KRISTI L. MONTOOTH

Susan J. Rosowski Associate Professor of Biology, she/her/hers

School of Biological Sciences
University of Nebraska
1104 T Street
Lincoln NE, 68588-0118

401-533-7123
kmontooth2@unl.edu
http://montoothlab.unl.edu/
http://biosci.unl.edu/kristi-montooth

EDUCATION

09/2002 – 01/2005	Ph.D. Genetics & Development, Cornell University, Advisor: Andrew Clark Dissertation: An evolutionary genetic analysis of metabolic pathways and physiological performance in *Drosophila*
09/1998 – 08/2002	Ph.D. Candidate in Biology, Pennsylvania State University, Advisor: Andrew Clark
09/1993 – 06/1998	B.S. Biology, specialization in Evolution, University of California, Irvine

PROFESSIONAL EXPERIENCE

09/2019 – present	Susan J. Rosowski Associate Professor of Biology, School of Biological Sciences, University of Nebraska-Lincoln
08/2014 – present	Associate Professor, School of Biological Sciences, University of Nebraska-Lincoln
03/2008 – 08/2014	Assistant Professor, Department of Biology, Indiana University
03/2005 – 02/2008	Postdoctoral Fellow, Brown University, Advisor: David Rand
11/2004 – 02/2005	Postdoctoral Associate, Cornell University, Advisor: Andrew Clark
01/2001 – 05/2002	Teaching Assistant: Physiological Ecology, Pennsylvania State University, Spring 2002 Population Genetics, Pennsylvania State University, Spring 2001
09/1995 – 06/1998	Undergraduate Research Assistant, University of California, Irvine Biochemical adaptation of insect cuticular hydrocarbons, Advisor: Allen Gibbs

GRANTS: current (Since 2014, PI on 3 major NSF awards and co-PI on NSF RII Track-2 FEC award, totaling $3.5 million; supported 1 NSF DDIG, 1 NIH NRSA, and 1 NSF PRFB grants for trainees at UNL)

NU Collaboration Initiative: The Nebraska Insect Microbiome Initiative (NiMBi): Building capacity for insect-microbiome-environment interaction research at NU to advance the science of emerging pests, biodiversity in a changing world, and the gut-brain axis, PI with multiple co-PIs at UNL, UNK, UNMC, and UNO, $40,000, 2022-2023

UNL ORED Revision Award: Evolution of Threshold Traits in Field Crickets, PI, $49,993, 2022

UNL Layman New Direction Award: Establishing the North American field cricket as a genome-enabled model system at UNL to study the genetics, evolution, and impact of threshold traits, PI with co-PI Colin Meiklejohn, $9,999, 2021-2022

UNL Seed Grant, Maude Hammond Fling Faculty Research Fellowship: Genetic and Environmental Effects on Metabolism of an Invasive Snail. Co-PI with PI Omera Matoo and co-PI Sophie Alvarez, $9,980.00 Jan 2021-Dec 2022

NSF RII Track-2 FEC: **U**sing **N**atural **V**ariation to **E**ducate, **I**nnovate, and **L**ead (UNVEIL): A collaborative research network to advance genome-to-phenome connections in the wild. Co-PI on collaborative proposal with U Montana PI Cheviron, $4,599,660 total award; subaward to UNL with co-PIs Meiklejohn, Montooth & Storz, $1,856,000, 2017-2023

NSF DEB Collaborative Research: SG: Genomic and functional tests of mitochondrial-nuclear coevolution, PI, $200,459, 2018-2022

NSF Rules of Life: FELS EAGER: A Predictive framework of metabolism as an engine of functional environmental responses across levels of biological organization, PI with co-PI John DeLong (UNL), $354,998, 2018-2022

GRANTS: recent submissions

NIH R15: Consequences of whole-genome duplications for mitochondrial biology, subaward to UNL Co-Investigator Montooth, $57,492, with New Mexico Tech lead PI Joel Sharbrough (total award requested $420,277), 2023-2026, pending

NSF EPSCoR RII-BEC: RII-BEC: STEM-POWER Research Program: Empowering students from the start with Purpose, Ownership, and Well-being as they Engage in research Relationships, PI with co-PIs Marianna Burks and Trish Wonch Hill, $ $999,125 requested, 2022-2027, pending

NSF BEE: Evaluating the effect of predation on thermal adaptation in response to climate change, co-PI with PI John DeLong, $800,000 requested, 2022-2025, pending

