

CURRICULUM VITAE
JAMES R. WALTERS

Ecology and Evolutionary Biology, University of Kansas
Haworth Hall, 1200 Sunnyside Ave, Lawrence, KS
301-404-2743, jrwalters@ku.edu, www.walterslab.org

Education

- Ph.D. Cornell University, Ithaca, NY
 Ecology and Evolutionary Biology, 2009
- B.A. Bowdoin College, Brunswick, ME
 Biology, Departmental Honors, *Summa Cum Laude*, 2000
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Appointments

- 2019-present Associate Professor – University of Kansas, Ecology & Evolutionary Biology
2013-2019 Assistant Professor – University of Kansas, Ecology & Evolutionary Biology
2013 Postdoctoral Researcher – Stanford University, Biology
2010-2012 U.S. National Science Foundation Bioinformatics Post-Doctoral Fellow
 2012 Visiting Fellow – Stanford University, Biology Dept.
 2010-2011 Visiting Fellow – Cambridge University, Zoology Dept.
 2010-2011 Post-Doctoral Research Associate – St. John’s College, Cambridge University
2009 Research Associate – Cornell University, Ecology & Evolutionary Biology
2002-2009 Doctoral Student – Cornell University, Ecology & Evolutionary Biology
2001-2002 Research Technician – University of Maryland, Biology Dept.
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Publications

Peer reviewed

- Mongue AJ, Hansen ME, **Walters JR**. 2022. Faster-Z evolution in two divergent species of Lepidoptera. *Evolution*, *Evolution* **76**, 332–345
- Yang D, Xu J, Chen K, Liu Y, Yang X, Tang L, Luo X, Liu Z, Li M, **Walters JR**, Huang Y. 2022. *BmPMFBP1* regulates the development of eupyrene sperm in the silkworm, *Bombyx mori*. **PLoS Genetics**, **18**, e1010131
- Bronikowski AM, Meisel RP, Biga PR, **Walters JR**, <13 co-authors>. 2022. Sex-specific aging in animals: Perspective and future directions, **Aging Cell** **21**, e13542
- Tan WH, Talla V, Mongue AJ, de Roode JC, Gerardo NM, **Walters JR**. 2021. Population genomics reveals variable patterns of immune gene evolution in monarch butterflies (*Danaus plexippus*). **Molecular Ecology**, **30**, 4381–4391
- Li M, Tong H, Wang S, Ye W, Li Zicheng, Omar MAA, Ao Y, Ding S, Li Zihao, Wang Y, Yin C, Zhao X, He K, Liu F, Chen X, Mei Y, **Walters JR**, Jiang M, Li F. 2020. A chromosome-level genome

