-on-Hudson, New York.

2010 Fall. Bug safari. Language and Thinking Program. Bard College, Annandale-on-Hudson, New York.

2009 Fall. Economy of mate competition in Bugs. Alumni Weekend. Bard College, Annandale-on-Hudson, New York.

2009 Fall. How monstrous are vermin? Language and Thinking Program. Bard College, Annandale-on-Hudson, New York.

2008 Fall. How monstrous are vermin? Language and Thinking Program. Bard College, Annandale-on-Hudson, New York.

2008 Spring. The eyes have it: the curious evolution and genetics of stalk-eyed flies, *Cyrtodiopsis dalmanni*. All-Faculty Seminar. Bard College, Annandale-on-Hudson, New York.

2008 Spring. Insects: mothers and offspring. Open House for Accepted Students. Bard College, Annandale-on-Hudson, New York.

2008 Spring. Has Human Evolution Accelerated Recently? Science on the Edge. Bard College, Annandale-on-Hudson, New York.

2007 Fall. Insect defenses. Family Weekend. Bard College, Annandale-on-Hudson, New York.

2007 Fall. Sexy males and selfish genes. Biology Program Seminar. Bard College, Annandale-on-Hudson, New York.

Popular Articles and Interviews about the Research of PM Johns

Wang, M. 2016. Citizen science and the case study of smooth-coated otters in Singapore. Interview with BFM Radio, Kuala Lumpur, Malaysia. http://www.bfm.my/dr-philip-johns-smooth-coated-otters-singapore.html

Salleh, N. 2014. Scientist sheds light on local stalk-eyed flies. Brunei Times. http://www.bt.com.bn/news-national/2014/08/28/scientist-sheds-light-local-stalk-eyed-flies

Mixon, B. 2010. Live Science. Termite battles explain the evolution of social insect. http://www.livescience.com/8070-termite-battles-explain-evolution-social-insects.html , http://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=116316

Pennisi, E. 2009. Agreeing to disagree. Science 323: 706-708. http://www.sciencemag.org/content/323/5915/706.long

Mixon, B. 2009. NSF Discovery Homebound termites answer 150-year-old evolution question. http://www.nsf.gov/news/news_summ.jsp?cntn_id=115680

Keim, B. 2009. Wired. Termite altruism might have roots in war. http://www.wired.com/wiredscience/2009/10/termite-altruism/

Interview with journal, Heredity. Heredity podcast. April 2007. https://itunes.apple.com/us/podcast/hereditys-podcast/id147266512

Faculty of 1000. 2005: http://f1000.com/1028728

Pennisi, E. 2003. Bickering genes shape evolution. Science 301: 1837-1839. https://www.sciencemag.org/content/301/5641/1837.summary

The Wild File, 2002. Outside Magazine. http://www.outsideonline.com/outdoor-adventure/the-wild-file/123273238.html

Michael Tennesen. 1997. Wildlife Conservation. I love you to death. p. 72.

Teaching Experience

Courses Instructed as an Assistant Professor at Yale-NUS College, Singapore

Week-7 Learning Across Boundaries (LAB): Urban Wildlife in Singapore. 2017, Semester-1. Week-long short-course for first-year students, where students record data on local wildlife, while discussing with local experts the issues pertaining to animals in an urban landscape.

Week-7 Learning Across Boundaries (LAB): Drones, Bio-Drones, and Information. 2017, Semester-1. Week-long short-course for first-year students, where students build and program conventional and unconventional drones, "bio-hack" each other, and discuss the relationship between drones, information transfer, domestication, and agency.

Biology Research Seminar. 2017 Semester-1. Upper level course in reading the primary literature and writing research proposals.

Animal Behaviour. 2017 Semester-1. Upper level course in animal behaviour with independent projects at the Wildlife Reserves of Singapore.

Spring Learning Across Boundaries (LAB): Jungle Sounds. 2017, Semester-2. Week-long short course where students collected and analysed data on sounds from the Borneo forest to address hypotheses of acoustic niche.

Evolutionary Biology. 2017 Semester-2. Upper level course in evolutionary biology and population genetics.

