

Curriculum Vitae
PATRICIA J. WITTKOPP (née Polaczyk)

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Research Interest: Understanding the genetic basis of development and evolution, with an emphasis on the molecular mechanisms controlling gene expression

Education:

1997-2002 Ph.D. in Genetics
University of Wisconsin, Madison, WI
Advisor: Dr. Sean Carroll

1993-1997 B.S. in Cellular and Molecular Biology (with “Highest Honors” and distinction)
B.S. Chemistry (with distinction)
University of Michigan, Ann Arbor, MI
Advisor: Dr. Greg Gibson

Academic appointments:

2023 – present Associate Dean for the Natural Sciences, College of LSA, University of Michigan
2023 - present Deborah E. Goldberg Distinguished University Professor¹, University of Michigan
2020 - 2023 Chair, Department of Ecology and Evolutionary Biology, University of Michigan
2019 Visiting Group Leader, European Molecular Biology Laboratory (EMBL), Heidelberg
2017 - 2023 Sally L. Allen Collegiate Professor², University of Michigan
2016 - present Arthur F. Thurnau Professor³, University of Michigan
2015 - present Professor of Ecology and Evolutionary Biology
Professor of Molecular, Cellular, and Developmental Biology

2015 – 2018 Professor of Honors Program, University of Michigan
2014 - 2019 Associate Chair of Graduate Studies, Ecology and Evolutionary Biology, University of Michigan
2011 - 2015 Associate Professor of Ecology and Evolutionary Biology
Associate Professor of Molecular, Cellular, and Developmental Biology
University of Michigan, Ann Arbor, Michigan

2005 - present Member, Program in the Biomedical Sciences
Member, Center for Computational Medicine and Biology
Member, Center for Statistical Genetics
Trainer, NIH Genome Sciences Training Grant
Trainer, NIH Genetics Training Grant
Trainer, NIH Organogenesis Training Grant
Trainer, NIH Open Data Training Grant

2005-2011 Assistant Professor of Ecology and Evolutionary Biology
Assistant Professor of Molecular, Cellular, and Developmental Biology

¹ Distinguished University Professorships are the University of Michigan’s most prestigious professorships, to recognize senior faculty with exceptional scholarly and/or creative achievements, national and international reputations for academic excellence, and superior records of teaching, mentoring, and service.

² Collegiate Professorships are awarded for exceptional scholarly achievement and impact on advancing knowledge in science, engineering, health, education, the arts, the humanities or other academic field of study.

³ Thurnau Professorships recognize and reward a highly select group of tenured faculty for their outstanding contributions to undergraduate education.

2002-2005 University of Michigan, Ann Arbor, Michigan
 Damon Runyon Cancer Research Foundation Postdoctoral Fellow
 Cornell University, Ithaca, NY
 Advisor: Dr. Andrew Clark

Honors and Awards:

2023 Distinguished University Professor (University of Michigan)⁴
 2021 Fellow of the American Association for the Advancement of Science
 2019 Friedrich Wilhelm Bessel Research Award - Alexander von Humboldt Foundation
 2019 John Simon Guggenheim Memorial Foundation Fellow
 2019 Society of Molecular Biology and Evolution Margaret Dayhoff Mid-Career Award
 2019 Elizabeth Caroline Crosby Award (University of Michigan)
 2017 Collegiate Professorship (University of Michigan)
 2016 Arthur F. Thurnau Professorship (University of Michigan)
 2015 John Dewey Award (University of Michigan)⁵
 2014 Faculty Recognition Award (University of Michigan)⁶
 2014 Faculty Speaker, LSA Honors Program Graduation Ceremony (University of Michigan)
 2013 Work/Life Champion Award for Supervisors (University of Michigan)⁷
 2013 Excellence in Education Award (University of Michigan)⁸
 2011 Class of 1923 Memorial Teaching Award (University of Michigan)⁹
 2010 Henry Russel Award (University of Michigan)¹⁰
 2008 "Scientist to Watch", *The Scientist*
 2008-2010 Alfred P. Sloan Research Fellow
 2007-2009 March of Dimes Basil O'Connor Starter Scholar Research Award
 2003-2006 Damon Runyon Cancer Research Foundation Postdoctoral Fellow
 2000 Best Poster award at the 9th Annual "Egg to Organ" Symposium
 1998-2001 National Institutes of Health Genetics Training Grant
 1998 Henry Vilas Fellowship
 1998 National Science Foundation Predoctoral Fellowship Honorable Mention
 1997-1998 Wisconsin Alumni Research Foundation Fellowship
 1993-1997 W.R. Hotchkiss Foundation Scholarship

Publications: *undergraduate co-authors in italics*, corresponding author(s) indicated with asterisks

In preparation

⁴ This is the University's most prestigious professorship, recognizing senior faculty with exceptional scholarly and/or creative achievements, national and international reputations for academic excellence, and superior records of teaching, mentoring, and service.

⁵ This award recognizes a long-term commitment to the education of undergraduate students. Recipients are selected by the college executive committee from among those recommended for promotion from associate professor to full professor.

⁶ This award recognizes up to five mid-career faculty a year who have demonstrated remarkable contributions to the University through outstanding achievements in scholarly research and/or creative endeavors; excellence as a teacher, advisor and mentor; and distinguished participation in the service activities of the university and elsewhere.

⁷ This award recognizes 10 supervisors from throughout the university (both academic and non-academic) who create a working environment that supports work/life balance for their staff. Nominations come from staff members themselves.

⁸ This award recognizes special efforts in the areas of classroom teaching, curricular innovation, and the supervision of student research, as well as other significant contributions to the quality of the College's teaching-learning environment.

⁹ This award recognizes the outstanding teaching of undergraduates. Recipients are selected by the college executive committee from among those recommended for promotion from assistant professor to associate professor with tenure.

¹⁰ This award is conferred annually to recognize up to 2 mid-career faculty members who have demonstrated an impressive record of accomplishment in scholarship and/or creativity, as well as their conspicuous ability as a teacher.

1. Hill, M.S., F. Duveau, A. Hodgins-Davis, and **P.J. Wittkopp** Integrating empirical properties of mutations to understand recurrent patterns of regulatory evolution.
2. Lamb A.M. and **P.J. Wittkopp**. microRNAs Are Necessary Components of the Genetic Architecture Underlying Adult Cuticle Pigmentation in *Drosophila melanogaster*.
3. McQueen, E.* , Yang, B.* , and **P.J. Wittkopp**. Epistatic impacts of cis- and trans-regulatory variants on the distribution of mutational effects for gene expression in *Saccharomyces cerevisiae*. * = co-first authors
4. Redhuis, A., G.Krieger, O. Lupo, N. Barkai, and **P.J. Wittkopp**. Co-regulated gene modules maintain expression plasticity while diverging in regulators between two species of yeast

Submitted

5. Bayala, E.X., Sinah, P., and P.J. Wittkopp. Protocol for Dissecting *Drosophila* Pupae and Visualizing RNA Expression using Hybridization Chain Reaction (HCR), *Submitted to Star Protocols August 29, 2024*
6. Ertl, H.A., E.X. Bayala, M.A. Siddiq, and **P.J. Wittkopp**. (2024) Divergence of Grainy head affects chromatin accessibility, gene expression, and embryonic viability in *Drosophila melanogaster*. *BioRxiv*: <https://doi.org/10.1101/2024.04.07.588430> Submitted to *Development* on 4/14/24

In Revision or Resubmitted

7. Siddiq, M.* , Duveau, F.* , and **P.J. Wittkopp**. (2024) Plasticity and environment-specific relationships between gene expression and fitness in *Saccharomyces cerevisiae* * = co-first authors *BioRxiv*: <https://doi.org/10.1101/2024.04.12.589130> Revised and Resubmitted to *Nature Ecology and Evolution* in August 2024.
8. Tian, S., Y. Asano, T.D. Banerjee, J.L.Q. Wee, A. Lamb, Y. Wang, S.N. Murugesan, **P.J. Wittkopp**, A. Monteiro. (2024). A micro-RNA drives a 100-million-year adaptive evolution of melanic patterns in butterflies and moths. Revised and Resubmitted to *Science* on 4/18/24

Accepted/Published

9. Vande Zande, P., M.A. Siddiq, A. Hodgins-Davis, L. Kim, and **P.J. Wittkopp**. (2023) Active compensation for changes in *TDH3* expression mediated by direct regulators of *TDH3* in *Saccharomyces cerevisiae*. *PLOS Genetics*, in press. *BioRxiv*: <https://biorxiv.org/cgi/content/short/2023.01.13.523977v1>
10. **Wittkopp, P.J.** (2023) Voices: What new questions can we ask about transcriptional regulation given recent developments in large-scale approaches? *Cell Systems*: [https://www.cell.com/cell-systems/fulltext/S2405-4712\(23\)00081-9](https://www.cell.com/cell-systems/fulltext/S2405-4712(23)00081-9)

Invited opinion

11. **Wittkopp, P.J.** (2023) Contributions of mutation and selection to regulatory variation: lessons from the *S. cerevisiae* *TDH3* gene. *Philosophical Transactions B of the Royal Society*, **378**, 20220057.
12. Ertl, H., M.S. Hill, and **P.J. Wittkopp** (2022). Differential Grainy head binding correlates with variation in chromatin structure and gene expression in *Drosophila melanogaster*. *BMC Genomics*, **23**, 854.
13. Vande Zande, P., and **P.J. Wittkopp** (2022). Regulatory network topology can explain differential pleiotropy of *cis* and *trans*-acting mutations. *Molecular Biology and Evolution* **39**, msac266.
Recommended by Faculty Opinions (formerly Faculty of 1000)
14. Siddiq M., and **P.J. Wittkopp**. (2022) Mechanisms of regulatory evolution in yeast. *Current Opinion in Genetics and Development*, **77**:101998, 101998.
Invited review for special issue on "Recent developments on yeast evolution"
15. Vande Zande, P., M.S. Hill, and **P.J. Wittkopp** (2022) Pleiotropic effects of trans-regulatory mutations on fitness and gene expression. *Science*, **377**, 105-109.
Recommended by Faculty Opinions (formerly Faculty of 1000)
16. Krieger, G., O. Lupo, **P.J. Wittkopp**, N. Barkai (2022) Evolution of transcription factor binding through sequence variations and turnover of binding sites. *Genome Research*, **32**, 1099-1111.
17. Duveau, F.* , P. Vande Zande, B.P.H. Metzger, C. Diaz, E. Walker, S. Tryban, M. Siddiq, B. Yang, and **P.J. Wittkopp*** (2021). Mutational sources of *trans*-regulatory variation affecting gene expression in *S. cerevisiae*, *eLife*, **10**, e67806.
18. Massey, J.H, Li, J., Stern, D.L., **P.J. Wittkopp***. (2021) Distinct genetic architectures underlie divergent body, leg, and wing pigmentation between *Drosophila elegans* and *D. gunungcola*. *Heredity*, **127**,467-474
19. Hill, M.S.¹, P. Vande Zande¹, and **P.J. Wittkopp***. (2021) Molecular and evolutionary processes

generating variation in gene expression. *Nature Reviews Genetics*, **22**, 203–215.

Invited submission; ¹co-first authors

20. Massey, J.H., Li, J., and **P.J. Wittkopp** (2020) A method using CO₂ anesthesia to collect embryos for microinjection in non-model *Drosophila*. *Drosophila Information Service* **103**,75-77.
21. Sramkoski, L.L.¹, W.N. McLaughlin¹, A.M. Cooley, D.C. Yuan, A. John, and **P.J. Wittkopp*** (2020) Genetic architecture of a body colour cline in *Drosophila americana*, *Molecular Ecology*, **29**, 2840-2854
22. Lamb, A. M., Z. Wang, P. Simmer, H. Chung, and **P.J. Wittkopp*** (2020) *ebony* affects pigmentation divergence and cuticular hydrocarbons in *Drosophila americana* and *D. novamexicana*. *Frontiers in Ecology and Evolution*, **8**, 184.
Invited submission to special collection on Evo-Devo of Color Pattern Formation
23. Massey, J.H., G.R. Rice, A. Firdaus, C.-Y. Chen, S.-D. Yeh, D.L. Stern*, and **P.J. Wittkopp*** (2020) Co-evolving wing spots and mating displays are genetically separable traits in *Drosophila*. *Evolution*, **74**, 1098-1111.
24. Massey, J.H., D. Chung, I. Siwanowicz, D.L. Stern*, **P.J. Wittkopp*** (2019) The *yellow* gene influences *Drosophila* male mating success through sex comb melanization. *eLife*. 2019 Oct 15;8.
Featured in commentary by S. Signor (2019) eLife. 2019; 8: e51746
25. Metzger, B.P.H., and **P.J. Wittkopp*** (2019) Compensatory *trans*-regulatory alleles minimizing variation in *TDH3* expression are common within *Saccharomyces cerevisiae*. *Evol Lett.* 2019 Aug 29;3(5):448-461
26. Hodgins-Davis, A., F. Duveau, E. Walker, **P.J. Wittkopp*** (2019) Empirical measures of mutational effects define neutral models of regulatory evolution in *Saccharomyces cerevisiae*. *Proc Natl Acad Sci U S A.* 2019 Oct 15;116(42):21085-21093
27. Massey J.H., N. Akiyama, T. Bien, K. Dreisewerd, **P.J. Wittkopp***, J.Y. Yew*, A. Takahashi* (2019) Pleiotropic effects of *ebony* and *tan* on pigmentation and cuticular hydrocarbon composition in *Drosophila melanogaster*. *Frontiers in Physiology*, **10**, 518.
Invited submission to special collection "Melanism: macrophysiology to molecules"
(Note: first author of this collaborative work was a graduate student from my lab)
28. Kalay, G., J. Lachowiec, U. Rosas, M. R. Dome, and **P.J. Wittkopp*** (2019) Redundant and cryptic enhancer activities of the *Drosophila yellow* gene. *Genetics* **212**, 343-360.
Selected for Highlight in May 2019.
29. Duveau, F., A. Hodgins-Davis, B.P.H. Metzger, B. Yang, S. Tryban, E.A. Walker, P. Lybrook, and **P.J. Wittkopp*** (2018). Fitness effects of altering gene expression noise in *Saccharomyces cerevisiae*. *eLife*. 2018 Aug 20;7. Pii: e37272. Doi: 10.7554/eLife.37272.
30. Duveau, F.¹, D.C. Yuan¹, B.P.H. Metzger, A. Hodgins-Davis, and **P.J. Wittkopp*** (2017) Effects of mutation and selection on plasticity of promoter activity in *Saccharomyces cerevisiae*. *Proceedings of the National Academy of Sciences*, 114(52):E11218-E11227, doi: 10.1073/pnas.1713960115. ¹co-first authors
31. Duveau, F., W. Toubiana, and **P.J. Wittkopp*** (2017) Fitness effects of *cis*-regulatory variants affecting expression of the *Saccharomyces cerevisiae TDH3* promoter. *Molecular Biology and Evolution*, **34**, 2908-2912.
32. Metzger, B.P.H., **P.J. Wittkopp**, and J.D. Coolon*. (2017) Evolutionary dynamics of regulatory changes underlying gene expression divergence among *Saccharomyces* Species. *Genome Biology and Evolution* **9**, 843-854.
33. Yang, B. and **P.J. Wittkopp***. (2017) Structure of the transcriptional regulatory network correlates with regulatory divergence in *Drosophila*. *Molecular Biology and Evolution* **34**:1352-1362.
34. Andrade López, J. M., S.M. Lanno, J.M. Auerbach, E.C. Moskowitz, L.A. Sligar, **P.J. Wittkopp** and J.D. Coolon*. (2016) Genetic basis of octanoic acid resistance in *Drosophila sechellia*: functional analysis of a fine-mapped region. *Molecular Ecology*, **26**:1148-1160.
35. **Wittkopp, P.J.** (2016) Voices: Big Questions in Evolution. *Cell* **166**, 528-29.
Invited opinion
36. Kalay, G., R. Lusk, M. Dome, K. Hens, B. Deplancke and **P.J. Wittkopp***. (2016) Potential direct regulators of the *Drosophila yellow* gene identified by yeast one-hybrid and RNAi screens. *G3: Genes, Genomics, Genetics* **13**, 3419-343.
37. John, A., L. Sramkoski, E. Walker, A.M. Cooley, and **P.J. Wittkopp***. (2016) Sensitivity of allelic divergence to genomic position: Lessons from the *Drosophila tan* gene. *G3: Genes, Genomics, Genetics* **6**, 2955-62.