NI Collaboration Initiative: Exploratory Research on a Collaboratory for Public Engagement: Discussing Hard Truths About the Use and Misuse of Genetic Information, co-PI with PI Trish Wonch-Hill, $40,000 requested, 2022-2023, not awarded

NSF Collaborative Research: EDGE CMT: Evolution of threshold traits: genomic, regulatory, and evolutionary basis of flight polymorphisms in field crickets, PI, $ 994,321 requested, 2021-2025, not awarded

NSF NRT-URoL: Genotype to Phenotype in a Changing World: Training Stewards of Responsible Discovery and Innovation at the Intersection of DNA, Society, Health, and Humanity (DNASHH), PI, $2,997,978 requested, 2021-2026, not awarded

NSF MTM 2: Dissecting the environmental and genetic determinants of microbiome assembly, stability and resilience, co-PI with PI Clay Cressler, $3,000,000 requested, 2020-2025, not awarded

NSF BII-IMPLEMENTATION: The UNVEIL Institute: promoting the functional synthesis of evolutionary biology, co-PI with PI Jay Storz, $12,500,000 requested, 2020-2025, not awarded

GRANTS: completed

NIH NRSA award: Linking Host Energetics and Multiple Host Defenses to Transmission and Virulence Evolution, co-sponsor (w/ Dr. Clay Cressler) for Dr. Jessica Hite, $172,926, 2018-2020

NSF DEB DDIG: DISSERTATION RESEARCH: Energetic mechanisms underlying fitness consequences of immune responses, PI sponsor for Justin Buchanan, $19,949, 2017-2019

NSF IOS CAREER award: Physiological adaptation to a complex environment, $1,052,975, 2012-2019

NSF DEB DDIG: DISSERTATION RESEARCH: The evolutionary genetics of cellular and biochemical adaptation in *Drosophila*, PI sponsor for co-PI Brandon Cooper, $20,274, 2014-2017

NIH NRSA award: Coping with stress: the cellular maintenance of embryonic development, PI sponsor for Dr. Brent Lockwood, $146,070, 2012-2014

NIH NRSA Postdoctoral Fellowship: Drosophila energetics and mito-nuclear function, $145,200, 2006-2009

NSF Doctoral Dissertation Improvement Grant: Pathway analysis of ethanol and acetic acid detoxification in Drosophila, $9995, 2001-2004

FELLOWSHIPS AND AWARDS

UNL Outstanding Undergraduate Research Mentor, $1000, 2022
T.O. Hass Award for Outstanding Mentorship in the School of Biological Sciences, UNL, $2000, 2021
UNL Family & Friends' Recognition Award for Teaching, 2021
T.O. Hass Award for Outstanding Service to the School of Biological Sciences, UNL, $2000, 2020
Susan J. Rosowski Associate Professor, UNL, $15,000, 2019-2024
Indiana University Trustees Teaching Award, $2500, 2013
NSF CAREER Award, $1,052,975, 2012-2017
Howard Hughes Predoctoral Fellowship, $160,000, 1998-2003
J. Ben and Helen D. Hill Memorial Award, $1200, 1999, 2001
Braddock Scholarship, $12,000, 1998-2000
Goldwater Scholarship, $7500, 1997-1998

PROFESSIONAL DEVELOPMENT & ACTIVITIES

Journal Editor	Evolution, Associate Editor, 2021—2023 eLife, Guest Editor, 2017 Proceedings of the Royal Society B: Biological Sciences, 2014 – 2016 Proceedings of the National Academy of Sciences, Guest Editor, 2014
Society Leadership	Program Officer, Society for Integrative & Comparative Biology DCPB, 2019-2021 Oversight Committee for the journal *Evolution Letters*, 2017-2022 Society for the Study of Evolution Council Member 2015-2017
Working Groups	Deep Dive, School of Biological Sciences working group to understand and develop strategies to close equity gaps in our 100- and 200-level courses, 2021-22
	Key Invited Participant, Kavli Institute for Theoretical Physics Program in Cellular Energetics, UCSB, Dec 2019
	NSF-sponsored Grand Challenges in Organismal Biology: Walking the tightrope between stability and change, Cold Spring Harbor Banbury Center, Feb 2013
Grant Review	NSF: Antarctic Science, IOS: Physiol Struct Systems, IOS: Mol Cell Bio, DEB: Evolutionary Processes, IOS OEI: CAREER, NSF: International Research Fellowship, Human Frontier Science Program
	NSF IOS Full-proposal Review Panel Member (three times)
Manuscript Review	American Naturalist, BMC Biology, BMC Evol Biol, Comp Biochem Physiol, eLife, Evolution, Fly, Frontiers Immunology, Functional Ecology, G3, Genetica, Genetics, Genome, Genome Biol Evol, Integrative & Comp Biol, J Exp Biol, J Insect Physiology, J Insect Sci, J Mol Evol, Mol Biol Evol, Mol Ecology, Mol Phylogenet Evol, Nature Communications, Naturwissenschaften, New Phytologist, Physiol Biochem Zool, PNAS, PLoS Genetics, PLoS ONE, Science
Memberships	AAAS, Genetics Society of America, Society for Integrative and Comparative Biology, Society for the Study of Evolution, Society for Molecular Biology and Evolution
Workshops	Invited to develop and run a lunch-time workshop on "Writing Scientific Papers" Genetics Society of America meeting on Population, Evolutionary and Quantitative Genetics, Madison WI, May 2018
	Developed and facilitated multiple writing workshops for graduate students at UNL
Leadership	Executive Certificate in Leadership, UNL Research Leader's Program, 2020-21