Eusociality. 2017 Semester-2. Reading tutorial on eusociality with Goh Rui.

Dogs as Model Organisms. 2017, 2016, Semester-2. First-year biology course in genetics, evolution, and population biology, with extensive laboratory component.

Week-7 Learning Across Boundaries (LAB): Genomics in the Jungle. 2016, 2015, Semester-1. Week-long short-course for first-year students, where students collect samples and perform a variety of genetic tasks on them, while in the field in the Borneo jungle.

Scientific Inquiry. 2015, 2016, Semester-1; 2018 Semester-2. First year Common Curriculum course in the epistemology, history, and practice of science.

Courses Instructed as a Lecturer at the University of California, Los Angeles

Life Sciences 1: Ecology, Evolution, and Biodiversity. 2015, Spring. First year biology course in population biology.

Ecology and Behavior. 2014, Fall; 2015, Winter. Gateway course for upper level biology majors that emphasized critical thinking and applying concepts to examples in the current scientific literature.

Animal Behavior. 2014, Fall. Upper level course that revolved largely around the current literature, and where students wrote and reviewed NSF-style research proposals.

Courses Instructed as an Assistant Professor at Bard College

Advanced Evolution. 2014, 2012, 2010 Spring; 2008 Fall. Upper level course on evolution, emphasizing population and quantitative genetics, and introducing evolutionary genomics in the current literature.

Evolution of Model Organisms. 2013, 2012, 2009, Fall; 2009 Spring. Introductory biology majors course covering population biology, evolution, and genetics, using dogs as a model organism and a "stepping-off" point to discuss broader topics. Laboratories covered topics ranging from evolutionary relationships such as allometry, to biomechanics, to behavioral sampling, to generating DNA sequence from tissues students collected using non-invasive techniques.

Introduction to Insect Biology. 2013, 2011, 2007 Fall; 2008 Spring. Non-majors course in entomology, where students were introduced through insects to biological phenomena and hypothesis testing.

Animal Behavior Methodologies. 2013 Spring. A short OTS-style course where students design, carry out, and analyze multiple field experiments in the US Virgin Islands.

Animal Behavior. 2013 Spring. Upper level course where students conducted independent research projects at the local Trevor Zoo. Course revolved around extensive discussion of the primary literature.

Biostatistics. 2012 Fall; 2011, 2010 Spring; 2008 Fall & Spring. Introductory course in statistics as biologists use them, spanning topics from discrete probability models to general linear models.

Field Ornithology. 2012 Spring. Intermediate level bird-watching course where students designed their own field experiments.

Behavioral Genetics Seminar. 2011 Fall. Upper level seminar on the genetics and genomics of animal and human behavior. Course revolved around extensive discussion of primary literature.

Animal Behavior. 2011 Spring. Upper level course where students conducted independent projects at the US Virgin Islands and at the local Trevor Zoo.

Course revolved around extensive discussion of the primary literature. (Later split into two courses.)

Animal Behavior Seminar. 2009 Fall. Upper level seminar on animal behavior, focusing on recent primary literature, but also including lecture and independent research.

Sexual Selection. 2009 Spring. Upper level seminar on sexual selection, focusing on recent, primary literature.

Courses Instructed as a Postdoctoral Fellow at the University of Maryland

Behavioral Genetics. 2004 Spring. Honors colloquium for sophomores where students present and discuss primary and secondary literature.

Courses Instructed as a Visiting Assistant Professor at Swarthmore College

Insect Biology. 2002 Spring. Intermediate level entomology course with laboratory and extensive field trips, including one to Puerto Rico.

General Biology. 2001 Spring. Introductory biology majors course, with laboratory.

Evolution of Animal Mating Systems. 2001 Spring. Advanced biology majors seminar on sexual selection, its causes and effects, in which students design and carry out their own experiments. Extensive laboratory.

Evolution. 2001, 2000 Fall. Intermediate level biology majors course in population genetics, theoretical micro- and macro-evolutionary biology, with laboratory and extensive field trips.