- assembly provides new insights into paternal genome elimination in the cotton mealybug *Phenacoccus solenopsis*. **Molecular Ecology Resources**, 20: 1733–1747.
- Chen K, Yu Y, Yang D, Yang X, Tang L, Liu Y, Luo X, Walters JR, Liu Z, Xu J, Huang Y. 2020. *Gtsfl* is essential for proper female sex determination and transposon silencing in the silkworm, *Bombyx mori*. **PLoS Genetics**, 16, e1009194.
- Gu L, Reilly PF, Lewis JJ, Reed RD, Andolfatto P, Walters JR. 2019. Dichotomy of dosage compensation along the neo Z chromosome of the monarch butterfly. 2019, **Current Biology**, 29(23), 4071–4077.e3
- Whittington E, Karr TL, Mongue AJ, Dorus S, and Walters JR. 2019. Evolutionary proteomics reveals distinct patterns of complexity and divergence between lepidopteran sperm morphs. **Genome Biology and Evolution**, 11(7), 1838–1846.
- Mongue, AJ, Hansen ME, Gu L, Sorenson CE, and Walters JR. 2019. Nonfertilizing sperm in Lepidoptera show little evidence for recurrent positive selection. **Molecular Ecology**, 18(2), 205–14.
- Wan F, Yin C, Tang R, <53 other co-authors>, Xiong R, Walters JR, and Li F. 2019. A chromosome-level genome assembly of *Cydia pomonella* provides insights into chemical ecology and insecticide resistance. **Nature Communications** 10:4237, 1–14.
- Tan WH, Acevedo T, Harris EV, Alcaide TY, Walters JR, Hunter MD, Gerardo NM, and deRoode JC. 2019. Transcriptomics of monarch butterflies (*Danaus plexippus*) reveals that toxic host plants alter expression of detoxification genes and down-regulate a small number of immune genes. **Molecular Ecology**, 7(5), 651–19.
- Li F, Zhao X, Li M, He K, Huang C, Zhou Y, Li Z, and Walters JR. 2019. Insect genomes: progress and challenges. *Insect Molecular Biology*, 120(7), 2077–20.
- Yin C, Li M, Hu J, Lang K, Chen Q, Liu J, Guo D, He K, Dong Y, Luo J, Ye M, Song Y, Walters JR, Zhang W, and Li F. 2018. The genome of the parasitoid wasp *Macrocentrus cingulum* provides new insights into polyembryony and immune evasion. **BMC Genomics** 19(1), 420.
- Whittington E, Forsythe D, Borziak K, Karr T, Walters JR, and Dorus S. 2017. Comparative proteomics of dimorphic sperm in Lepidoptera. **BMC Genomics**, 18(1), 931
- Mongue AJ and Walters JR. 2017. The Z chromosome is enriched for sperm proteins in two divergent species of Lepidoptera. **Genome**. 61(4), 248–253
- Mongue AJ, Nguyen P, Volenikova A, and Walters JR. 2017. Neo-sex chromosomes in the monarch Butterfly, *Danaus plexippus*. **G3: Genes, Genomes, Genetics**. 7(10), 3281–3294
- Gu L and Walters JR. 2017. Evolution of sex chromosome dosage compensation in animals: a beautiful theory, undermined by facts and bedeviled by details. **Genome Biology and Evolution**, 9, 2461–2476.
- Gu L, Walters JR, and Knipple DC. 2017. Conserved patterns of sex chromosome dosage compensation in the Lepidoptera (WZ/ZZ): insights from a moth neo-Z chromosome. **Genome Biology and Evolution**, 9, 802–816.
- Manduca genome consortium (including JR Walters). 2016. Multifaceted insights from the genome of the Tobacco hornworm moth, *Manduca sexta*. **Insect Biochemistry and Molecular Biology** 76, 118–147.
- Walters JR, Hardcastle TJ, and Jiggins CD. 2015. Sex chromosome dosage compensation in *Heliconius* butterflies: global yet still incomplete? **Genome Biology & Evolution**, 7(9), 2545–2559.
- Karr, TL and Walters JR. 2015. Panning for sperm gold: Isolation and purification of apyrene and eupyrene sperm from lepidopterans. **Insect Biochemistry and Molecular Biology**, 63, 152–158.