38. Lamb, A., E. Walker, and **P.J. Wittkopp**. (2016) CRISPR/Cas9 allele-swaps: genome editing with single-nucleotide precision in *Drosophila*. *FLY*, 2016 Aug 5:1-12.
39. Massey, J. and **P.J. Wittkopp*** (2016). The genetic basis of pigmentation differences within and between *Drosophila* species. *Curr Top Dev Biol.* **119**, 27-61
Invited
40. Metzger, B.P.H.¹, F. Duveau¹, D.C. Yuan¹, S. Tryban, B. Yang, and **P.J. Wittkopp***. (2016) Contrasting frequencies and effects of *cis*- and *trans*-regulatory mutations on gene expression. *Molecular Biology and Evolution* **33**, 1131-46. ¹ co-first authors
41. Moczek, A.P, K.E. Sears, A. Stollewerk, **P.J. Wittkopp**, P. Diggle, I. Dworkin, C. Ledon-Retting, D. Q. Matus, S. Roth, E. Abouheif, F.D. Brown, C-H, Chiu., S. Cohen, A.W. De Tomaso, S.F. Gilbert, B. Hall, A. Love, D.C. Lyons, T. Sanger, J. Smith, C. Secht, M. Vallejo-Marin, C. Extavour. (2015) The significance and scope of evolutionary developmental biology: a vision for the 21st century. *Evolution & Development*, **17**, 198-219. (I wrote the section on Science Education in this collaborative paper.)
42. Coolon, J.D.* , K.R. Stevenson, C.J. McManus, B.R. Graveley, and **P.J. Wittkopp***. (2015) Molecular mechanisms and evolutionary processes contributing to accelerated divergence of gene expression on the *Drosophila* X chromosome. *Molecular Biology and Evolution* **32**, 2605-15.
Recommended by Faculty of 1000
43. Metzger, B.P.H.¹, D.C. Yuan¹, J.D. Gruber, F. Duveau and **P.J. Wittkopp***. (2015) Selection on noise constrains variation in a eukaryotic promoter. *Nature* **521**, 344-7. ¹co-first authorship
Recommended by Faculty of 1000
44. Duveau, F*., B.P.H. Metzger, J.D. Gruber, K. Mack, N. Sood, T. Brooks and **P.J. Wittkopp***. (2014) Mapping small effect mutations in *Saccharomyces cerevisiae*: impacts of experimental design and mutational properties. *G3: Genes, Genomics, Genetics*, **4**, 1205-16.
45. Coolon, J.D., C.J., McManus, K. Stevenson, B.R. Graveley, and **P.J. Wittkopp***. (2014) Tempo and mode of regulatory evolution in *Drosophila*. *Genome Research* **24**, 797-808.
46. McManus, C.J.* , J.D. Coolon, J. Eipper-Mains, **P.J. Wittkopp**, and B.R. Graveley* (2014) Evolution of Splicing Regulatory Networks in *Drosophila*. *Genome Research* **24**, 786-796.
47. Coolon, J.D.* , W. Webb, and **P.J. Wittkopp**. (2013) Sex-specific effects of *cis*-regulatory variants in *Drosophila melanogaster*. *Genetics* **195**, 1419-22.
48. He, B.Z.* , M.Z. Ludwig, D.A. Dickerson, L. Barse, B. Arun, S-Y. Park, N.A. Tamarina, S.B. Selleck, **P.J. Wittkopp**, G.I. Bell, and M. Kreitman* (2013) Effect of Natural Genetic Variation on Phenotype in a *Drosophila* Model of Diabetes-Associated Misfolded Human Proinsulin. *Genetics* **196**, 557-67 PMID: PMC3914626
49. Meiklejohn, C. D.* , Coolon, J., D. L. Hartl, and **P. J. Wittkopp**. (2013) The roles of *cis*- and *trans*-regulation in the evolution of regulatory incompatibilities and sexually dimorphic gene expression. *Genome Research* **24**, 84-95 PMID: PMC3875864
50. Stevenson, K., J.D. Coolon, and **P.J., Wittkopp***. (2013) Sources of bias in measures of allele-specific expression derived from RNA-seq data aligned to a single reference genome. *BMC Genomics*, **14**, 536. PMID: PMC3751238
"Highly accessed"
Recommended by Faculty of 1000
51. **Wittkopp, P.J.** (2013) Population Genetics and a Study of Speciation using Next-Generation Sequencing: An Educational Primer for Use with "Patterns of Transcriptome Divergence in the Male Accessory Gland of Two Closely Related Species of Field Crickets". *Genetics* **193**, 671-5. PMID: PMC3583991
Invited educational primer
52. Cooley, A.M., *Shefner, L., W.N. McLaughlin, E.E. Stewart*, and **P.J. Wittkopp** (2012) The ontogeny of color: Developmental origins of divergent pigmentation in *Drosophila americana* and *D. novamexicana*. *Evolution & Development* **14**, 317-325. PMID: PMC3402224
Cover article
53. Coolon, J.D. and **P.J. Wittkopp***. (2012) "*cis*- and *trans*-regulation in interspecific *Drosophila* hybrids" in *Polyploid and Hybrid Genomics*, pp. 37-58, Wiley-Blackwell Publishing. Editors: Z. Jeffrey Chen and Jim Birchler
Invited book chapter
54. Coolon, J.D.* , K. Stevenson, C.J., McManus, B. Graveley, and **P.J. Wittkopp**. (2012) Genomic imprinting absent in *Drosophila melanogaster* adult females, *Cell Reports*, **2**, 69-75. PMID: PMC3565465

55. Gruber, J.D., K. Vogel, G. Kalay, and **P.J. Wittkopp***. (2012) Contrasting Properties of Gene-specific Regulatory, Coding, and Copy Number Mutations in *Saccharomyces cerevisiae*: Frequency, Effects and Dominance. *PLoS Genetics*, **8**, e1002497. PMID: PMC3276545
Recommended by Faculty of 1000
56. **Wittkopp, P.J.***, and G. Kalay. (2011) *cis*-regulatory elements: molecular mechanisms and evolutionary processes underlying divergence. *Nature Reviews Genetics* **13**, 59-69.
Invited Review
57. **Wittkopp, P.J.*** (2011) Using pyrosequencing to measure allele-specific mRNA abundance and infer the effects of *cis*- and *trans*-regulatory differences. *Methods Mol Biol.* **772**, 297-317.
Invited book chapter
58. **Wittkopp, P.J.*** (2011) "Evolution of Gene Expression" in *The Princeton Guide to Evolution*, pp. 413-419, Editor-in-chief, Jonathan Losos; Section editor, Hopi Hoekstra.
Invited book chapter
59. Kalay, G. and **P.J. Wittkopp***. (2010) Nomadic enhancers: tissue-specific *cis*-regulatory elements of the *yellow* gene changed genomic locations during *Drosophila* evolution. *PLoS Genetics*, **6**, e1001222. PMID: PMC2996884
60. **Wittkopp, P.J.***, G. Smith-Winberry, L.L. Arnold, E.M. Thompson, A.M. Cooley, D. Yuan, Q. Song, and B.F. McAllister (2010). Local adaptation for body color in *Drosophila americana*. *Heredity* **106**, 592-602. PMID: PMC3183901
61. **Wittkopp, P.J.*** (2010). Variable transcription factor binding: a mechanism of evolutionary change. *PLoS Biology*, **8**, e1000342. PMID: PMC2843594
Invited Primer
62. McManus, C.J., J. Coolon, M. Duffy, J. Eipper-Mains, B. Graveley*, and **P.J. Wittkopp*** (2010) Regulatory divergence in *Drosophila* revealed by mRNA-Seq, *Genome Research*, **20**, 816-25. PMID: PMC2877578
Recommended by Faculty of 1000
63. Fontanillas, P.*, C.R. Landry, **P.J. Wittkopp**, C. Russ, J.D. Gruber, and D.L. Hartl (2009). Key considerations for measuring allelic expression on a genomic scale using high-throughput sequencing. *Molecular Ecology*, **19** (Suppl. 1), 212-227. PMID: PMC3217793
Next Generation Molecular Ecology special issue
64. **Wittkopp, P.J.***, E.E. Stewart, L.L. Arnold, A.H. Neidert, B.K. Haerum, E.M. Thompson, S. Akhras, G. Smith-Winberry and L. Shefner (2009). Connecting intraspecific polymorphism to interspecific divergence: genetics of pigmentation evolution in *Drosophila*, *Science*, **326**, 540-544.
Recommended by Faculty of 1000
Selected as a "Research Highlight" by *Nature Genetics* (2009) **41**, 1267
"Today's top science news" story on ScienceDaily, October 25, 2009.
Highlighted in "Spineless fish and dark flies prove gene regulation crucial." *Science* (2009) 326:1612.
65. **Wittkopp, P.J.** and P. Beldade* (2009) Development and evolution of insect pigmentation: genetic mechanisms and the potential consequences of pleiotropy, *Seminars in Cell and Developmental Biology*, **20**, 65-71.
Invited, *Pigment Cell Development special issue*
66. **Wittkopp, P.J.*** B.K. Haerum, and A.G. Clark. (2008). Independent effects of *cis*- and *trans*-regulatory variation on gene expression in *Drosophila melanogaster*, *Genetics* **178**, 1831-5. PMID: PMC2278090
67. **Wittkopp, P.J.***, B.K. Haerum, and A.G. Clark. (2008) Regulatory changes underlying expression differences within and between *Drosophila* species. *Nature Genetics* **40**, 346-50.
Recommended by Faculty of 1000
68. Davis, GK, Srinivasan, D, **Wittkopp, PJ** and DL Stern* (2007) The function and regulation of *Ultrabithorax* in the legs of *Drosophila melanogaster*. *Developmental Biology* **308**, 621-631. PMID: PMC2040266
69. Kohn, M.H. and **P.J. Wittkopp**. (2007) Annotating *ebony* on the fly. *Molecular Ecology*, **16**, 2831-3.
Invited commentary
70. **Wittkopp, P.J.*** (2007) Evolutionary genetics: how flies get naked. *Current Biology* **17**, R881-3.
Invited commentary
71. **Wittkopp, P.J.*** (2007). Variable gene expression in eukaryotes: a network perspective. *Journal of Experimental Biology*, **210**, 1567-1575.