Courses Instructed as a Teaching Postdoctoral Fellow at Villanova University

Animal Behavior. 2000 Spring. Undergraduate advanced biology majors course in the proximate and ultimate causes of animal behavior, included an extensive laboratory where students out independent research projects.

Field Ecology. 2000 Spring. Undergraduate advanced biology majors course focusing on field techniques for studying ecology, included an intense laboratory component entailing independent field projects at Archbold Biological Field Station, FL. (Co-taught with Robert Curry.)

Evolution. 1999, 1998 Spring. Undergraduate advanced biology majors course in theoretical micro- and macro-evolution, with laboratory. (Co-taught with Aaron Bauer in 1999.)

Mating Systems. 1998 Fall. Masters level seminar covering major topics affecting sexual selection, female choice, and male competition in animal mating systems, drawing entirely from the primary literature.

Population Genetics. 1998 Spring. Masters level course in population genetics and evolutionary theory entailing lecture and problem solving, drawing heavily from the primary literature.

Biology for Today. 1997- 1999, Fall. Undergraduate introductory non-majors course in general biology, with laboratory.

Research Students for Theses and Independent Studies

Mei-Mei Tan. 2017-2018. Interfamily conflict in smooth-coated otters *(Lutrogale perspicillata)* in Singapore. Yale-NUS College Capstone Project.

Fangchen Zhu, Monica Kim, and Yeo Zhi Yi. 2017-present. Comparison of vocalisations of Singapore's urban otters to Goa's rural otters.

Isaac Lee and Anjali Kannangath. 2017-present. Behavioural genomics of fighting stalk-eyed flies. Yale-NUS College.

Niki Lee. 2016-2017. Vocal repertoire of smooth-coated otters *(Lutrogale perspicillata)* in Singapore. National University of Singapore Final Year Project.

Nawat Bunnag. 2015-2017. Gene duplication and tissue specificity of AKAP genes in stalk-eyed flies (Diopsidae). Yale-NUS College.

Maximillian Brown. 2013-3014. The evolution of Y-linked genes in the monomorphic stalk-eyed fly, *Eurydiopsis argentifera*, as revealed by comparative genomic hybridization (CGH). Bard College Senior Project.

Alex Sicurella. 2013-2014. Metabolic costs of contest behaviors in the dimorphic stalk-eyed fly, *Teleopsis dalmanni*. Bard College Senior Project.

Emma Troisi. 2013-2014. Search for positive selection in head shape genes in Northeastern coyotes, *Canis latrans*. Bard College Senior Project.

Brianna Flonc. 2013-2014. Description of agonistic behavior in the dimorphic stalk-eyed fly, *Teleopsis thaii*.

Perry Anderson. 2012-2013. Screening of mutations influencing biofilms in bacteria. Bard College Senior Project.

Claire Martin. 2012-2013. The possible interaction effects of estrogen and perchlorate on the development of zebrafish. Bard College Senior Project.

Liana Perry. 2012-2013. Gene expression associated with female preference behavior in stalk-eyed flies. Bard College Senior Project.

Desi-Rae Campbell, Megan Snyder, and Jake Weisman. 2012-2013. RNA interference of various tubulin genes and the effect on gene expression and morphology in testes of stalk-eyed flies.

Maximillian Brown. 2012-2013. RNA interference of alpha-tubulin and its effect on gene expression in testes of stalk-eyed flies.

Keaton Morris-Stan. 2012 (Spring-Fall). Gene expression associated with male aggressive behavior in stalk-eyed flies. Bard College Senior Project.

Megan Naidoo. 2012 (Spring-Fall). Gene expression and social behavior associated with SSRI's in zebrafish. Bard College Senior Project.

Daniela Anderson. 2011-2012. Micro-RNA miR-200c induces MET in prostate cancer is associated with androgen and EGFR signaling in cancer progression. Bard College Senior Project.

Deven Connelly. 2011-2012. Exploring the use of the fluorescent bacteria, E. coli GFP-MG1655, as a Potential Tool in the Study of Scavenger-Carrion Pathogen Transmission. Bard College Senior Project.