- Harpel D, Cullen DA, Ott SR, Jiggins CD, **Walters JR**. 2015. Pollen feeding proteomics: salivary proteins of the passion flower butterfly, *Heliconius melpomene*. **Insect Biochemistry and Molecular Biology**, 63:7-13.
- Whittington E, Zhao Q, Borziak K, **Walters JR**, and Dorus S. 2015. Characterisation of the *Manduca sexta* sperm proteome: Genetic novelty underlying sperm composition in Lepidoptera. **Insect biochemistry and molecular biology**. 62:183-193.
- Martin SH, Dasmahapatra KK, Nadeau NN, Salazar C, **Walters JR**, Blaxter M, Manica A, Mallet J, and Jiggins CD. 2013. Genome-wide evidence for speciation with gene flow in *Heliconius* butterflies. **Genome Research**. 23, 1817–1828.
- Briscoe AD, Munos AM, Kozak KM, **Walters JR**, Yuan F, Jamie GA, Martin SH, Jacquin-Joly E, and Jiggins CD. 2013. Female behavior drives expression and evolution of gustatory receptors in butterflies. **PLoS Genetics**, 9, e1003620
- Heliconius* Genome Consortium (K Dasmahapatra & **JR Walters**, shared first-authorship, with 78 co-authors). 2012. A butterfly genome reveals promiscuous exchange of mimicry adaptations among species. **Nature**, 487, 94–98.
- Walters JR**, Stafford C, Hardcastle J, and Jiggins CD. 2012. Evaluating female remating rates in light of spermatophore degradation in *Heliconius* butterflies: pupal-mating monandry versus adult-mating polyandry. **Ecological Entomology**, 37:4, 257–268. **Distinguished as *Editor's Choice* for issue
- Walters JR** and Harrison RG. 2011. Decoupling of rapid and adaptive evolution among seminal fluid proteins in *Heliconius* butterflies with divergent mating systems. **Evolution**, vol. 65 (10) pp. 2855-71
- Walters JR** and Hardcastle TH. 2011. Getting a full dose? Reconsidering sex chromosome dosage compensation in the silkworm, *Bombyx mori*. **Genome Biology and Evolution** vol. 3 pp. 491-504
- Walters JR** and Harrison RG. 2010. Combined EST and Proteomic Analysis Identifies Rapidly Evolving Seminal Fluid Proteins in *Heliconius* Butterflies. **Molecular Biology and Evolution** vol. 27 (9) pp. 2000-2013
- Maroja LM, Andres JA, **Walters JR**, and Harrison RG. 2009. Multiple barriers to gene exchange in a field cricket hybrid zone. **Biological Journal of the Linnean Society**. 97(2):390-402.
- Walters JR** and Harrison RG. 2008. EST analysis of male accessory glands from *Heliconius* butterflies with divergent mating systems. **BMC genomics**, 9: 593.
- Papa R, Morrison CM, **Walters JR**, Counterman BA, Chen R, Halder G, Roberts L, Kapan DD, Jiggins CD, Reed RD, McMillan WO. 2008. Highly conserved gene order and numerous novel repetitive elements in genomic regions linked to wing pattern variation in *Heliconius* butterflies. **BMC Genomics** 9: 345.
- 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(1) 27-40
- Graustein A, Gaspar JM, **Walters JR**, Palopoli MF. 2002. Levels of DNA polymorphism vary with mating system in the nematode genus *Caenorhabditis*. **Genetics**. 161 (1) 99-107.
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Fellowships, Grants, & Awards

Fellowships

- 2022-2023 **Fulbright Research Fellow.** Czech Republic.
 2010-2012 **National Science Foundation.** Bioinformatics Post-Doctoral Fellowship (DBI- 0905698, \$189,000)
 2002-2004 **National Science Foundation.** Graduate Research Fellowship
 1999 **Surdna Foundation.** Undergraduate Research Fellowship

Major Research Grants

- 2022 (active) **National Science Foundation.** DBI- 2213824. *BII: IISAGE - Discovering the mechanisms and evolution of aging differences between females and males.* PI: N. Riddle, with 12 Co-PIs, including JR Walters. Grant Total: \$12.5M over 5 years, of which to JRW: \$989,587
 2020 (active) **National Science Foundation.** DBI-2021305. *BII-Design: Do sex differences in genome instability impact lifespan across species?* PI: N. Riddle, Co-PIs: JR Walters & E Larschan (\$200,000)
 2019 (active) **INTER-ACTION** Czech-American scientific cooperation program of the Ministry of Education, Youth, and Sports of the Czech Republic (Reg. No. LTAUSA19086). *Evolution of neo-sex chromosomes in butterflies of the subtribe Danaini.* PIs: Petr Nguyen (Czech Republic) and JR Walters (USA). Equivalent of \$190,000 in Czech Koruna
 2017 (active) **National Science Foundation.** ABI-1661454. *Innovation: doseR, a novel framework for dosage compensation and global expression analysis.* PI: JR Walters (\$780,171)
 2014 **National Science Foundation.** DEB-1457758. *Female heterogamety and constraints on the evolution of sex chromosome dosage compensation: a test in Lepidoptera.* PI: JR Walters. (\$711,000)