Invited, *Post-genomic Comparative Physiology special issue*

72. Fay, J.C.* and **P.J. Wittkopp** (2007). Evaluating the role of natural selection in the evolution of gene regulation. *Heredity*, **100**, 191-199
Invited, *Ecological and Evolutionary Functional Genomics special issue*
73. **Wittkopp, P.J.***, B.K. Haerum, and A.G. Clark (2006). Parent-of-origin effects on mRNA levels in *Drosophila melanogaster* are not caused by genomic imprinting. *Genetics*, **173**, 1817-1821. PMID: PMC1526670
74. **Wittkopp, P.J.*** (2006) Evolution of *cis*-regulatory sequence and function in diptera. *Heredity* **97**, 139-147
Invited, *Evolution and Development (EvoDevo) special issue*
75. Landry, C.R, **P.J. Wittkopp**, C. Taubes, J.M. Ranz, A.G. Clark, and D.L. Hartl (2005). Compensatory *cis-trans* regulation and dysregulation of gene expression in hybrids between species. *Genetics* **171**, 1813-1822. PMID: PMC1456106
Recommended by Faculty of 1000
76. **Wittkopp, P.J.*** (2005) Genomic sources of regulatory variation in *cis* and in *trans*. *Cellular and Molecular Life Sciences* **62**, 1779-83.
Invited, "Visions & Reflections"
77. Gompel, N, B. Prud'homme, **P.J. Wittkopp**, V.A. Kassner, and S.B. Carroll* (2005) Chance caught on the wing: *cis*-regulatory evolution and the origin of pigment patterns in *Drosophila*. *Nature* **433**, 481-487.
Selected by *Nature* as one of "15 Evolutionary Gems" (2009)
Featured in 2005 Breakthrough of the year: Evolution in action, *Science* 310, 1878-1879
News and Views by Brakefield and French, *Nature* 433, 466-467
Recommended by Faculty of 1000
78. **Wittkopp, P.J.***, Haerum, B.K. and A.G. Clark (2004) Evolutionary divergence of *cis* and *trans* gene regulation. *Nature*, **430**, 85-88.
Recommended by Faculty of 1000
Featured in Briefings in Bioinformatics 5, 370-377
79. **Wittkopp, P.J.**, S.B. Carroll*, and A. Kopp (2003) Evolution in Black and White: Genetic control of pigment patterns in *Drosophila*. *Trends in Genetics*, **19**, 495-504.
Cover article
80. **Wittkopp, P.J.**, B.L. Williams, J.E. Selegue, and S.B. Carroll* (2003) *Drosophila* pigmentation evolution: divergent genotypes underlying convergent phenotypes. *Proc Natl Acad Sci U.S.A.*, **100**, 1808-1813
PMCID: PMC149915
Featured in *Nature Reviews Genetics* Research Highlights section, April 2003
81. Drapeau, M.D.* , A. Radovic, **P.J. Wittkopp**, and A. Long (2003) A gene necessary for normal male courtship, *yellow*, acts downstream of fruitless in the *Drosophila melanogaster* larval brain. *J. of Neurobiology*, **55**, 53-72.
82. **Wittkopp, P.J.**, K. Vaccaro and S.B. Carroll* (2002) Evolution of *yellow* gene regulation and pigmentation patterns in *Drosophila*. *Current Biology*, **12**, 1547-1556.
Cover article
Featured in *Nature Reviews Genetics* Research Highlights section, November 2002
83. Radovic, A, **P.J. Wittkopp**, A.D. Long, and M.D. Drapeau* (2002) Immunohistochemical colocalization of Yellow and male-specific Fruitless in *Drosophila melanogaster* neuroblasts. *Biochemical and Biophysical Research Communications*, **293**, 1262-1264.
84. **Wittkopp, P.J.**, J.R. True, and S.B. Carroll* (2002) Reciprocal functions of the *Drosophila* Yellow and Ebony proteins in the development and evolution of pigment patterns. *Development*, **129**, 1849-1858.
Cover article
85. Halder G. H., **P. J. Polaczyk**, M.E. Kraus, A. Hudson, J. Kim, A. Laughon, and S.B. Carroll* (1998) The Vestigial and Scalloped proteins act together to directly regulate wing-specific gene expression in response to signaling proteins. *Genes & Development*, **12**:3900-3909.
Co-first authorship
86. **Polaczyk, P.J.**, R. Gasparini, and G. Gibson* (1998) Naturally occurring genetic variation affects *Drosophila* photoreceptor determination. *Development, Genes & Evolution* **207**, 462-470.

Cover Article

Other peer-reviewed papers published by lab members during their time in the Wittkopp lab

1. Lusk, R.W., (2014) Diverse and widespread contamination evident in the unmapped depths of high throughput sequencing data. *PLoS ONE*, 2014 Oct 29;9(10):e110808.

This work was picked up by many news outlets, including *The Scientist* magazine (<http://www.the-scientist.com/?articles.view/articleNo/41344/title/Fact-or-Artifact-/>)

Peer-reviewed Educational Resources

1. Bakewell, M.A. and **P.J. Wittkopp** (2013). Basic Probability and Chi-Squared Tests. *Genetics Society of America Peer-Reviewed Education Portal (GSA PREP)*: 2013.005; doi: 10.1534/gsaprep.2013.005
<http://www.genetics-gsa.org/education/GSAPREP.2013.005.shtml>

Research from published work is discussed in the following textbooks:

2001 *From DNA to Diversity: Molecular genetics and the evolution of animal design* by S.B. Carroll, J.K. Grenier, S.D. Weatherbee (Blackwell Science)

2005 *Evolution* by D.J. Futuyma (Sinauer Associates, Inc)

2006 *Introduction to Genetic Analysis, 9th edition* by Griffiths, Wessler, Lewontin, and Carroll (W.H. Freeman and company)

Presentations**Invited departmental seminars and conference presentations:**

- 2025 Department of Biology, Texas A&M University, College Station, TX
Department of Ecology and Evolutionary Biology, University of Toronto, Toronto, Canada
Biology of Genomes, Cold Spring Harbor, NY - *Keynote*
- 2024 Department of Biology, University of Virginia, Charlottesville, VA
7th International Conference of Quantitative Genetics, Vienna, Austria – schedule conflict
Novelty, co-option and divergence during gene network evolution, Baeza, Spain – schedule conflict
- 2023 Max Planck Institute for Biology, Tübingen, Germany, *Distinguish Speaker Seminar (postdocs selected)*
Midwest Population Genetics, Ann Arbor, MI, *Keynote*
Evolutionary Studies Seminar Series, Vanderbilt University, Nashville, TN
Cold Spring Harbor Labs “yeast course”, Cold Spring Harbor, NY
Institut de Génomique Fonctionnelle de Lyon (IGFL) Anniversary symposium, Lyon, France, *Keynote*
Integrating Evolutionary Genetics & Ecology, Collège de France/Institut Jacques Monod, Paris, France
North Carolina State University, Genetics and Genomics Initiative, Durham, NC
Society for Molecular Biology and Evolution, Ferrara, Italy
Evolution in Action: From Genomes to Ecosystems, Zurich, Switzerland – schedule conflict
4th Conference of the Indian Society of Evolutionary Biol, Ahmedabad, India, *Keynote* schedule conflict
Biology of Genomes, CSHL, New York, invited speaker and session chair – schedule conflict
Department of Quantitative and Computational Biology, Univ. of Southern California – schedule conflict
SMBE Satellite meeting on Mechanisms of Cellular Evolution, Arizona – *Keynote*, schedule conflict
University of Iowa, Biology Department, Ames, IA – schedule conflict
- 2022 Stockholm University, Frontiers in Molecular Life Sciences, Stockholm, Sweden
ASBMB special topics meeting “Evolution and Core Processes in Gene Expression, Kansas City, MO
Lund University, Department of Biology, Lund, Sweden
RECOMB/ISCB Regulatory and Systems Genomics Conf, Las Vegas, NV – *Keynote* – schedule conflict
University of Memphis, Department of Biology, Memphis, TN - schedule conflict
University of Texas Med Branch, Dept of Biochem and Mol Biology, Galveston, TX – schedule conflict
- 2021 University of Texas, Integrative Biology Department, Austin, TX
University of Cambridge, Department of Genetics, Cambridge, United Kingdom
EMBO workshop: Predicting Evolution, Heidelberg, Germany
Harvard University, Department of Systems Biology, Cambridge, MA
Harvard University, Department of Organismic and Evolutionary Biology, Cambridge, MA

- Indiana University-Purdue University Indianapolis, Department of Biology, Indianapolis, IN
 Uppsala University, Department of Ecology and Genetics, Uppsala, Sweden
- 2020 Israeli Society of Evolutionary Biology, *Plenary*
 Gladstone Institute of Data Science & Biotechnology, San Francisco, CA
 National Academies Next Steps for Functional Genomics: A Workshop, Washington DC, *Keynote*
 Biology of Genomes, Cold Spring Harbor Labs, Cold Spring Harbor, NY
 University of Alabama, Tuscaloosa, AL (Evolution public lecture)**
 EMBO workshop: Sexual Dimorphism, Heidelberg, Germany
 University of Buffalo, Department of Biology
 Department of Biology, Oregon State University, Corvallis, OR - cancelled due to COVID-19
 Instituto Gulbenkian de Ciência, Oeiras, Portugal – cancelled due to COVID-19
 Biology of Populations Seminar Series, Princeton Univ, Princeton, NJ –cancelled due to COVID-19
- 2019 Institute for Zoology and Anthropology, Georg-August-University Göttingen
 Division of Biosciences, University College London
 Society for the Study of Molecular Biology and Evolution, Manchester, UK
 Biological Sciences Seminar Series, Columbia University, New York, NY
 Biology Department, New York University, New York, NY
Postdoc invited speaker
 Cell Symposium: Transcription in Evolution, Development, and Disease, Chicago, IL
 EMBL Symposium: System Genetics, Heidelberg, Germany
 From Genes to Organisms: Transcriptional Control during Development, Baeza, Spain
 Behavioral and Evolutionary Ecology Seminar Series, University of Bern, Bern, Switzerland
 Seminar in Ecology and Evolution, University of Montpellier, Montpellier, France
 Systems Biology: Networks, Cold Spring Harbor Labs, Cold Spring Harbor, NY
 Duke University, University Program in Genetics & Genomics, Durham, NC
 Michigan State University, Integrative Biology Program, Lansing, MI
 Centre for Genomic Regulation, Barcelona, Spain
Graduate Student Invited Speaker
 Wayne State University Annual Genomics@Wayne Symposium – schedule conflict
 Lehrstuhl für Zoologie und Evolutionsbiologie, University of Konstanz – schedule conflict
 Institut de Génomique Fonctionnelle(IGFL); Ecole Normale Supérieure, Lyon, France – schedule conflict
 University of Basel, Basel, Switzerland – schedule conflict
 ASBMB Evolution and Core Processes in Gene Expression, Lansing, MI (schedule conflict) – *Keynote*
 International Molecular Plant Protection Congress, Adana City, Turkey, (schedule conflict) - *Keynote*
- 2018 University of Pittsburg, Biology Department Retreat, Pittsburgh, PA - *Keynote speaker*
 Evolution 2018 (SSE/ASN/ESEB), Montpellier, France
 Department of Human Genetics, University of Chicago, Chicago, IL
postdoc invited speaker
 UNL Biotechnology Center, University of Nebraska, Lincoln, NE
 Department of Human Genetics, University of Michigan, Ann Arbor, MI
 Gene Regulation in Evolution Symposium, Mainz University and IMB, Mainz, Germany
 Molecular and Computational Biology, University of Southern California, Los Angeles, CA
 Department of Entomology, University of Maryland, College Park, MD
 HHMI Janelia Research Campus, Ashburn, VA
 National Laboratory of Genomics for Biodiversity, LangEBio, México (schedule conflict) - *Keynote*
 XI European Congress of Entomology, Naples, Italy (schedule conflict)
 University of North Carolina, Chapel Hill, Biology department (schedule conflict)
 Darwin Day, University of Wisconsin – Madison (schedule conflict) – *Keynote*
- 2017 Symposium of the Max Planck Society, Organogenesis meets epigenetics, Berlin, Germany
 Ludwig-Maximilians-Universität Fakultät für Biologie, Munich, Germany – *Keynote Seminar Series*
 Max-Planck Institute for Plant Breeding Research, Cologne, Germany
 Max Planck Institute for Developmental Biology, Tuebingen, Germany - *Distinguished Speaker Seminar*
 Institute of Science and Technology Austria, Vienna, Austria
 Yale University, Department of Genetics, New Haven, CT
 University of Arkansas, Department of Biological Sciences, Fayetteville, AK
 University of Minnesota, Department of Genetics, Cell Biology, and Development, Minneapolis, MN

- Indiana University, Department of Biology, Bloomington, IN
 RNA Innovation Seminar, University of Michigan, Ann Arbor, MI
 [BC]2 Computational Biology Conference, Basel, Switzerland, *keynote speaker* (schedule conflict)
 Institute for Population Genetics, Veterinary Medicine, Vienna, Austria (schedule conflict)
 Peking University, Biology Department, Beijing, China (schedule conflict)
 Midwest Ecology and Evolution Conference (MEEC) 2017, *plenary speaker* (schedule conflict)
 University of Kansas, Department of Ecology and Evolutionary Biology (schedule conflict)
 Brown University, Department of Ecology and Evolutionary Biology (schedule conflict)
 Texas A&M University, Genetics Seminar Series (schedule conflict)
 Darwin Day, Grand Valley State University, Allendale, MI – *Keynote speaker* (schedule conflict)
- 2016 Population, Evolutionary, and Quantitative Genetics @The Allied Genetics Conference, Orlando, FL
Plenary Speaker
 Society of Molecular Biology and Evolution, Gold Coast, Australia
 Duke University, Genetics Education Symposium, Durham, NC
 ASU School of Life Science, Arizona State University, Phoenix, Arizona
 Department of Biology, University of Toronto, Toronto, Canada
 Wellcome Trust Conference on Evolutionary Systems Biology, Hinxton, UK
 Cornell's Center for Comparative and Population Genomics, Cornell University, Ithaca, NY
 Max-Planck Institute for Evolutionary Biology, Plön, Germany
 Max Planck Institute for Molecular Genetics, Berlin, Germany
 School of Life Sciences, Arizona State University, Tempe, AZ
 Jacques Monod Conf: Theoretical and empirical advances in evolutionary genomics, Roscoff, France
 EMBO Conference: Experimental Approaches to Evolution and Ecology, Heidelberg, Germany
 Department of Molecular Biosciences, Northwestern University, Evanston, IL
 Environmental Genomics at the Mount Desert Island Biol Laboratory, Acadia Natl Pk (schedule conflict)
 Mechanistic and Population-Level Perspectives on Evolution, Vienna, Austria (schedule conflict)
 Queenstown Molecular Biology Meeting, Nelson, New Zealand – *Keynote speaker* (schedule conflict)
 School of Biological Sciences, Monash University, Australia (schedule conflict)
- 2015 Population Genetics Group, Sheffield, UK
Plenary Speaker
 Indian Institute of Science Education and Research, Biology department, Thiruvananthapuram, India
 Fondation les Treilles; Mechanisms of evolutionary changes, Tourtour, France
 ASBMB Special Symposium on Evolution and Core Processes in Gene Regulation, St. Louis, MO
 François Jacob Conference: Gene Control in Development and Evolution, Paris, France
 Gordon Research Conference: Ecological and Evolutionary Genomics, Biddeford, ME
 Gordon Research Conference: Molecular Mechanisms in Evolution, Easton, MA
 EMBO Conference on Chromatin and Epigenetics, Heidelberg, Germany (Schedule conflict)
 Society of Molecular Biology and Evolution, Vienna (Schedule conflict)
 Theoretical and empirical evidence of adaptations, Switzerland (Schedule conflict)
 Catalan Society of Biology meeting, Barcelona, Spain (Schedule conflict) – invited *Plenary speaker*
 Autumn School, Systems Modeling Course, Swiss Alps, Switzerland (schedule conflict)
 RECOMB ISCB Reg and Systems Genomics Conference, Philadelphia, PA, *Keynote* (schedule conflict)
 13th Annual Ecological Genomics Symposium, Manhattan, KS (schedule conflict)
- 2014 Genetics Department, University of Wisconsin – Madison
Graduate Student Invited Speaker
 Arthropod Genomics Symposium, Urbana, IL
Keynote Speaker
 Department of Biology, University of Laval, Quebec City, Canada
 Principles in Population Genetics: Symposium honoring Andrew G. Clark, Cornell University, Ithaca, NY
 Society of Molecular Biology and Evolution, Puerto Rico
 Institute on Integrative and Systems Biology, SUNY-Binghamton University, Binghamton, NY
 Genetics Training Program, University of Iowa, Iowa City, IA
 Genetics Training Program, University of Michigan, Ann Arbor, MI
 Regulatory Genomics meeting held alongside ISMB 2014, Boston, MA (Schedule conflict)
 Department of Biology, The University of Hawaii at Manoa, Manoa, HI (Schedule conflict)