Sarabeth Doble. 2011-2012. The response of New World monkeys to video projection. Bard College Senior Project.

Emily Mayer. 2011-2012. Metabolic costs of flight with respect to sex and dimorphism in stalk-eyed flies. Bard College Senior Project.

Samantha Monier. 2011-2012. Puzzle solving as a means of exploring foraging in two captive lemur species. Bard College Senior Project.

Hannah Shapero. 2011-2012. The effects of ethanol induced oxidative stress and production of SOD over time in different tissues of *Danio rerio.* Bard College Senior Project.

Jeanine Sclafinni. 2011-2012. Sequential analysis of agonistic behaviors in the monomorphic stalk-eyed fly, Teleopsis quinqueguttata. Bard College Masters of Arts in Teaching Academic Research Project (Masters Thesis).

Greg Backus. 2010-2011. Modeling community dynamics in a fragmented landscape. Bard College Senior Project.

Zoe Johnson-Ulrich. 2010-2011. Folk physics and problem solving in the kea (Nestor notabilis). Bard College Senior Project.

Olivia Nathanson. 2010-2011. Developing a safe method to study pathogen transmission. Bard College Senior Project.

Eric Badger. 2009-2010. Queen number and *Wolbachia* infection in colonies of the acorn ant. Bard College Senior Project.

Wyatt Shell. 2009-2010. Allelic Diversity of Two Populations of, and Pheromone use in, Chinese Mantises (*Tenodera aridifolia sinensis*). Bard College Senior Project.

Kent Gowen. 2008-2009. Infection rate of *Toxoplasma gondii* in rural shelter cats. Bard College Senior Project.

Anahi Rivera. 2005-2007. Origin of secondary reproductive individuals in the primitive termite, *Zootermopsis nevadensis*: implications for eusociality. University of Maryland Senior Thesis.

Rebakah Miller. 2001-2002. The distribution of threatened biodiversity in the protected area network of Southeast China. Independent Reading Course, Swarthmore College.

Erika Kottenmeyer. 2000-2001. Phylogenetic reconstruction of *Hymenopodidae* using COII. Independent Research, Swarthmore College.

Matthew Davis. 2000. Fledgling feeding in Black-throated Blue Warblers. Independent Reading Course, Swarthmore College.

Mona Gahunia. 2000. Assessing paternity patterns in the mantid, *Tenodera aridifolia*, using AFLP's. Villanova University Senior Thesis.

Katherine Arnell. 1999. A behavioral analysis of the social interactions in Tayras (*Eira barbara*). Villanova University Senior Thesis.

Kevin Cullen. 1999. Prey discrimination and the effect of aggression levels on web contests in the funnel web spider, *Agelenopsis pennsylvanica*. Villanova University Senior Thesis.

Gina MacNeill. 1999. Evaluation of RAPD's in assessing paternity in the mantid, *Tenodera aridifolia.* Villanova University Senior Thesis.

James Hogan. 1998. Effects of *Leptomonas* infection on *Oncopeltus fasciatus* mating behavior and fecundity. Villanova University Senior Thesis.

Service

2018. Faculty Advisor, Yale-NUS College Drone Club.

2018. Co-organised and ran symposium: Social behaviour and evolution in the –omics era. Joint Congress on Evolutionary Biology: the European Society for Evolutionary Biology, the American Society of Naturalists, the Society for the Study of Evolution and the Society of Systematic Biologists. Montpellier, France

2017-present. Served on the Committee of Academic Integrity & Discipline.

2017. Co-organised and ran The Big Think: Empathy and the Other. Multi-day event with Frans de Waal. Yale-NUS College, Singapore.

2016. Served on the Task Force on Peer Evaluation of Teaching.

2017. Co-organised and ran the symposium: Citizen Science in Southeast Asia. Yale-NUS College, Singapore.

2016. Served on the Task Force on Science in the Common Curriculum.

2015-2017. Served on the Teaching, Learning, and Advising Committee. Yale-NUS College, Singapore.