Intermediate Research Grants

- 2019 (active) **KU Research GO Award.** *Evolutionary influences of sex-linkage on the distribution of piRNA-loci in monarch butterflies* (\$14,000)
 2015 **Microsoft Azure for Research Award.** *Advancing the annotation of novel genomes through the application of cloud computing.* (\$20,000 equivalent in cloud computing resources)
 2015 **University of Kansas General Research Funds.** *Parallel profiling of transcriptional responses to infection in a butterfly and its protozoan parasite.* (\$7,870)
 2013 **British Consulate,** UK-US collaboration seed funding. *Evolutionary genomics of genetic imprinting.* £3,000.
 2010 **Capacity Challenge Grant, The Genome Analysis Center** [Norwich, UK]: *RNAseq transcriptome analysis of adaptively divergent phenotypes in Passion-flower butterflies (Genus: Heliconius)* (£40,000 equivalent in sequencing services; JRW primary author, PI: Chris Jiggins)
 2010 **John Fell Fund, Oxford University:** *Molecular evolution of sex-linked and sex-biased genes in moths and butterflies* (£42,450; JRW primary author, PI: Judith Mank)
 2006 **National Science Foundation Doctoral Dissertation Improvement Grant:** *Effects of mating system on accessory gland evolution in Heliconius butterflies* (\$11,970)

Small Research Grants (less than \$2000)

2011	Weis-Fogh Trust Fund [Cambridge]
2004-2007	Andrew W. Mellon Foundation [Cornell] (3x)
2005-2008	Cornell University Sigma Xi (3x)
2007	Orenstein Award [Cornell]
2004-2008	Cornell Graduate School Travel Grant (3x)

Awards

2009	Outstanding Teaching Service, Ecology & Evolutionary Biology [Cornell]
2009	Society for Molecular Biology & Evolution Graduate Student Travel Award
2003	'Best Talk by a First Year Student' in EEB Graduate Student Symposium [Cornell]
2000	Macomber Prize for outstanding senior majoring in biology [Bowdoin]
1999	Moulton Prize for outstanding junior majoring in biology [Bowdoin]
1999	Phi Beta Kappa [Bowdoin]

Trainee Awards

2022	KU Gould entomology summer fellowship. Recipient: Cailin Kessen (Undergraduate)
2021	KU Gould entomology summer fellowship. Recipient: Rachel Manweiler (Undergraduate)
2020	KU Gould entomology summer fellowship. Recipient: Rachel Manweiler (Undergraduate)
2019	KU Gould entomology summer fellowship. Recipient: Jasmin Alberts (Undergraduate)
2019	KU Field Station summer research award. Recipient: Jasmin Alberts (Undergraduate)
2019	K-INBRE Bioinformatics fellowship. Recipient: Rachel Elting (Undergraduate)
2018	KU Undergraduate Research Mentor Award. Recipient: Andrew Mongue (Graduate)
2018	KU Gould entomology summer fellowship. Recipient: Thomas Johnson (Undergraduate)
2018	KU Field Station summer research award. Recipient: Thomas Johnson (Undergraduate)
2018	KU Gould entomology summer fellowship. Recipient: Jordyn Koehn (Undergraduate)
2018	KU Entomology summer graduate fellowship. Recipient: Andrew Mongue (Graduate)
2017	K-INBRE STAR fellowship. Recipient: Megan Hansen (Undergraduate)
2017	K-INBRE Bioinformatics fellowship. Recipient: Jordyn Koehn (Undergraduate)
2017	KU Gould entomology summer fellowship. Recipient: David Cuellar (Undergraduate)
2016	NSF Doctoral Dissertation Improvement Grant: <i>Determining anucleated sperm function in Lepidoptera</i> (DEB-1701931:\$19,651). Recipient: Andrew Mongue (Graduate)
2016	KU Entomology summer graduate fellowship. Recipient: Andrew Mongue (Graduate)
2015	NSF East-Asian Pacific Summer Institutes. Recipient: Andrew Mongue (Graduate)
2015	KU Gould entomology summer fellowship. Recipient: Channing Shives (Undergraduate)