- 2013 University of Utah, Genetics Training Program Retreat, Snowbird, UT
Keynote speaker
 Center for Integrative Genomics Symposium, Lausanne, Switzerland
 EMBO/EMBL Symposium: New model systems for linking evolution and ecology, Heidelberg, Germany
 University of Arizona IGERT (Genomics) Symposium, Tucson, AZ
 University of Dayton, Dayton, OH (Schedule conflict)
- 2012 Ecological Genomics Symposium, Kansas City, KS
 Society of Molecular Biology and Evolution, Dublin, Ireland
 Department of Genetics, North Carolina State University, Raleigh, NC
 CNRS, Institut Jacques Monod, Paris, France
 Society of Developmental Biology, Montreal, Canada
 The Biology of Genomes, Cold Spring Harbor Labs, Cold Spring Harbor, NY
 Jacques Monod Conf: Theoretical and empirical advances in evolutionary genomics, Roscoff, France
 Evolution, Development and Genomics: The future of Evo-Devo, Eugene, OR (Schedule conflict)
 Dept. of Evol, Ecol and Organismal Biology, Ohio State University, Columbus, OH (Schedule conflict)
 Department of Biology, Georgia Tech University, Atlanta, GA
 Department of Biology, Emory University, Atlanta, GA
- 2011 Department of Microbiology, Michigan State University, East Lansing, MI
 Department of Human Genetics, University of Chicago, Chicago, IL
 Institute for Genomics & Systems Biology, University of Chicago, Chicago, IL,
Graduate Student Invited Speaker
 Department of Genetics, Harvard Medical School, Cambridge, MA (Schedule Conflict)
 Transcriptional Dynamics, Evolution, and Systems Biology, East Lansing, MI (Schedule Conflict)
 Department of Genome Sciences, University of Washington, Seattle, WA
 Department of Organismal and Evolutionary Biology, Harvard University, Cambridge, MA
 Keystone Symposia: Evolutionary Developmental Biology, Tahoe, City, CA
 52nd Annual Drosophila Research Conference, San Diego, CA,
Plenary presentation
- 2010 Department of Biological Sciences, Stanford University, Stanford, CA
 European EvoDevo meeting, Population Genetics/EvoDevo, Paris, France (Schedule conflict)
 Howard Hughes Medical Institute, Evolution and Development Conference, Chevy Chase, MD
 17th EMBO Drosophila Workshop, Kolymbari, Crete, Greece
 Department of Biology, University of Oregon, Eugene, OR
 Biological Sciences Seminar, Bowling Green State University, Bowling Green, OH
 Genetics Department, 100th anniversary seminar series, U. Wisconsin, Madison, WI
 Genetics, Genomics & Development Division, U.C. Berkeley, CA
 Center for Research on Learning and Teaching, University of Michigan, Ann Arbor, MI
- 2009 Honors Kickoff 2009, University of Michigan, Ann Arbor, MI
 Evolutionary Biology at the Zoological Institute, Universitat Basel, Basel, Switzerland
 National Institute of Genetics, Mishima, Japan
 University of Illinois, Department of Entomology, Urbana-Champaign, IL
 Max Planck Institute for Plant Breeding Research, Dept of Plant Devel Bio, Cologne, Germany
 Darwin Symposium, Queen's College, Flushing, NY
 Princeton University, Department of Biology, Princeton, NJ
 "Evolution of Molecular Function" Symposium at 2009 SSE meeting (Schedule conflict)
 The Japanese Drosophila Research Conference (Kobe, Japan) (Schedule conflict)
 Gordon Research Conference: Developmental Biology, Andover, N.H (Schedule conflict)
 Gordon Research Conference: Microbial Population Biology, Andover, NH
 Gordon Research Conference: Quantitative Genetics and Genomics Galveston Island, TX
 3rd Insect Genomics Symposium, Riken CDB, Kobe, Japan
- 2008 16th EMBO Drosophila Workshop, Kolymbari, Crete, Greece
 RECOMB Satellite Workshop on Comparative Genomics, Paris, France
Keynote presentation
 National Association of Biology Teachers, Memphis, TN
 Integrative Post-Genomics Symposium, Lyon, France
Keynote presentation

- University of Rochester, Department of Biology, Rochester, NY
 7th Annual Genomics Symposium, NYU Genomics and Systems Biology, New York, NY
 Symposium on Transcriptional Regulation and Systems Biology, East Lansing, MI
 Society of Molecular Biology and Evolution, Barcelona, Spain
 Gordon Research Conference: Molecular Evolution, Ventura, CA
- 2007 Indiana University, Biology Department, Bloomington, IN
Graduate Student Invited speaker
 Gordon Research Conference: Ecol and Evol Funct Genomics, Newport, RI (Discussion leader)
 University of Notre Dame, Biology Department, South Bend, IN
 University of Maryland Baltimore County, Baltimore, MD
 Eastern Great Lakes Molecular Evolution meeting, Toronto, ON, Canada
 University of Michigan, Department of Cell and Developmental Biology, Ann Arbor, MI
 University of Michigan, Center for Statistical Genetics, Ann Arbor, MI
- 2006 University of Chicago, Department of Ecology and Evolution, Chicago, IL
 Wayne State University, Department of Biological Sciences, Detroit, MI
 4th annual Ecological Genomics Symposium, Kansas City, KS
Graduate Student Invited speaker
 Duke University, Evolution and Development Group, Durham, NC
Graduate student invited "Super Speaker", 2 seminars
 Genomics of Closely Related Organisms, IGERT Symposium, Tucson, AZ
- 2005 Gordon Research Conference: Evolutionary and Ecological Functional Genomics, Oxford, UK
 Genomes Evolving Symposium, University of California, San Diego, CA
- 2004 University of Michigan, Dept. of Molecular, Cellular, and Developmental Biology, Ann Arbor, MI
 University of Michigan, Department of Ecology and Evolutionary Biology, Ann Arbor, MI
 Harvard University: Population and Evolutionary Genetics Seminar Series, Cambridge, MA
 The Evolution of Gene Regulation, an IGERT Symposium, Eugene, OR
 Cornell Ecology and Evolutionary Biology Annual Symposium, Ithaca, NY
 Regional SDB meeting "Evolution and Development" section, Woodshole, MA
 University of Rochester, Department of Biology, Rochester, NY
- 2002 Wayne State University, Department of Biological Sciences, Detroit, MI

Invited participation in international workshops and working / discussion groups:

- 2013 Evo-Devo Workshop: Progress and Prospects
 National Evolutionary Synthesis Center (Durham, NC)
- 2010 Molecular Underpinnings linking Evolution and Development Workshop
 Howard Hughes Medical Institute (Chevy Chase, MD)
- 2008 Program on "Population Genetics and Genomics"
 Kavali Institute for Theoretical Physics, (Santa Barbara, CA)
- 2008 Organization of Biological Networks (Schedule conflict)
 Institute for Mathematics and its Applications (Minneapolis, MN)
- 2008-09 "Trait loss and relaxed selection", Working group
 National Evolutionary Synthesis Center (Durham, NC)
- 2007 "From Statistics to Genes: Figuring out the Molecular Basis of Complex Traits"
 Banbury Center, Cold Spring Harbor Laboratory (Lloyd Harbor, NY)
- 2007 Program on "Evolution of Molecular Networks"
 Kavli Institute for Theoretical Physics, (Santa Barbara, CA)
- 2007-08 "Modeling variation in gene networks", Working group
 National Evolutionary Synthesis Center (Durham, NC)
- 2006 "Post-Genomic Comparative Physiology", Discussion meeting
Journal of Evolutionary Biology (Banff, Canada)

Contributed Presentations: (*selected for oral presentation)

- 2019 *European Drosophila Research Conference, Lausanne, Switzerland
 2009 *Evolutionary Transcriptomics symposium, ESEB 2009, Turin, Italy
 2007 *European Society for Evolutionary Biology, Uppsala, Sweden

- Gordon Research Conference: Ecol and Evol Funct Genomics, Newport, RI
 *48th Annual Drosophila Research Conference, Philadelphia, PA
 2006 Origin of Novel Features, an IGERT symposium, Bloomington, IN
 *Evolution (SSE/SSB/ASN Annual meeting), Stony Brook, NY
 Society of Developmental Biology, Ann Arbor, MI
 2005 Developmental Basis of Evolutionary Change, U. Chicago, IL
 46th Annual Drosophila Research Conference, San Diego, CA
 2004 *Genomes and Evolution Conference, SMBE annual meeting, State College, PA
 45th Annual Drosophila Research Conference, Washington DC
 2003 *44th Annual Drosophila Research Conference, Chicago, IL
 Gordon Research Conference: Ecol and Evol Functional Genomics, New London, NH
 2002 The Microevolution of Development, an IGERT Symposium, Eugene, OR
 2001 *Annual meeting for the Society of Developmental Biology, Seattle, WA
 *42nd Annual Drosophila Research Conference, Washington DC
 Symposium on the Developmental Basis of Evolutionary Change, Chicago, IL
 2000 9th Annual Symposium in the "Egg to Organ" series, St. Paul, MN
 1999 Keystone Symposium: Specificity in Signal Transduction, Keystone, CO
 1997 38th Annual Drosophila Research Conference, Chicago, IL

Session chair or Discussion leader:

- 2022 ASBMB special topics meeting "Evolution and Core Processes in Gene Expression, Kansas City, MO
 2022 2022 Annual Drosophila Research Conference, San Diego, CA (Regulation of gene expression)
 2020 The Biology of Genomes, Cold Spring Harbor Labs, Cold Spring Harbor, NY
 2020 National Academies Next Steps for Functional Genomics: A Workshop, Washington DC, Keynote
 2019 EMBL Symposium: System Genetics, Heidelberg, Germany
 2019 From Genes to Organisms: Transcriptional Control during Development, Baeza, Spain
 2012 The Biology of Genomes, Cold Spring Harbor Labs, Cold Spring Harbor, NY
 "Evolutionary Genomics"
 2011 Keystone Symposia: Evolutionary Developmental Biology, Tahoe, City, CA
 2008 49th Annual Drosophila Research Conference, San Diego, CA
 "Evolution and Quantitative Genetics"
 2007 Banbury Center, Cold Spring Harbor Laboratory, Lloyd Harbor, NY
 "From Statistics to Genes: Figuring out the Molecular Basis of Complex Traits"
 Gordon Research Conference: Ecol and Evol Funct Genomics, Newport, RI
 "Transcription and Evolution"

Conferences, symposia and workshops organized:

- 2023 EMBO Workshop: Predicting Evolution, Heidelberg, Germany
 (co-organized with Justin Crocker, Joshua Payne, and Aleksandra Walczak)
 2022 Wellcome Trust Evolutionary Systems Biology, Hinxton, UK
 (co-organized with Mark Siegal, Olivier Tenaillon, and Angela Hay)
 2021 EMBO Workshop: Predicting Evolution, Heidelberg, Germany
 (co-organized with Justin Crocker, Joshua Payne, and Aleksandra Walczak)
 2020 Wellcome Trust Evolutionary Systems Biology, Hinxton, UK
 (co-organized with Mark Siegal, Olivier Tenaillon, and Angela Hay)
 2018 International Conference in Systems Biology, Lyon, France (Scientific Program Committee)
 2018 Wellcome Genome Trust Conference on "Evolutionary Systems Biology" (Hinxton, UK)
 (co-organized with Marie-Anne Felix, Ben Lehner, and Csaba Pal)
 2013 Evo Devo Workshop, NESCent (Durham, NC)
 (primary organizer Cassandra Extavour)
 2011 Keystone Symposium: Evolutionary Developmental Biology
 (co-organized with Sean Carroll and Nicole King)
 2008 University of Michigan Early Career Scientist Symposium
 (co-organized with Annette Ostling)

2006 University of Michigan Early Career Scientist Symposium
(co-organized with Jianzhi Zhang and Priscilla Tucker)

A List of Presentations by Wittkopp Lab Members at Conferences is maintained [HERE](#).