2014. Organized and ran the symposium, Stalk-eyed flies (Diopsidae): a model organism for the study of mate competition and its consequences. 8th International Congress of Dipterology. Potstdam, Germany.

2011-2013. Head of the Mind, Brain, and Behavior Interdisciplinary Concentration at Bard College.

2011-2013. Mentor to Posse Foundation (www.possefoundation.org) Atlanta Posse-3 cohort at Bard College, which entailed acting as an academic advisor who met weekly with Bard College students from underserved Atlanta high schools.

2011. Organized and ran the Hudson Valley Life Science Group symposium at Bard College.

2011. Organized and ran the symposium: Stalk-eyed flies (Diopsidae): a model organism for studying the evolution of form and function. BioSystematics Conference: 7th International Congress of Systematic and Evolutionary Biology (ICSEB VII) of IOSEB (International Organization for Systematic and Evolutionary Biology), 12th Annual Meeting of the Society of Biological Systematics (GfBS), and 20th International Symposium “Biodiversity and Evolutionary Biology” of the German Botanical Society (DBG). Freie University, Berlin, Germany.

2010-2014. Head of the Bard Leaders in Science (BLiS) Program, a tiered peer-mentorship program intended to help students from underserved backgrounds in the sciences at Bard College.

2009-2012. Member of the Distinguished Scientist Scholars Committee at Bard College.

2008-2012. Member of the Awards and Fellowship Committee at Bard College.

2008-2012. “Super-advisor” to first-year students at Bard College.

2009. Sponsor of the Bard Boxing Club.

2008-present. Liaison to the Hudson Valley Life Sciences Group.

2008-present. Search Committees:

2011. Ran Biology Search (hired Kristin Hultgren).

2010. Biology Search Committee (hired Cathy Collins).

2008. Chemistry Search Committee (hired Bernard Costillo).

2008. Biology Search Committee (hired Ken Howard).

2008. Biology Search Committee (hired Brooke Jude).

2006-2007. Mentor for the Masters in Life Sciences program at the University of Maryland.

2005. Ran day-to-day operations of the University of Maryland's sequencing facility.

2005. Coordinated, organized and ran the University of Maryland's Neuroethology Symposium, "Evolution and Mechanisms of Timing and Rhythmic Behaviors".

2004. Coordinated, organized, and ran the University of Maryland's Neuroethology Symposium, "Genes, Neurons and Behavior".

1999-2000. Advisor to freshman and sophomores who had yet to declare their majors in the College of Liberal Arts, Villanova University.

2000-present. *Ad hoc* reviewer for several journals, including *Ethology, Proceedings of the Royal Society, American Naturalist, Behavioral Ecology*, *Evolution: Education and Outreach*, and *Heredity*.

1999-2000. Served on the Biology Graduate Committee, Villanova University.

1999. Served on the Advanced Placement Steering Committee, Biology Department, Villanova University.

1998-1999. Organized weekly Departmental Seminars, Biology Department, Villanova University.

Extracurricular Activities

2006. Coach, Intermediate Sculling Program. Capital Rowing Club, Washington, DC.

2006. Coach, Novice Sculling Program. Capital Rowing Club, Washington, DC.

2005-2007. Volunteer for Greyhound Welfare, a foster and adoption group that distributes retired racing greyhounds to good homes.

2004-2005, Head Coach of Men's Crew. University of Maryland, College Park.

- Bronze at Head of the Occoquan in the Open Men's Four
- Gold at first annual Bladensburg Races in Varsity Men's Four
- Gold at first annual Bladensburg Races in Novice Men's Four
- Silver at the Mid-Atlantic Crew Championships in Varsity Men's Four

- Silver at the Mid-Atlantic Crew Championships in Novice Men's Four

2004. Summer. Assistant Coach, Intermediate Sweep Program. Capital Rowing Club, Washington, DC.

2002-2003, Head Coach of Men's Crew. University of Maryland, College Park.

- Gold at Philadelphia Frostbite Regatta in Varsity Men's Four
- Bronze at Mid-Atlantic Crew Championship in Novice Men's Eight

2000-2005. Occasional contributor, *Get Lost Magazine*.