PEER-REVIEWED PUBLICATIONS (39 peer-reviewed articles, with 22 published since 2014; As of 28-June-22, h-index = 23 (22 since 2017) and i-10index = 37 (32 since 2017), with 7 articles cited over 100 times and > 300 annual citations/per year since 2017)
† Indicates where I am or a trainee from my lab is the corresponding or first author; * undergraduate coauthor; + authored as part of a working or symposium group

Tenger-Trolander*, A, Julick*†, CR, Lu, W, Green, DA, **Montooth†, KL**, and MR Kronforst, Seasonal plasticity in morphology and metabolism differs between migratory North American and resident Costa Rican monarch butterflies. *In review,* *co-first authors contributed equally to this work; co-corresponding authors. *In Review; Preprint on bioRxiv: https://doi.org/10.1101/2022.06.17.495480*

Lee, I, Hsiao, R, Carichner, G, Hsu, C-W, Yang, M, Shoouri, S, Ernst, K, Carichner, T, Li, Y, Lim, J, Julick, CR, Moon, E, Sun, Y, Phillips, J, **Montooth, KL**, Green, DA, Kim, H-S and D Blaauw, 2021. mSAIL: milligram-scale multi-modal sensor platform for monarch butterfly migration tracking, in: Proceedings of the 27th Annual International Conference on Mobile Computing and Networking, MobiCom '21. Association for Computing Machinery, New York, NY, USA, pp. 517–530. *Recipient of the MobiCom2021 Best Paper Award

Yang, X, Heinemann, M, Howard, J, Huber, G, Iyer-Biswas, S, Le Treut, G, Lynch, M, **Montooth+, K**, Needleman, D, Pigolotti, S, Rodenfels, J, Ronceray, P, Shankar, S, Tavassoly, I, Thutupalli, S, Titov, D, Wang, J, and P Foster. 2021. Physical Bioenergetics: Energy flows, budgets, and constraints in cells. 2021. Proceedings of the National Academy of Sciences. 118 (26), e2026786118.

Chakraborty, M, Chang, C-H, Khost, D, Vedanayagam, J, Adrion, JR, Liao, Y, **Montooth, KL**, Meiklejohn, CD, Larracuente, AM and JJ Emerson. 2021. Evolution of genome structure in the *Drosophila simulans* species complex. Genome Research 3 (31):380-396.

Greimann, ES, Ward, SF, Woodell, JD, Hennessey, S, Kline, MR, Moreno, JA, Peters, M, Cruise, JL, **Montooth, KL,** Neiman, M, and J Sharbrough. 2020. Phenotypic variation in mitochondrial function across New Zealand snail populations. Integrative and Comparative Biology 60 (2), 275-287.