Grants and Sponsored Postdoc Fellowships

Research support:

- 2022-2024 NSF Postdoctoral Research Fellowship in Biology [DBI 2209011]
Postdoctoral fellowship for Dr. Erick Bayala
Evolution of *Drosophila* wing spot: mechanisms of phenotypic divergence
Sponsor, (\$138,000.00)
- 2021–2026 Maximizing Investigators' Research Award (R35) [2R35GM118073]
National Institutes of Health
Genetic mechanisms and evolutionary processes underlying diversity within and between species
P.I., (\$2,110,420)
- 2021-2023 NSF Postdoctoral Research Fellowship in Biology [DBI 2109787]
Postdoctoral fellowship for Dr. Eden McQueen
Empirical and theoretical approaches to understanding the evolution of gene regulatory networks
Sponsor, (\$138,000.00)
- 2021-2024 National Research Service Award National Institutes of Health [5F32CA261115]
Postdoctoral fellowship for Dr. Mohammad Siddiq
Genetic mechanisms and coevolutionary interactions in the evolution of gene expression divergence
Sponsor, (\$207,926.00)
- 2019-2024 Michigan Israel Partnership Award
Networks controlling dynamic patterns of gene expression inferred from comparisons between species
Co-P.I., (\$100,000)
This is a collaborative project with Naama Barkai (Weizmann Institute, Israel). Each group receives \$50,000.
- 2019-2024 National Science Foundation [MCB-1929737]
NSF/BSF Evolution of gene expression: from static patterns to dynamic systems
P.I., (\$593,500)
This is a collaborative project with Naama Barkai (Weizmann Institute, Israel), who receives independent funding for her portion from the Israeli Binational Science Foundation (BSF).
Supplement: Research Experience for Post-Baccalaureate Students (REPS)
Sponsor, (\$55,300.00)
Participant Support Supplement for Hannah Kania
- 2019-2023 National Science Foundation [DEB-1911322]
OPUS: CRS Integrating data and theory to understand the evolution of gene expression
P.I., (\$253,575)
Supplement to help offset COVID impacts
Sponsor, (\$61,891.00)
- 2016–2021 Maximizing Investigators' Research Award (R35) [1R35GM118073]
National Institutes of Health
Genetic mechanisms and evolutionary processes underlying diversity within and between species
P.I., (\$2,021,980)
- 2016-2018 National Research Service Award National Institutes of Health [1F32GM100685]

- Postdoctoral fellowship for Dr. Jennifer Lachowiec*
Linking sequence to expression using binding diversity in interspecies hybrids
Sponsor, (\$101,404.00)
- 2016-2019 National Research Service Award National Institutes of Health [1F32GM115198]
- Postdoctoral fellowship for Dr. Andrea Hodgins-Davis*
Environment-specific effects of new mutations on gene expression
Sponsor, (\$157,218)
- 2013-2016 National Institutes of Health [1R01GM108826]
Evolution of Gene Expression in Yeast
P.I., (\$1,151,793)
- 2010-2016 National Institutes of Health [1R01GM089736]
Evolutionary Genetics: Contribution of Tan to Drosophila Pigmentation Divergence
P.I., (\$1,332,843)
- 2010-2013 National Science Foundation [MCB-1021398]
The evolution of gene expression: molecular mechanisms and inheritance patterns revealed on a genomic scale with next-generation sequencing, P.I. (\$733,334)
2011 REU supplement (\$7000)
- 2012-2014 European Molecular Biology Organization postdoctoral fellowship [EMBO ALTF 1114-2012]
Postdoctoral fellowship for Fabien Duveau
Genomic profile of new regulatory mutations in *Saccharomyces cerevisiae*
Sponsor, (\$80,472.00)
- 2012-2014 National Research Service Award National Institutes of Health [1-F32-GM-100685]
Postdoctoral fellowship for Dr. Richard Lusk
Linking sequence to expression using binding diversity in interspecies hybrids
Sponsor, (\$101,404.00)
- 2010 - 2012 National Research Service Award National Institutes of Health [1F32-GM089009]
Postdoctoral fellowship for Dr. Joseph Coolon
Using next-generation sequencing to understand the evolution of gene regulation
Sponsor, (\$94,758)
- 2009 - 2012 National Research Service Award National Institutes of Health [1F32GM087928]
Postdoctoral fellowship for Dr. Arielle Cooley
Characterizing functional variants in natural populations of Drosophila
Sponsor, (\$142,137)
- 2008 Margaret and Herman Sokol Endowment for Faculty and Graduate Student Research Projects in the Sciences, Office of the Vice President for Research and the Horace H. Rackham School of Graduate Studies (\$4000)
- 2008 - 2012 Alfred P. Sloan Research Fellowship (\$50,000)
- 2008 - 2011 National Research Service Award National Institutes of Health [1 F32 GM083513]
Postdoctoral fellowship for Dr. Jonathan Gruber
"Investigating compensatory mechanisms for gene expression in the yeast genome" Sponsor, Sponsor, (\$141,318)
- 2007-2010 National Science Foundation [DEB-0640485]
"Genetic basis of pigmentation evolution in Drosophila", P.I. (\$450,000)
2007 REU supplement (\$6000)
2008 REU supplement (\$6000)
- 2007-2010 March of Dimes Basil O'Connor Starter Scholar Research award [5-FY07-181]
"The genetic basis of abnormal gene expression", P.I. (\$150,000)
- 2006-2007 Rackham Graduate School (University of Michigan) [G005283]
"Genomic sources of altered gene expression", P.I. (\$15,000)
- 2006 Whitaker II award, Department of Ecology and Evolutionary Biology, (University of Michigan), P.I. (\$300)

Teaching:

- 2011 CRLT Investigating Student Learning Grant (U. Michigan), PI (\$4,000)
“Evaluating Techniques to Improve Student Learning in a Large Lecture Genetics Course”
- 2007-2008 CRLT Large Lecture Course Grant (U. Michigan), co-PI (\$22,500)
“Energizing Genetics: Incorporating active and cooperative learning into a large lecture course”
- 2006 LSA “Teaching with technology” mini-grant (University of Michigan), P.I. (\$2,000) “Presenting Interactive Lectures Using a Tablet PC”

Teaching and Mentoring

Courses taught:

2022-2023	EEB Capstone course (Biology 410, 16 students, 4.9/5 “effective teacher”) <i>Teaching release due to administrative service (department chair)</i>
2021-2022	Freshman Seminar: Biology and Society (Biology 120, 16 students, 4.9/5 “effective teacher”) <i>Teaching release due to administrative service (department chair)</i>
2020-2021	MCDB 615 (proposal mentor, primary instructor: Gary Huffnagle) <i>Teaching release due to administrative service (department chair)</i>
2019-2020	Sabbatical
2018-2019	Introduction to Ecology and Evolutionary Biology (Biology 171, 596 students, Q2: 4.3/5, student nominated as “Honored Instructor”) EEB foundational course: Discussions in EEB (EEB800), <i>Guest lecture</i> : EEB 516
2017-2018	Introduction to Ecology and Evolutionary Biology (Biology 171, 584 students, Q2: 4.62/5) Biology and Society (Honors 232/Biology 232, 140 students, E&EQ2: 4.74/5)
2016-2017	Biology and Society (Honors 232/Biology 232, 119 students, E&EQ2: 4.83/5) PIBS 503: Fraud, Fabrication and Plagiarism (3 sessions, 20 students each) <i>Guest Lecture</i> : Biology 305
2015-2016	Introduction to Ecology and Evolutionary Biology (Biology 171, 548 students, E&EQ2: 4.31/5) Biology and Society (Honors 232/Biology 232, 134 students, E&EQ2: 4.69/5)
2014-2015	Introduction to Ecology and Evolutionary Biology (Biology 171, 592 students, E&EQ2: 3.99/5) <i>Guest Lecture</i> : Human Genetics Training Grant Seminar (HG532, ~15 students)
2013-2014	Genetics (Biology 305, 337 students, E&EQ2: 4.22/5) <i>Guest Lecture</i> : Molecular Evolution (EEB512) <i>modified duties (teaching reduction) W2014 due to birth of a child</i>
2012-2013	Evolutionary Genetics seminar (EEB800, 15 participants, 7 enrolled, E&EQ2: 4.8/5) <i>sabbatical (teaching release) W2013</i>
2011-2012	Genetics (Biology 305, 412 students, E&E Q2: 4.11/5) Principles of Evolution (EEB516, 23 students, E&EQ2: 4.57/5) Genetics, Development, and Evolution (EEB404/MCDB404, 34 students, E&E Q2: 4.94/5) Independent study: Chuan Li (Zhang lab), EEB730 <i>Guest lecture</i> : Human Genetics Training Grant Seminar (HG632), Molecular Evolution (EEB512)
2010-2011	Genetics (Biology 305, 419 students, E&E Q2: 4.24/5) Principles of Evolution (EEB516, 13 students), E&E Q2: 4.88/5)
2009-2010	Genetics (Biology 305), 450 students (E&E Q2: 3.98/5) <i>modified duties (teaching reduction) W2010 due to birth of a child</i>
2008-2009	<i>pre-tenure teaching release</i>
2007-2008	Genetics (Biology 305), 430 students, (E&E Q2: 4.22/5) Genetics, Development and Evolution (EEB404/MCDB404), 35 students (E&E Q2: 4.95/5) <i>Guest lecture</i> : Developmental Biology (CDB580) Molecular Evolution (EEB512)
2006-2007	Genetics (Biology 305), 400 students (E&E Q2: 3.83/5) Genetics, Development, and Evolution (EEB 401), 22 students (E&E Q2: 4.93/5) Model Systems (MCDB 614) (<i>Drosophila</i> module), 19 students <i>Guest lecture</i> : Genetic Analysis (Human Genetics 632), 15 students
2005-2006	Genetics (Biology 305), 300 students (E&E Q2: 3.86/5) <i>Guest lecture</i> : Principles of Evolution (Biology 516), 20 students

Participation in teaching/mentoring seminars and discussion groups:

2023	MORE mentoring workshop (with Ayushi Goel)
2020	Invited contribution to <i>Cell Systems</i> , Voices: Leadership article: https://doi.org/10.1016/j.cels.2020.12.004
2020	Research Foundations in Genetics and Genomics, University of Chicago, invited speaker
2020	Panel moderator: Training and mentoring panel; National Academies Next Steps for Functional Genomics: A Workshop, Washington DC
2019	Career advice panel: From Genes to Organisms: Transcriptional Control during Devel, Baeza, Spain

- 2016 New Faculty Discussion Panel, The Allied Genetics Conference, Orlando, FL
- 2015 Presenter: Alliance for Graduate Education and the Professoriate, Work-family balance (U. Michigan)
- 2015 MORE Mentoring Plan Workshop (with Jose Andrade Lopez)
- 2015 REBUILD: Lessons for Everyone from the STEM Classroom, LSA Diversity Institute (U. Michigan)
- 2014 MORE Mentoring Plan Workshop (with Alisha John and Bing Yang)
- 2013 Member of CRLT Special Interest Group on Teaching with Technology (U. Michigan)
- 2012 Panelist: The Art of Leading a Research Group (U. Michigan)
- 2012 Panelist: CRLT session on assessing student learning online (U. Michigan)
- 2011 Panelist: The Art of Leading a Research Group (U. Michigan)
- 2011 Advisor: Large Lecture Course Initiative (CRLT, U. Michigan)
- 2011 Invited speaker: Managing tasks and yourself (Genome Sciences Training Program Retreat, U. Mich)
- 2011 MORE Mentoring Plan Workshop (with Kraig Stevenson)
- 2010 Panelist: Mentoring and Graduate Teaching: Managing a Lab (U. Michigan LSA Teaching Academy)
- 2010 Invited speaker for CRLT program on learning assessment tools
- 2007 Life Sciences Learning Community, discussion group (organized by D. Klionsky)
- 2007 “The Vanishing professor? The changing role of faculty in the world of pod-casting and lecture posting”, CRLT seminar
- 2006 “Authority and credibility in the classroom”, CRLT seminar
- 2006 Teaching with technology lecture series:
 - Engaging students in problem-based learning
 - Making “group work” work: effective activities for groups
- 2005 “Evolution: Using new resources for teaching complex issues”, CRLT seminar

Training:

Visiting Scholar

Zurab Tsetskhladze, Professor, New Vision University (NVU), Tbilisi, Georgia

Independent Postdoctoral Fellow

André Green (Jan 2018-2020) PhD from Harvard University, advisor Cassandra Extavour
Funded by University of Michigan’s President’s Postdoctoral Fellowship Program
Current position: Assistant Professor, University of Michigan

Post-doctoral

Taslina Haque (2023-) PhD from University of Texas, Ausin, advisor Thomas Juenger
 Homa Yazdi (2023-2024) PhD from Uppsala University, advisor Hans Ellegren
 Erick Bayala Rodriguez (2022-) PhD from University of Chicago, advisor Marcus Kronforst
Funded by NSF PRFB postdoctoral fellowship
 Ayse Tenger-Trolander (2021-) PhD from University of Chicago, advisor Marcus Kronforst
 Eden McQueen (2021-) PhD from University of Pittsburgh, advisor Mark Rebeiz
Funded by NSF PRFB postdoctoral fellowship
 Mohammad Siddiq (2019-) PhD from University of Chicago, advisor Joseph Thornton
Funded by Michigan Life Sciences Fellows program
Funded by Genome Sciences Training Program
Funded by NIH NRSA fellowship
 Mark Hill (Sept, 2017-2020) Ph.D. from University College London, advisor Dr. Max Reuter
Principal Research Fellow, (Swanton lab, Francis Crick Institute)
 Jennifer Lachowiec (2014-2017) Ph.D. from U. Washington, advisor Dr. Christine Queitsch
Funded by NIH Genome Sciences Training Program and NIH NRSA fellowship
Associate Professor, Montana State University
 Andrea Hodgins-Davis (2014-2019) Ph.D. from Yale, advisor Dr. Jeffrey Townsend
Funded by NIH NRSA fellowship
University of Michigan Flow Cytometry Core
 Fabien Duveau (2012-2017) Ph.D. from CNRS, Paris, France, advisor Dr. Marie-Anne Felix
Funded by EMBO fellowship
Permanent Independent Research Scientist (highly competitive Assistant Professor-type position), Centre National de la Recherche Scientifique (CNRS)