Research experience

2013-Present	<i>Principle Investigator</i>	University of Kansas, Lawrence, KS
	<ul style="list-style-type: none"> Directing a research program focused on functional and comparative genomics of Lepidoptera, with an emphasis on sex chromosome evolution and sperm proteomics. 	
2013	<i>Post-doctoral research</i>	Stanford University, Palo Alto, CA
	<ul style="list-style-type: none"> Population genomic analysis of genomic imprinting in mouse and humans, synthesizing genome-wide allele-specific expression and population-resequencing data to address patterns of adaptation and diversity at imprinted loci. 	
2010-2012	<i>Post-doctoral research</i>	Cambridge University, Cambridge, UK

- Genomic analyses of sex-chromosome evolution in Lepidoptera using microarrays, RNA-seq, and genome re-sequencing to address dosage compensation, molecular adaptation, and expression divergence.
 - Leading researcher in *Heliconius melpomene* genome project, coordinated research consortium and implemented gene predictions. Active contributor to *Manduca sexta* genome project.
- 2011 *Post-doctoral research* European Bioinformatics Institute, Hinxton, UK
- Automated gene prediction of *Heliconius melpomene* genome and quality assessment of draft genomic assemblies. 6-month appointment.
- 2009 *Research Associate* Cornell University, Ithaca, NY
- Grant writing and project development for a population genomic analysis of the amphibian-killing chytrid fungus. 4-month appointment.
- 2002-2009 *Doctoral research* Cornell University, Ithaca, NY
- Discovery, characterization, and molecular evolution of seminal fluid proteins in *Heliconius* butterflies achieved via a synthesis of tropical field work, EST libraries, proteomics, phylogenetics, and bioinformatics.
- 2001-2002 *Laboratory Technician* University of Maryland, College Park, MD
- Tissue collection and RNA-isolation for cDNA libraries. Optimized microsatellite primers for high-throughput genotyping. 10 month appointment.
- 1999-2000 *Undergraduate Thesis* Bowdoin College, Brunswick, ME
- Molecular evolutionary analysis of a *C. elegans* sperm protein; PCR, cloning, sequencing.
- 1998 *Research Assistant* Missouri Ozark Forest Ecosystem Project
- Mist-netting, nest-searching, and spot-mapping song birds. 3-month appointment.

Research Training

- 2015 University of Maryland, Gaithersburg, MD
- *Insect Transgenic Technologies Workshop*, 5-day course in theory and application of transgenic methods in insects.
- 2011 European Bioinformatics Institute, Hinxton, United Kingdom
- *Advanced RNA-seq analysis*: 2-day course covering quality control and genome-wide differential gene expression analysis using RNA-seq data.
- 2008 National Evolutionary Synthesis Center (NESCent), Raleigh, NC
- *Computational Phyloinformatics Workshop*: 10-day course focused on writing custom BioPerl scripts and testing molecular evolutionary hypotheses.
- 2007 Woods Hole Marine Biological Laboratory, Woods Hole, MA
- *Workshop on Molecular Evolution*. 2-week intensive course on computational methods and analyses used in molecular evolutionary research.