Wat, LW, Chao, C, Bartlett, R, Buchanan, JL, Millington, JW, Chih, HJ, Chowdhury, ZS, Biswas, P, Huang, V, Shin, LJ, Wang, LC, Gauthier, MPL, Barone, MC, **Montooth, KL**, Welte, MA, and EJ Rideout. 2020 A role for triglyceride lipase *brummer* in the regulation of sex differences in Drosophila fat storage and breakdown. PLoS biology 18 (1), e3000595

Li, H, Rai, M, Buddika, K, Sterrett, MC, Luhur, A, Mahmoudzadeh, NH, Julick*, CR, Pletcher, RC, Chawla, G, Gosney, CJ, Burton, AK, Karty, JA, **Montooth, KL**, Sokol, NS, and JM Tennessen. 2019. Lactate dehydrogenase and glycerol-3-phosphate dehydrogenase cooperatively regulate growth and carbohydrate metabolism during *Drosophila melanogaster* larval development. Development 146, dev175315

Havird, JC, Weaver, RJ, Milani, L, Ghiselli, F, Greenway, R, Ramsey, AJ, Jimenez, AG, Dowling, DK, Hood, WR, **Montooth, KL+**, Estes, S, Schulte, PM, Sokolova, IM, Hill, GE. 2019. Beyond the powerhouse: integrating mitonuclear evolution, physiology, and theory in comparative biology. Integrative and Comparative Biology 59, 856–863

Montooth†, KM, Dhawanjewar, AS, and CD Meiklejohn. 2019. Temperature-sensitive reproduction and the physiological and evolutionary potential for Mother's Curse. Integrative and Comparative Biology 59, 890–899 (Editor's Choice Article)

Matoo†, O, Julick*, CR, and **KL Montooth†**. 2019. Genetic variation for ontogenetic shifts in metabolism underlies physiological homeostasis at the mitochondrial and organismal levels. Genetics 212, 537-552 (Issue Highlight Article)

Buchanan†, JL, Meiklejohn, CD, and **KL Montooth†**. 2018. Mitochondrial dysfunction and infection generate immunity–fecundity tradeoffs in Drosophila. Integr Comp Biol 58, 591–603.

Hood, WR, Austad, SN, Bize, P, Jimenez, AG, **Montooth+, KL**, Schulte, PM, Scott, GR, Sokolova, I, Treberg, JR, and K Salin. 2018. The mitochondrial contribution to animal performance, adaptation, and life-history variation. Integr Comp Biol 58, 480-485.

DeLong, JP, Bachman, G, Gibert, JP, Luhring, TM, **Montooth+, KL**, Neyer, A, and B Reed. 2018 Habitat, latitude, and body mass influence the temperature dependence of metabolic rate. Biology Letters 20180442.

Hoekstra†, LA, Julick, CR, Mika*, KM, and **KL Montooth†.** 2018 Energy demand and the context-dependent effects of genetic interactions underlying metabolism. Evolution Letters 2:102-113.

Lockwood†, BL, Julick*, CR, and **KL Montooth†**. 2017 Maternal loading of a small heat shock protein increases embryo thermal tolerance in *Drosophila melanogaster.* Journal of Experimental Biology 220: 4492-4501

Zhang, C, **Montooth, KL**, and BR Calvi. 2017 Incompatibility between mitochondrial and nuclear genomes during oogenesis results in ovarian failure and embryonic lethality. Development 144: 2490-2503

DeLong, JP, Gibert, JP, Luhring, TM, Bachman, G, Reed, B, Neyer, A, and **KL Montooth+**. 2017 The combined effects of reactant kinetics and enzyme stability explain the temperature dependence of metabolic rates. Ecology & Evolution, DOI: 10.1002/ece3.2955

Siddiq, MA, Loehlin, DW, **Montooth, KL** and JW Thornton. 2017 Experimental test and refutation of a classic case of molecular adaptation in *Drosophila melanogaster*. Nature Ecol Evol 1, 0025

Adrion†, JR, White, PS, and **KL Montooth†**. 2016 The roles of compensatory evolution and constraint in aminoacyl tRNA synthetase evolution. Mol Biol Evol, 33: 152-161

Cooper†, BS, Burrus, C, Ji, C, Hahn, MW and **KL Montooth†**. 2015 Similar efficacies of selection shape mitochondrial and nuclear genes in both *Drosophila melanogaster* and *Homo sapiens*. G3 5: 2165-2176

Greenlee[1], KJ, **Montooth†[1], KL** and BR Helm. 2014 Predicting performance and plasticity in the development of respiratory structures and metabolic systems. Integr Comp Biol 54: 307-322
[1] Co-first and corresponding authors contributed equally to this work

Cooper†, BS, Hammad, LA and **KL Montooth†**. 2014 Thermal adaptation of cellular membranes in natural populations of *Drosophila melanogaster*. Functional Ecology 28: 886-894

Hoekstra†, LA, Siddiq, MA*, and **KL Montooth†**. 2013 Pleiotropic effects of a mitochondrial-nuclear incompatibility depend upon the accelerating effect of temperature in *Drosophila*. Genetics 195: 1129-1139