Gizem Kalay (2012-2013) Ph.D. from U. Michigan, advisor Dr. Patricia Wittkopp
Postdoc, University of California – Davis (advisor: Dr. Susan Lott)
Project Manager, HM.CLAUSE (Plant Biotechnology)

Richard Lusk (2011-2015), Ph.D. from UC Berkeley, advisor Dr. Michael Eisen
Funded by NIH NRSA fellowship
Head of Financial Planning & Analysis, Invitae Medical Genetics

Arielle Cooley (2009-2012), Ph.D. from Duke University, advisor Dr. John Willis
Funded by NIH NRSA fellowship
Associate Professor and Chair, Whitman College

Ulises Rosas (2009), Ph.D. from John Innes Centre, advisor Dr. Enrico Coen
Funded by Darwin Award from British Council
Faculty, Instituto de Biología, at the Universidad Nacional Autónoma de México (Started Nov 2015)

Joseph Coolon (2008-2013), Ph.D. from Kansas State U., advisor Dr. Michael Herman
Funded by NIH NRSA fellowship
Assistant Research Scientist, University of Michigan
Assistant Professor, Wesleyan University (Started August 2015)

Jonathan Gruber (2008-2012), Ph.D. from U. California – Irvine, advisor Dr. Anthony Long
Funded by NIH NRSA fellowship
Bioinformatics Scientist, Monsanto (2012-2018), Genomics Scientist at Bayer (2018-present)

Graduate

Ayshi Goel (2023-) PhD student, Ecology and Evolutionary Biology

Rebecca McAvoy (2023-) PhD student, Program in Biomedical Sciences, MCDB

Holly Scheer (2022-) PhD student, Molecular, Cellular, and Developmental Biology
Rackham Merit Fellowship

Anna Redgrave (2019-) PhD student, Ecology and Evolutionary Biology
Genome Sciences Training Program

Molly Hirst (2018-2023) PhD student, Ecology and Evolutionary Biology (co-advised with Liliana Cortes-

Ortiz)

Tasmine Clement (2018-2020), M.S. student, MCDB Pathways

Jun Li (2017-2018) Visiting PhD Student, Central China Normal University
Fully funded by China Scholarship Council (CSC)

Henry Ertl (2017-2023) PhD Student, Ecology and Evolutionary Biology
 2022 Evolutionary, Ecological, or Conservation Genomics (EECG) Research Award
 2021 Graduate Research Excellence Grant (GREG) Rosemary Grant Advanced Award
 Started editorial position at *Nature Reviews Genetics* in 2023

Crisandra (Jade) Diaz (2016-2017) MS Student, Molecular, Cellular, and Developmental Biology

Petra Vande Zande (2016-2021) PIBS/PhD Student, Molecular, Cellular, and Developmental Biology
NIH Genetics Training Grant
Postdoc, U. of Minnesota (advisor: Anna Selmecki), Jane Coffin Childs postdoc fellowship

Joseph Walker (2016-2018) PhD Student, Ecology and Evol Biology (co-advised w/ Stephen Smith)
University of Michigan Rackham predoctoral fellowship
Assistant Professor at University of Illinois Chicago

Jonathan Massey (2014-2019) Ph.D. student, Ecology and Evolutionary Biology
NIH Genetics Training Grant
Janelia Graduate Research Fellowship (HHMI) (advisor: David Stern)
ProQuest Distinguished Dissertation Award for 2020 Honorable Mention

Abigail Lamb (2013-2021), Ph.D. student, Molecular, Cellular, and Developmental Biology
NIH Genetics Training Grant
NSF Graduate Research Fellowship

José M. Andrade López (2013-2015), M.S. student, MCDB Pathways
PhD program in Biology at Stanford University

Alisha John (2012-2017), Ph.D. student, PIBS/Molecular, Cellular, and Developmental Biology

Bing Yang (2012-2017), Ph.D. student, Molecular, Cellular, and Developmental Biology
Postdoc with Dr. Scott Rifkin at UCSD

Kraig Stevenson (2009-2014), Ph.D. student, Bioinformatics
NIH IGERT Open Data Fellowship (2009-2011)

Program Leader, Data Scientist; Predictive Analytics, Strategy & Insights, Domino's Pizza
Brian Metzger (2010-2015), Ph.D. student, Ecology and Evolutionary Biology
University of Michigan Rackham Merit Fellowship,
NIH Genome Sciences Training Grant
ProQuest Distinguished Dissertation Award for 2015
Dave Yuan (2009-2014), Ph.D. student, PIBS/Molecular, Cellular, and Developmental Biology
NIH Genetics Training Grant (2009-2011)
Postdoc with Dr. Dmitri Petrov at Stanford University
Lisa (Arnold) Sramkoski (2007-2012), Ph.D. student, Molecular, Cellular, and Developmental Biology
Gizem Kalay (2006-2012), Ph.D. student, Molecular, Cellular, and Developmental Biology
Postdoctoral researcher with Susan Lott, University of California - Davis
Elliott Howell (2007-2008), Ph.D. student, Ecology and Evolutionary Biology
Erin Shellman (2006), Master's student, Biostatistics Department

Additional graduate rotation students

Claire Albright (Fall 2022), MCDB
Sruti Pandey (Fall 2022), MCDB
Romie Azur (Fall 2022), MCDB
Katarina Pavlovic (Winter 2023), PIBS
Kelyah Spurgeon (Fall 2022), PIBS
Divya Kolli (Winter 2022), MCDB
Kayla Lenshoek (Winter 2022), PIBS
Ann Marie Lawson (Winter 2021), PIBS
Hwayeon Cha (Winter 2021), MCDB
Juliana Zang (Fall 2020), MCDB
Shadae Sutherland (Summer 2020), MCDB
Elli Fackelman (Fall 2018), PIBS
Lorraine Horwitz (Winter 2017), PIBS
Katherine Wozniak (Fall 2016), MCDB
Zhangyuan Yin (Winter 2016), MCDB
Ricardo Albanus (Winter 2015), PIBS
William Toubiana (Spring 2014), University of Lyon
Jiyuan Yang (Winter 2014), MCDB
Chetna Gopinath (Fall 2013), PIBS
William Webb (Fall 2010), EEB Frontiers MS program
Mairin Balisi (Fall 2009), EEB Frontiers MS program
Melissa Cui (Winter 2009), PIBS/MCDB
Hilary Archbold (Fall 2008), PIBS/MCDB
Qingxuan Song (Fall 2008), MCDB
Emily Petty (Winter 2006), PIBS/MCDB
Ceyda Bilgir (Winter 2006), MCDB
Tyler Nusca (Fall 2006), PIBS/MCDB

Undergraduate

Sophia Crawford (2024 -) Undergraduate researcher (mentor: Mo Siddiq)
Pratyush Sinah (2023 -) Undergraduate researcher (mentor: Erick Bayala)
Yongxin Zheng (2022- 2024) Undergraduate research assistant (mentor: Eden McQueen)
Nicholas Brown (2020- 2023) Undergraduate research assistant (mentor: Mo Siddiq)
Alicia Wang (2019-2021) Undergraduate researcher (mentor: Henry Ertl)
Anati Azhar (2017-2021) Undergraduate Research Opportunities Program (mentor: Abby Lamb)
Honors thesis, 2019 Award winner Undergraduate Research Symposium
Swara Sarvepalli (2017-2018) Undergraduate researcher (mentor: Petra Vande Zande)
Rebecca Tarnopol (2016-2019) Undergraduate researcher
Honors thesis, NSF GRFP, Marshall Nirenberg Life Sciences Honors Award
Started PhD Program at UC Berkeley in September 2019
Kiran Ajani (2016-2017) Undergraduate lab assistant
Lisa Kim (2016-2017) Undergraduate researcher

Madison Drye (2016-2017) Undergraduate lab assistant
 Ali Farhat (2016) Undergraduate researcher
 Hannah Shuman (2016) Undergraduate researcher
 Patricia Lybrook (2016) Undergraduate researcher
 Patricia Simmer (2015-2016) Undergraduate researcher
Honors thesis
Starting Ross Business School Master of Management in Fall 2017, University of Michigan
 Daayun Chung (2014-2017) Undergraduate Research Opportunities Program
Honors thesis: Neuroscience (High honors; Director in the Program in Neuroscience Award)
Starting PhD program in Neuroscience in Fall 2017
 Emily Roberts (2013-2014) Undergraduate Research Opportunities Program
 Stephen Tryban (2013-2016) Undergraduate researcher, technician
Started MS in Public Health at UM in September 2016
 Emily Valice (2012-2014) Undergraduate researcher
 Natasha Sood (2012-2014), Undergraduate Research Opportunities Program
 Cassandra Kirkland (2012-2014), Undergraduate Research Opportunities Program
2014 UROP summer fellowship
 Laura Sligar (2012-2013) Undergraduate researcher
PhD program in Biology at University of North Carolina
 Robert Dikeman (2012), Undergraduate researcher
 Bradley Lankowsky (2011-2012) Undergraduate researcher
Started Medical School at Case Western Reserve University in Fall 2012
 Hussein Al-Asidi (2011-2012) Undergraduate researcher
Started Ph.D program in Evolutionary Biology at Univ. of Chicago in Fall 2012
Recipient of NSF Graduate Research Fellowship Program
 Katya Mack (2011-2012) Undergraduate researcher
Started Ph.D program in Evolutionary Biology at Univ. of Arizona in Fall 2012.
 Mackenzie Dome (2011-2012) Undergraduate researcher, MCDB300
Started MS in Global Health at Notre Dame in Fall 2012
 Wesley McLaughlin (2010-2012) Undergraduate researcher, EEB300, REU summer 2010
HIGHEST HONORS
Started Medical School at Rosalind Franklin University (Chicago) in Fall 2012
 Kara Vogel (2009-2010) Undergraduate researcher
Started Biology Ph.D. program at Michigan Technological University in Fall 2010
 Xiaowei Weng (2007-2010) Undergraduate Research Opportunities Program, honors thesis
HONORS
Started Medical School @Duke-NUS (Singapore) in Fall 2010
 Laura Shefner (2008-2009) Undergraduate researcher, honors thesis
HIGH HONORS
Started Medical School @University of Toledo in Fall 2009
 Marisa Weizel (2007), Biology major, post-bachelors researcher
Started Masters in Public Health at University of Michigan in Fall 2011
 Elizabeth Thompson (2006-2008), Biology major, MCDB 300, MCDB 400
Started a Biology Ph.D. program at Duke University in Fall 2008
 Gabriel Smith-Winberry (2006-2007) Political Science major, pre-med, EEB 300, EEB 400
Started Medical school @ University of Virginia in Fall 2007
 Emma Stewart (2005 - 2009) Biology major, Undergraduate Research Opportunities Program
2009-2010 Continued in the laboratory full time as lab manager/technician
Started accelerated education degree program at University of Georgia in fall 2010
 Alekhya Ratnala (2005-2006) Engineering major, Undergraduate Research Opportunities Program
 Monica Woll (2005-2006) History major, EEB 300

Summer Research Opportunities Program (for non-UM minority students)
 Yainna Hernaiz Hernandez (2008) (home institution: Universidad Metropolitana, Puerto Rico)
Started Ph.D. program in Biology at the University of Vermont in fall 2009
 Saleh Akhras (2007) (home institution: Northeastern Illinois University)

Started dentistry graduate program at University of Illinois at Chicago in Fall 2009

Exchange program between UM and Peking University and Tsinghua University (B. Coppola organizer)

Zhiyuan Yao (2011) (home institution: Peking University)

Zhixiu Yang (2010) (home institution: Tsinghua University)

ED-QUE2ST: Enhancing Diversity, Quality, and Understanding of the Ecological and Evolutionary Sciences for Tomorrow.

Alejandra Torres Marrero (2012) (home institution: University of Puerto Rico, RUM), starting Biochemistry and Biophysics PhD program at Texas A&M Fall 2016

Tiffany Brooks (2013) (home institution: University of Cincinnati, Cincinnati, OH), starting Medical School at Ohio State University Fall 2016

Co-sponsored students (primary advisor)

Brenna Barton, (F17) MCDB 400 (John Traynor, Pharmacology, UM)

Emma Gerlinger, (F17) MCDB 300 (Jacob Mueller, Ph.D. Human Genetics, UM)

Anita Vaishampayan (W17, F17) MCDB 300 (Benjamin Levi, Plastic Surgery, UM)

Matthew Gologorsky (F16, W17, F17) MCDB 300 (Paul Jenkins, Ph.D., Pharmacology, UM)

Ricki Pad (W15) MCDB 300 (Michal Olszewski, UM)

Emily Hogikyan (F12, W13) (Katherine Gallagher, Surgery, UM)

Michael Ho (F12) (Alvaro Rojas-Pena, Surgery, UM ECLS Laboratory)

Vlad Nasta (W12) MCDB300 (Afaf Absood, Metabolism, Endocrinology & Diabetes, UM)

Daniel Lyons (W11-W12) EEB300

Anthony Zaki (W11) MCDB300 (Internal Medicine, UM)

David Magno (W11) MCDB300

Thomas Liu (F11) MCDB400

Daniel Meister (F10-F11) MCDB300, MCDB400 (Michal Olszewski, Internal Medicine, UM)

Ameya Walimbe (F08 - W10), MCDB 300/400 (Stephen Weiss, Mol. Med & Genet, UM)

Melissa Wylie (W08), MCDB 400 (David Burke, Human Genetics, UM)

Whitney Chadwick (F07), MCDB 300 (Evan Keller, Pathology, UM)

Kimberly Ku (F07, W08), MCDB 300/MCDB 400 (Yongqun He, Micro and Immun, UM)

Shayna Ravindran (W07), MCDB 300, (Paresh Patel, Mol & Behav Neuro Inst)

Jeff Gibson (W06, F06), MCDB 300, 400 (Deneen Wellik, Dept. of CDB, UM)

Patrick McLaren (F06, W07), EEB 300 (Julia Richards, Kellogg Eye Center, UM)

Neha Sekhri (F06), MCDB 300 (Madhavi Kadakia, Wright State University)

Kelly Daws (F06), MCDB400 (Benedict Lucchesi, Dept of Pharmacology, UM)