Mentoring and Teaching

Mentoring

Post-doctoral researchers

- 2019-2021 Dr. Melissa Plakke
- 2015-2019 Dr. Luiqi (Aloy) Gu
- 2018-2019 Dr. Aake Vaestermark
- 2014-2016 Dr. Christopher Hamm

Graduate Students, Primary advisor

- 2020-2022 Katherine McLaughlin, MS
 2013-2015 Desiree Harpel, MS completed 2015. Currently a PhD student at U of Rhode Island
 2014-2019 Andrew Mongue. PhD completed 2019. EEB, KU. Currently a postdoc at U of Edinburgh

Visiting scholars

- 2020 Le Xu, Zhejiang University International Graduate Fellow (China)
 2018-2019 Meizhen Li, Zhejiang University International Graduate Fellow (China)
 2016-2017 Petr Nguyen, Fulbright post-doctoral fellow (Czech Republic)
 2016-2017 Anna Volenikova, Fulbright graduate fellow (Czech Republic)

Undergraduate Students

- 2021-present Cailin Kessen, volunteer research & KU Gould summer fellowship
 2019-2022 Rachel Manweiler, volunteer research & KU Gould summer fellowship
 2018-2019 Rachel Elting, Summer REU & K-INBRE STAR fellow
 2017-2021 Jasmin Alberts, KU Gould summer fellowship
 2017-2020 Dylan Sims-West, volunteer research
 2017-2018 Davie Wolfe, volunteer research
 2016-2018 Megan Hansen, K-INBRE STAR fellow
 2016-2018 Jordyn Koehn, K-INBRE Bioinformatics fellow, KU Gould summer fellowship
 2016-2019 Thomas Johnson, KU Gould summer fellowship
 2016-2017 David Cuellar, KU Gould summer fellowship
 2017 Nathan Stucky, volunteer research
 2016 BreAnna Terry, Independent study Fall semester
 2014-2015 Channing Shives. KU Gould summer fellowship & Independent study.
 2015 Danny Thiesen. Spring semester volunteer.
 2015 Derrick Harms. Summer REU student.
 2015 T. Jeffrey Cole. Summer REU student.
 2014 Margaret Stratton. Summer REU student.

Teaching

2013 – Present *Instructor* University of Kansas

R programming for biologists (BIOL701). Fall 2013, 2015, 2017, 2018, 2019, 2020, 2021

- 3 credit graduate seminar with 10-20 students.
- a semester long comprehensive introduction to the R statistical programming language focusing on biological research applications.

Principles of genetics (BIOL350). Fall 2014, 2016; Spring 2015, 2016, 2017, 2019, 2021, 2022

- 4 credit undergraduate lecture with discussion sections (co-taught 50%). 150-250 students.
- Introductory genetics course required for all KU biology majors.

Genome Biology (BIOL420/701). Spring 2020

- 3 credit seminar with 10-15 students.
- Reading-intensive survey of topics concerning genome structure, function, and diversity, as well as an introduction to methods and data structures applicable to genome analysis.

2002-2009 *Teaching Assistant* Ecology & Evolutionary Biology, Cornell University

- Special Assistant to curriculum/lecture revision team for Intro Evolutionary Biology
- Evolutionary Biology: *Writing in the Majors*, a selective writing-intensive section of the introductory course for which I independently developed the curriculum
- Topics in Ecology and Evolution, the first-year graduate student core course
- Macroevolution

Presentations and Seminars

Invited Seminar

- 2022 Charles University, Prague, Czech Republic
- 2022 University of South Bohemia, Ceske Budejovice, Czech Republic
- 2022 Lepinar Virtual Symposium
- 2021 Prairie Fire Museum, Overland Park, KS
- 2019 University of Missouri, Plant Biology, Columbia, MO
- 2019 Insect Science, Zhejiang University, Hangzhou, China
- 2019 University of Georgia, Biology, Athens, GA
- 2018 University of Cincinnati, Biology
- 2015 Kansas State University, Manhattan, KS, Ecology and Evolution
- 2015 University of California, Riverside, Entomology
- 2013 University of Edinburgh, Institute of Evolutionary Biology
- 2013 University of California, Berkeley, Museum of Vertebrate Zoology
- 2012 Ecology and Evolution, University of Kansas, Lawrence, KS
- 2009 Bowdoin College, Brunswick, ME
- 2009 Ecology and Evolutionary Biology, Cornell University
- 2008 Department of Biology, Duke University