K-12 lab experiences

Alyssa McKinney, 12th grader at Ida High School, Ida, MI (2017)

Sanjana Sathrasala, 11th grader at Canton, Canton, MI (2015)

Jalen Copeland, 8th grader at Summit Academy School, Romulus, MI (2011)

Taylor James, Notre Dame Academy (senior project, 2006)

Ph.D. Thesis committee memberships

Tim Connallon, Ecology and Evolutionary Biology (major advisor, Lacey Knowles), 2005-2009

Ben-yang Liao, Ecology and Evolutionary Biology (major advisor, Jianzhi Zhang), 2006-2008

Christina Rogers, Cell and Developmental Biology (major advisor, Scott Barolo), 2006-2009

Margaret Bakewell, Ecology and Evolutionary Biology (major advisor, Jianzhi Zhang), 2007-2011

Karishma Sadikot, Mol, Cell, and Devel Biology (major advisor, Gyorgyi Csankovszki), 2007-2011

Zhi Wang, Ecology and Evolutionary Biology (major advisor, Jianzhi Zhang), 2007-2010

Victoria Cattani, Univ. of Rochester Biology Dept (major advisor, Daven Presgraves), 2007-2012

Wenfeng Qian, Ecology and Evolutionary Biology (major advisor, Jianzhi Zhang), 2008-2012

Michael DiGiorgio, Bioinformatics (major advisor, Noah Rosenberg), 2009-2011

Raquel Assis, Bioinformatics (major advisor, Alexy Kondrashov), 2009-2011

Anne Sonnenschein, Michigan State University (major advisor, David Arnosti) 2011-2017

Chuan Li, Ecology and Evolutionary Biology (major advisor, Jianzhi Zhang), 2011- 2017

Jin Liu, Biology department, Wayne State University (major advisor, Aleksander Popadic) 2011-2016

Katherine Gurdziel, Bioinformatics (major advisor, Deb Gumucio), 2012-2015

Junrui Xu, Bioinformatics (major advisor, Jianzhi Zhang), 2012-2015

Qingxuan Song, MCDB (major advisor, Anuj Kumar), 2012-2013

Daniel Zinder, Bioinformatics (major advisor, Mercedes Pascal) 2012-2015
 Bryan Moyers, Bioinformatics (major advisor, Jianzhi Zhang) 2013-2016
 Alexander Taylor, Ecology and Evolutionary Biology (major advisor, Yin-Long Qiu) 2013-2018
 Wei-Chin Ho, Ecology and Evolutionary Biology (major advisor, Jianzhi Zhang), 2013-2017
 Thomas Jenkinson, Ecology and Evolutionary Biology (major advisor, Tim James), 2013-2017
 Matthew Pauly, Microbiology and Immunology (major advisor, Adam Luring), 2013-2016
 Ling Huang, Molecular, Cellular, and Devel Biology (major advisor, John Schiefelbein) 2013-2016
 Eric Cosky, Molecular, Cellular, and Devel Biology, Pathway Masters (advisor, Anuj Kumar) 2013- 2015
 Emily Maclary, Bioinformatics (major advisor: Sundeep Kalantry) 2015-2016
 Shiya Song, Human Genetics (major advisor, Jeffrey Kidd) 2015-2016
 Xinzhu 'April' Wei, Ecology and Evolutionary Biology (major advisor: Jianzhi Zhang) 2015-2018
 Chetna Gopinath, Human Genetics (major advisor: Anthony Antonellis) 2015-2017
 Zhengting Zou, Bioinformatics (major advisor: Jianzhi Zhang) 2015 – 2017
 Alyssa Kruger, Human Genetics (major advisor: Jacob Mueller) 2016-2020
 Shriya Sethuraman, Bioinformatics (major advisor: Andrzej Wierzbicki) 2016-2020
 Mengyi Sun, Ecology and Evolutionary Biology (major advisor: Jianzhi Zhang) 2016-2021
 Ricardo Albanus, Bioinformatics (major advisor: Stephen Parker) 2017-2020
 Robert Powers, Ecology and Evolutionary Biology (major advisor: Timothy James) 2017-
 Adrienne Shami, Human Genetics (major advisor: Sue Hammoud) 2017-2021
 Torrin McDonald, Human Genetics (major advisor: Alan Boyle) 2017-2021
 Melissa Englund, Human Genetics (major advisor: Alan Boyle) 2017-2022
 Haiqing Xu, Ecology and Evolutionary Biology (major advisor: Jianzhi Zhang) 2017-2022
 Daniel Lyons, Ecology and Evolutionary Biology (major advisor: Adam Luring) 2018-2020
 Sonal Gupta, Ecology and Evolutionary Biology (major advisor: Regina Baucom) 2018-2021
 Xukang Shen, Ecology and Evolutionary Biology (major advisor: Jianzhi Zhang) 2018-2023
 Daohan (Rex) Jiang, Ecology and Evolutionary Biology (major advisor: Jianzhi Zhang) 2018-2022
 John David Curlis, Ecology and Evolutionary Biology (major advisor: Alison Davis-Rabosky) 2019-2024
 Elli Fackelman, Molecular, Cellular, and Devel Biology (major advisor: Laura Buttita) 2019-2023
 Eshna Jash, Molecular, Cellular, and Devel Biology (major advisor: Gyorgyi Csankovszki) 2019-2024
 Chinmay Rele, Biological Sciences, Univ. of Alabama-Tuscaloosa (advisor: Laura Reed) 2021-2023
 Natalia Ruzickova, Institute of Science and Technology Austria, (advisor: Gašper Tkačik) 2021-
 Ann Marie Lawson, Human Genetics (major advisor: Jacob Mueller) 2022-
 Katarina Pavlovic, Bioinformatics (major advisor: Alan Boyle) 2023-

Master's thesis committee member

Nina Brown, Molecular, Cellular, and Developmental Biology, (major advisor: Monica Dus) 2022 -

External thesis evaluator

2023 Athmaja Viswanath, University of Toronto, Ecology and Evolutionary Biology (major advisor: Asher Cutter)
 2017 Elvira Lafuente, Instituto Gulbenkian de Ciência, Oeiras, Portugal (major advisor, Patricia Beldade)
 2014 Jukka-Pekka Verta, Biology Department, Univ of Laval, Québec, Canada (major advisor, Christian Landry)

Service

Leadership development:

2024-25 Faculty Budget Engagement Committee (FBEC)
 2022 Big Ten Academic Alliance Department Executive Officers Program
 2021 Culturally Aware Mentoring Workshop (16 hours engagement), National Research Mentoring Network
 2021 Leadership coaching with Karla Vineyard
 2016-17 ADVANCE Leadership Coaching Program with Christine D. Euritt
 2006 Society of Developmental Biology New Faculty Boot-camp

Professional:

2024-2025 Genetics Society of America (GSA) Executive Committee
 2023 – present Scientific Advisory Board, Institut de Génomique Fonctionnelle de Lyon (IGFL), Lyon, France

2023-2025 Chair, Genetic Variation and Evolution, NIH review panel
 2023-2025 Genetics Society of America (GSA) Microgrant Review Committee
 2022 – 2024 Genetics Society of America (GSA) Publications Committee
 2022 – Panelist, GSA Early Career Leadership Program, “How to approach the academic job search”
 2022 – 2024 Genetics Society of America (GSA), Board of Directors (elected)
 2021 – present External Advisory Board, Genetic Mechanisms and Evolution training program (U.of Chicago)
 2021 – present Scientific Advisory Committee, University of Michigan Pathogen Biorepository (M-PABI)
 2021 – present External Advisory Committee, Mechanisms of Cellular Evolution (Arizona State University)
 2019 Society for Molecular Biology and Evolution, Fitch Prize selection committee
 2019 Society for the Study of Evolution, Dobzhansky Award selection committee
 2018, 2019 Society for the Study of Evolution, Rosemary Grant Award selection committee
 2018-2019 Society for the Study of Evolution (SSE), Student Workshop committee, chair
 2019- present Senior Advisor, Graduate Training Program in Evolution of Gene Expression, Johannes Gutenberg University Mainz and Institute for Molecular Biology, Mainz, Germany
 2018 Society for Molecular Biology and Evolution, External advisory committee for dispute resolution
 2018 Society for Molecular Biology and Evolution, Faculty Awards, Judge
 2017 Panelist, LIFT-TTA (Transition to Associate Professor), ADVANCE, University of Michigan
 2017 Nominating Committee, Genetics Society of America (GSA)
 2017-2019 Society for the Study of Evolution (SSE), (elected), Councilor
 2016 Panelist, “Gameful Learning” Workshop, CRLT, University of Michigan
 2016 Moderator, Provost’s Seminar on Teaching, REBUILD, University of Michigan
 2016 Panelist, LIFT-TTA (Transition to Associate Professor), ADVANCE, University of Michigan
 2016 Judge for poster competition, Society of Molecular Biology and Evolution (~1000 attendees)
 2016 Selection committee, James Crow award, The Allied Genetics Conference, Orlando, FL (July 2016)
 2016 Panelist, New Faculty Workshop, The Allied Genetics Conference, Orlando, FL (July 2016)
 2016 Invited speaker, Colloquium on Human Genetics Education, Duke University (April 2016)
 2015 Panelist, Community Connection: *Bridges to Science 2015*, University of Michigan (July 2015)
 2015 Leader, Evolution and Development Education Workshop, PanAmEvoDevo, Berkeley, (Aug 2015)
 2015 Panelist, The Art of Leading a Research Group, University of Michigan (Dec 2015)
 2015 Panelist, LSA Teaching Academy “Active Learning in Large Courses”, University of Michigan (Aug 2015)
 2014-2017 Education officer, PanAmerican Society of Evolutionary Developmental Biology
 2014 Founding Council Member, PanAmerican Society of Evolutionary Developmental Biology
 2014 Faculty speaker, Honors Graduation Ceremony, University of Michigan (May 2014)
 2014 Panelist, “Preparing Future Faculty” Seminar, University of Michigan (May 2014)
 2014-2016 REBUILD: Researching Evidence Based Undergraduate Instructional and Learning Developments
 2012-2015 Education Committee, member, Genetics Society of America (GSA)
 2012 Panelist for Honors discussion on the nature of science (U. Michigan, organized by B. Coppola)
 2012 External Advisory Committee for University of Texas Teaching Academy
 2012 SMBE Satellite Symposium selection committee (chair Soojin Yi, Georgia Tech)
 2012 “Integrating Piazza into course discussion” Provost symposium (organized by CRLT)
 2012 “Using Clickers for Formative Assessment and Student Engagement” New Faculty Orientation
 2012 Judge for poster competition, Society of Molecular Biology and Evolution (~1000 attendees)
 2011 Panelist, “Preparing Future Faculty” Seminar, University of Michigan (May 2011)
 2010 Panelist, “Mentoring and Graduate Teaching: Managing a Lab” at LSA Teaching Academy (Aug 2010)
 2010 Panelist, “Preparing Future Faculty” Seminar, University of Michigan (May 2010)
 2009 Scientific program committee, Society of Molecular Biology and Evolution annual meeting
 2008 Judge for poster competition, Society of Molecular Biology and Evolution (~1000 attendees)
 2008 Panelist, “Preparing Future Faculty” Seminar, University of Michigan (May 2008)
 2007 Judge for poster competition, 48th Annual Drosophila Research Conference (~1500 attendees)
 2007 Panelist, “Preparing Future Faculty” Seminar, University of Michigan (May 2007)
 2007 Panelist, “Preparing Future Faculty” Seminar, University of Michigan (October 2007)

External reviews for promotion cases:

Since 2013, I have been invited to serve as an external reviewer for 53 promotion cases, including 14 promotions to full Professor. I have declined 12 of these requests due to competing demands. These requests have come from (alphabetically) Indiana University-Purdue University Indianapolis, Johns Hopkins University,

New York University, Peking University (China), Princeton University, Rutgers University, Stanford University, Texas A&M Universities, University of Oregon, University of Alabama, University of California Berkeley, University of California Davis, University of California Irvine, University of California San Diego, University of Chicago, University of Houston, University of Illinois at Chicago, University of Iowa, University of Kansas, University of Massachusetts Amherst, University of Oklahoma, University of Pennsylvania, University of Pittsburgh, University of Rochester, University of Southern California, University of Wisconsin, Wayne State University, Wesleyan University, West Virginia University, West Washington University, Yale University.

Editorial roles:

eLife, Senior Editor (2016-2023)
Genetics, Associate Editor (2018- present)
Molecular Biology and Evolution, Associate Editor (2013-present)
eLife, Board of Reviewing Editors (2016)
Trends in Genetics, Advisory Editorial Board (2015-present)
Genome Biology and Evolution, Associate Editor (2012-2018)
Heredity, Editorial board member (2012-2015)
Proceedings of the National Academy of Sciences, guest editor (2011, 2012, 2013)
PLoS Genetics, guest associate editor (2009, 2011, 2012, 2013, 2015)
Proceedings of the Royal Society B: Biological Sciences, Editorial board member (2011-2012)
Evolution, Associate editor (2009-2012)

Reviewing activity: Grants

National Institutes of Health (Genetics, Variation, and Evolution Study Section, **chair** (2023-2025)
 National Institutes of Health (Genetics, Variation, and Evolution Study Section, standing member (2021-2023)
 National Institutes of Health (MIRA review panel, New investigator award) 2019, 2020
 National Institutes of Health (Genomics, Computational Biology and Technology Study Section) 2017
 National Institutes of Health (Genetics, Variation, and Evolution Study Section) – 2014, 2016, 2019
 National Institutes of Health (Project Grant Special Panel) – 2014, 2016
 National Science Foundation (Panelist: Molecular Evolution and Genomics)
 National Science Foundation (Panelist: Population and Evolutionary Processes)
 National Science Foundation (Panelist: Networks, Synthetic Biology, and Evolution)
 National Science Foundation (ad hoc reviewer: Genes and Genome Systems, Eukaryotic Genetics, Population and Evolutionary Processes, Physiological and Structural Systems, Mechanisms of Inheritance, Mechanisms and Regulation of Transcription)
 Human Frontier Science Program
 Austrian Science Fund
 Kansas State University Ecological Genomics Institute
 University of Michigan, Office of the Vice President for Research
 Portuguese Foundation for Science and Technology
 Wellcome Trust, Sir Henry Dale Fellowship,
 Fondation pour la Recherche Médicale

Reviewing activity: Academic Journals

<i>BMC Evolutionary Biology</i>	<i>Genome Research</i>
<i>BMC Genomics</i>	<i>Heredity</i>
<i>Cell</i>	<i>Journal of Molecular Evolution</i>
<i>Current Biology</i>	<i>Molecular Biology and Evolution</i>
<i>Development</i>	<i>Molecular Systems Biology</i>
<i>Evolution and Development</i>	<i>Nature</i>
<i>FLY</i>	<i>Nature Genetics</i>
<i>Gene</i>	<i>Nature Reviews Genetics</i>
<i>Genetica</i>	<i>Philosophical Transactions B</i>
<i>Genetics</i>	<i>Plant Cell</i>
<i>Genome Biology</i>	<i>PLoS Biology</i>
<i>Genome Biology and Evolution</i>	<i>PLoS Genetics</i>

PLoS ONE
Proceedings of the National Academy of Sciences
Proceedings of the Royal Society B

Science
Trends in Ecology and Evolution
Trends in Genetics

Reviewing activity: Books

- 2006 “Introduction to Genetic Analysis”, (9th edition)
 Griffiths et al. (WH Freeman Publishers)
- 2006 “Developmental Basis of Evolutionary Change”
 D.L. Stern (Roberts and Company Publishers)
- 2000 “From DNA to Diversity: Molecular genetics and the evolution of animal design” (1st edition)
 S.B. Carroll, J.K. Grenier, S.D. Weatherbee (Blackwell Science)
- 2000 “A primer of Genome Science” (1st edition)
 G. Gibson and S. Muse (Sinauer Publishing)

Past and Present Membership in Professional Societies:

Genetics Society of America
 PanAmerican Society for Evolutionary Developmental Biology
 Society of Molecular Biology and Evolution
 American Association for the Advancement of Science
 Society of Developmental Biology
 Society for the Study of Evolution
 American Society of Naturalists

College and University Service:

- 2024-2025 UM Faculty Budget Engagement Committee (FBEC)
- 2024 High-Performance Computing Research Strategy Committee, University of Michigan
- 2023 Graham Institute Board of Deans, Graham Sustainability Institute, University of Michigan
- 2023-2026 LSA Associate Dean for Natural Sciences
- 2021-2023 Rackham Graduate School Executive Board (elected)
- 2018-2019 LSA Dean Search Advisory Committee
- 2018 Precision Health Faculty Advisory Committee (FAC)
- 2017-2020 Biosciences Initiative Coordinating Committee (BICC)
 13 member committee charged with using \$150 million dollars and 30 faculty positions to enrich Biosciences across the University of Michigan
- 2017 Henry Russel Award Committee (Rackham)
- 2016 – 2017 Associate Professor Rank Committee (LSA)

Departmental Service:

- 2023-2026 Relieved from departmental service while serving as Associate Dean
- 2022-2023 Department Chair, EEB
 ADVANCE Launch Committees for Marjorie Weber, Gideon Bradburd, Thais Vasconcelos, Kelly Speer
 Promotion Review Panel for Laura Buttitta, Molecular, Cellular, and Developmental Biology
 Mentor: Josie Clowney, Molecular, Cellular, and Developmental Biology
- 2021-2022 Department Chair, EEB
 NextProf Panelist
- 2020-2021 Department Chair, EEB
 ADAVANCE Launch Committee for André Green
 NextProf Panelist
- 2019-2020 Sabbatical leave (but still met with Alison Davis Rabosky and Josie Clowney for mentoring)
- 2018-2019 Associate Chair for Graduate Studies, EEB (includes chairing Admissions committee and Graduate Affairs Committee)
 Senior career advisor for Josie Clowney, MCDB
 Steering committee, Genome Sciences Training Program (NIH training grant)

2017-2018	<p>Faculty mentor for Alison Davis Rabosky (EEB)</p> <p>Associate Chair for Graduate Studies, EEB (includes chairing Admissions committee and Graduate Affairs Committee)</p> <p>Senior career advisor for Josie Clowney, MCDB</p> <p>ADVANCE Launch Committee for Josie Clowney</p> <p>Steering committee, Genome Sciences Training Program (NIH training grant)</p> <p>Faculty mentor for Alison Davis Rabosky (EEB)</p>
2016-2017	<p>EEB Promotion Review Panel: Regina Baucom</p> <p>EEB-MCDB Preview weekend, presenter/panelist</p> <p>Associate Chair for Graduate Studies, EEB (includes chairing Admissions committee and Graduate Affairs Committee)</p> <p>Steering committee, Genome Sciences Training Program (NIH training grant)</p> <p>Faculty mentor for Regina Baucom (EEB)</p> <p>Faculty mentor for Alison Davis Rabosky (EEB)</p> <p>ADVANCE Launch Committee: Melissa Duhaime</p> <p>Internal Subject Matter Expert for R01 bootcamp: Alan Boyle (Computational Medicine and Bioinformatics)</p>
2015-2016	<p>EEB Promotion Review Panel: Catherine Badgley, Elizabeth Tibbetts, Rich Raebeler</p> <p>EEB Promotion Review Panel: Timothy James</p> <p>EEB Promotion Committee: Christopher Dick</p> <p>Prelim Evaluation committee (Jenna Clem), MCDB</p> <p>Faculty mentor for Regina Baucom (EEB)</p> <p>Internal Subject Matter Expert for R01 bootcamp: Alan Boyle (Computational Medicine and Bioinformatics)</p> <p>Associate Chair for Graduate Studies, EEB (includes chairing Admissions committee and Graduate Affairs Committee)</p> <p>Steering committee, Genome Sciences Training Program (NIH training grant)</p>
2014-2015	<p>Faculty mentor for Regina Baucom (EEB)</p> <p>Steering committee, Genome Sciences Training Program (NIH training grant)</p> <p>Associate Chair for Graduate Studies, EEB (includes chairing Admissions committee and Graduate Affairs Committee)</p> <p>Prelim Evaluation committee (Raymond Cavalcante), Bioinformatics</p> <p>Prelim Evaluation committee (Nebibe Matlu), MCDB</p>
2013-2014	<p>Prelim Evaluation committee (Brittany Nelson), Bioinformatics</p> <p>Prelim Evaluation committee (Matthew Pauly), Microbiology and Immunology</p> <p>MCDB preliminary exam committee (Ding He, Klionsky)</p> <p>Prelim Evaluation committee (Chee Lee, Sartor lab), Bioinformatics (retake)</p> <p>BSB Planning committee: Classrooms and seminar rooms</p>
2012-2013	<p>Graduate Evaluations committee, EEB</p> <p>Prelim Evaluation committee (Ling Huang, Alisha John, Bing Yang), MCDB</p> <p>Prelim Evaluation committee (Chee Lee, Sartor lab), Bioinformatics</p> <p>Prelim Evaluation committee (Brendan Veeneman), Bioinformatics</p> <p>Prelim Evaluation committee (Bryan Moyers), Bioinformatics</p>
2011-2012	<p>ELI exam (Jinrui Xu, Bioinformatics – 2nd attempt)</p> <p>Prelim Evaluation committee (Jiaxing Li, Collins lab), MCDB</p> <p>Graduate Evaluations committee, EEB</p>
2010-2011	<p>Evolutionary Biology faculty job search committee, EEB (chair)</p> <p>ELI exams (Jinrui Xu, Bioinformatics – 1st attempt; Zengguang Wang, EEB)</p> <p>Diversity committee, EEB (chair)</p> <p>Computational Evolutionary Biology faculty job search committee, EEB</p> <p>Evolutionary Biology faculty job search committee (2 positions), EEB</p> <p>Graduate admissions committee, MCDB/PIBS</p>
2009-2010	<p>Frontiers Masters Program Steering Committee member, EEB</p> <p>Diversity committee, EEB</p> <p>Seminar committee (partial term), EEB</p> <p>Computational Evolutionary Biology faculty job search committee, EEB</p>

	Graduate admissions committee, MCDB/PIBS
2008-2009	<i>Pre-tenure “nurturing” leave</i>
2007-2008	Executive committee, EEB
	Nomination committee, EEB
	Early Scientists Symposium organizing committee (chair), EEB
	Prelim evaluation committee, (Yuliang Ma, Raymond lab), MCDB
2006-2007	Executive committee, EEB
	Prelim evaluation committee (Mikyung Chang, Cadigan lab), MCDB
2005-2006	Departmental seminar committee, EEB
	Young Scientists Symposium organizing committee, EEB
	Prelim evaluation committee (Ryan Frisch, Bender lab), MCDB

Synergistic activities and Outreach

K-12 Outreach

2021	Keynote speaker at FEMMES semester kick-off event (target audience: middle school girls)
2015	Hosted lab visit from AP Biology course (Hartland High School, Hartland, MI)
2014	Faculty volunteer for FEMMES (Females Excelling More in Math, Engineering, and Sciences) Capstone event
2013	Class visit, 5 th grade class, Childs Elementary School, Ypsilanti, MI
2012	Hosted lab and class visit from AP biology and chemistry students (Romulus, MI)
2012	Faculty volunteer for FEMMES (Females Excelling More in Math, Engineering, and Sciences) Capstone event
2012	Supplied resources for a Drosophila genetics lab in AP biology course (Romulus, MI)
2011	Job shadowing for class project, 8 th grader Jalen Copeland (Summit Academy, Romulus, MI)
2010	Lab visit and discussion, FIRST Lego League team (Techno tadpoles, led by Tammy Damrath)
2008	Lab and class visit with Advanced Placement Biology class from Romulus High School
	Class visit, 5 th grade class, Childs Elementary School, Ypsilanti, MI
2006	University of Michigan Saturday Seminars for Outstanding HS juniors, 40 students “DNA and the Genomics Revolution”
2006	Sponsor for high school student senior project (Taylor James)
2004	Visited Lansing High School Biology class (Lansing, NY), and provided resources for fly lab
2001	Visited Deerfield High School Biology class (Deerfield, WI), and provided resources for fly lab “Introduction to Genetics”
2000	Visited elementary schools in Livonia, MI (1 st grade) and Deerfield, WI (3 rd grade) “Genetics and the fruit fly”
2000	Demonstration for summer day camp participants at the University of Wisconsin

Improving K-12 and undergraduate education

2012	Honors Summer Fellows Faculty Panel, University of Michigan
2012	Presenter, New Faculty Orientation, “Using clickers in large lecture courses”, U. of Michigan
2009	Contributed exam problems to <i>Nature Education’s</i> genetics test-bank
2008-2010	Presenter, Center for Research on Learning and Teaching seminar on formative assessments
2008	Presentation on “evo-devo” at National Association of Biology Teachers annual meeting
2008	Video interview on CD supplement for high school/college teachers (NABT, NESCent, AIBS)
2008	Wrote summary of teaching technique for discussion courses and distributed to colleagues
2007	Redesigned Genetics course required of all biology majors to include more active learning
2006	Contributed to revision of national AP Biology standards for evolution (with Susan Offner)

Increasing participation of historically underrepresented groups

2024	Panelist, M-PACT conf: The Hiring Process: Applying, Interviewing, and Making a Decision
2021	Panelist, U-M Faculty Panel for the Picture a Scientist event
2018-2020	Mentor, Master’s student in MCDB Pathways program
2017-2020	Mentor, Presidential Postdoctoral Fellow

2015	Panelist and lead lab tour for incoming freshmen in Summer Bridge program
2015-2016	Committee member for MCDB pathways program student, Eric Cosky
2014	Panelist at dinner with M-Bio students, which is a group for underrepresented students
2013-2015	Mentor, Master's student in MCDB Pathways program
2009	Research rotation mentor for EEB Frontiers Masters Program student (William Webb)
2009-2011	Member of EEB Diversity committee (chair for 2010-2011)
2009	Co-taught module on "Genetics and Genomics" at the Arizona State University Mathematical and Theoretical Biology Summer Institute (enrolls predominantly minority students)
2009	Research rotation mentor for EEB Frontiers Masters Program student (Mairin Balisi)
2008, 2009	Invited speaker for Women in Science and Engineering (WISE) Residential program
2006, 2007	Mentor for Summer Research Opportunity Program (minority students from other universities)
2007-2009	Presentations to visiting students from Howard University and universities from Puerto Rico

Conveying science to the general public

2020	Interviewed for "Discovering Alabama" TV series, talking about Evolution
2019-2021	Developed Research Station exhibit for University of Michigan Museum of Natural History
2017	Interviewed for two episodes of "How to Science" podcast by Monica Dus and Liz Wason
2016	Comment on Research Study from Hopi Hoekstra group published in <i>The Atlantic</i>
2016	Saturday Morning Physics Colloquium presentation, open to the public
2015	UM Press release ("Consistency is the key to success in bread baking and biology")
2009	UM Press release ("Color differences within and between species have common genetic origin") picked up by over 34 web sites, including feature as top story on Science Daily,
2009	Interviewed for <i>Science</i> magazine article: (<i>Science</i> 326 : 1612) "Spineless Fish and Dark Flies Prove Gene Regulation Crucial"
2009	Public seminar, "The path to diversity: biological history recorded in DNA" (sponsored by Workantile Exchange, Ann Arbor, MI)
2008	Interviewed for <i>Science</i> magazine article: (<i>Science</i> 321 : 760-763) "Deciphering the genetics of evolution"
2006	Interviewed for <i>Seed</i> magazine article: "The spotty history of fruit flies" (4/23/06)
2005	Work featured in a cover story of <i>Wisconsin State Journal</i> (2/3/05) called "The key to evolution?"
2005	Interviewed for article in <i>Chronicles of Higher education</i> : "Is it whom you know?" by Gabriela Montell (7/1/05)
2002	Filmed working with flies for episode 125 of the PBS series: "Secrets of the Sequence"