Invited Conference Presentations

- 2022 Congress of the European Society for Evolutionary Biology (ESEB), Prague, Czech Republic
- 2021 ESEB Satellite Meeting: Remarkable diversity of sex chromosome evolution, Virtual
- 2019 Arthropod Genomics Symposium, Manhattan, KS
- 2019 International Conference of Insect Genomics, Chongqing, China
- 2017 International Conference on Biological Invasions, Hangzhou, China
- 2017 International Conference of Insect Genomics, Hangzhou, China
- 2016 Ecological Genomics Symposium, Kansas City, KS
- 2016 Evolutionary Genomics of Sex, Arizona State University, Phoenix, AZ
- 2016 International Congress of Entomology, Orlando, FL
- 2015 Entomological Society of America, Minneapolis, MN
- 2015 Arthropod Genomics Symposium, Manhattan, KS
- 2014 International conference on the Biology of Butterflies, Turku, Finland

Contributed Conference Presentations

- 2022 Molecular biology and genetics of Lepidoptera, Heraklion, Crete, Greece
- 2018 International workshop on molecular biology and genetics of the Lepidoptera
- 2014 International workshop on molecular biology and genetics of the Lepidoptera
- 2012 Society for the study of evolution, Ottawa, Ontario, Canada
- 2011 Society for the study of evolution, University of Oklahoma, Norman
- 2010 Unifying behavioural & genomic in sexual selection research, University of Bath, UK
- 2009 Society for molecular biology and evolution, University of Iowa
- 2008 Society for the study of evolution, University of Minnesota
- 2008 Ecology and evolution graduate student symposium, Cornell University
- 2007 Eastern great lakes molecular evolution, University of Toronto
- 2006 Society for the study of evolution, SUNY Stony Brook
- 2006 Ecology and evolution graduate student symposium, Cornell University
- 2003 Ecology and evolution graduate student symposium, Cornell University

Conference Posters

- 2022 KU Center for Genomics Symposium, Lawrence, KS
 - 2014 Society for the study of evolution, Raleigh, NC
 - 2013 Society for molecular biology and evolution, Chicago, IL
 - 2012 Ecological Genomics, Kansas State University
 - 2011 Ecological & Evolutionary Genomics, Gordon Conference, University of New England
 - 2011 Arthropod Genomics Symposium, Kansas State University
 - 2010 Arthropod Genomics Symposium, Kansas State University
 - 2007 Society for molecular biology and evolution, Dalhousie University
 - 1999 Eastern great lakes molecular evolution, SUNY Albany
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Service

National

- 2016 NSF-DEB proposal review panelist.

University and Department

- 2021-2022 KU College Committee on Appointments, Promotion, and Tenure
- 2019-2022 KU EEB seminar committee (chair 2021-22)
- 2017 KU EEB Microbial Ecologist Job Search Committee
- 2015-2017 KU Research computing executive advisory committee
- 2014-ongoing KU EEB Graduate Admissions Committee
- 2013-2014 KU EEB Website Committee

Referee Service

Molecular Biology and Evolution, Molecular Ecology, Molecular Ecology Resources, Genes, Genome Biology and Evolution, eLife, PNAS, PLoS ONE, PLoS Genetics, Molecular Ecology Resource, Heredity, Genetics, Proceedings of the Royal Society B, Journal of Molecular Evolution, Insect Biochemistry and Molecular Biology, Insect Molecular Biology, Invertebrate Development and Reproduction, Journal of Proteome Research, Science Advances