Hoekstra†, LA and **KL Montooth†.** 2013 Inducing extra copies of the *Hsp70* gene in *Drosophila melanogaster* increases energetic demand. BMC Evolutionary Biology 13: 68

Kobey†, RL, and **KL Montooth†.** 2013 Mortality from desiccation contributes to a genotype-by-temperature interaction for cold survival in *Drosophila melanogaster*. J Exp Biol 216: 1174-1182

Meiklejohn, CD, Holmbeck, MA, Siddiq*, MA, Abt, DN, Rand, DM and **KL Montooth†**. 2013 An incompatibility between a mitochondrial tRNA and its nuclear-encoded tRNA synthetase compromises development and fitness in *Drosophila.* PLoS Genetics 9: e1003238 (*F1000 selection*)

Cooper†, BS, Hammad, LA, Fisher*, NP, Karty, JA and **KL Montooth†**. 2012 In a variable thermal environment selection favors greater plasticity of cell membranes in *Drosophila melanogaster*. Evolution 66: 1976-1984

Hammad, LA, Cooper, BS, Fisher*, NP, **Montooth, KL**, and JA Karty. 2011 Profiling and quantification of *Drosophila melanogaster* lipids using liquid chromatography/mass spectrometry. Rapid Communications in Mass Spectrometry 25: 2959-2968

Petzold, J, Winterman, B and **KL Montooth**. 2010 Science Seeker: A new model for teaching information literacy to entry-level biology undergraduates. Issues in Sci Tech Librarianship, http://www.istl.org/10-fall/refereed2.html

Montooth†[1], KL, Meiklejohn[1], CD, Abt, DN and DM Rand. 2010 Mitochondrial-nuclear epistasis affects fitness within species but does not contribute to fixed incompatibilities between species of *Drosophila*. Evolution 64: 3364-3379 [1] Co-first authors contributed equally to this work

Montooth†, KL, Abt, DN, Hofmann*, JW and DM Rand. 2009 Comparative genomics of *Drosophila* mtDNA: Novel features of conservation and change across functional domains and lineages. J Mol Evol 69: 94-114

Montooth, KL and DM Rand. 2008 The spectrum of mitochondrial mutation differs across species. PLoS Biol 6: e213

Drosophila 12 Genomes Consortium. 2007. Evolution of genes and genomes on the Drosophila phylogeny. Nature 450: 203-218 (I contributed assembly, annotation and evolutionary analysis of mtDNAs)

Meiklejohn, CD, **Montooth, KL** and DM Rand. 2007 Positive and negative selection on the mitochondrial genome. Trends in Genetics 23: 259-263

Montooth†, KL, Siebenthall*, KT and AG Clark. 2006 Membrane lipid physiology and toxin catabolism underlie ethanol and acetic acid tolerance in *Drosophila melanogaster*. J Exp Biol 209: 3837-3850

Zhang, M, **Montooth, KL**, Wells, MT, Clark, AG and D Zhang. 2005 Mapping multiple quantitative trait loci by Bayesian classification. Genetics 169: 2305-18

Civetta, A, **Montooth, KL** and M Mendelson. 2005 Quantitative trait loci and interaction effects responsible for variation in female postmating mortality in *Drosophila simulans* and *D. sechellia* introgression lines. Heredity 94: 94-100

Montooth†, KL, Marden, JH and AG Clark. 2003 Mapping determinants of variation in energy metabolism, respiration and flight in *Drosophila*. Genetics 165: 623-635

Montooth, KL and AG Gibbs. 2003 Cuticular pheromones and water balance in the house fly, *Musca domestica*. Comp Biochem Physiol A 135: 457-465

Marden, JH, Rogina, B, **Montooth, KL** and SL Helfand. 2003 Conditional tradeoffs between aging and organismal performance of *Indy* long-lived mutant flies. PNAS 100: 3369-3373

INVITED SYMPOSIA and PANELS (11 since Fall 2014)

Living Histories series “trajectory talk,” American Physical Society Division of Biology, virtual, October 2021
Society for Integrative and Comparative Biology, Invited Symposium participant: Building Bridges from Genome to Phenome: Molecules, Methods and Models, Austin TX, January 2020
Kavli Institute for Theoretical Physics, Invited Key Participant, Program in Cellular Energetics, Dec 2019
Congress of the European Society of Evolutionary Biology, Invited Symposium speaker: Mitochondrial-nuclear evolution, Turku, Finland, August 2019
Annual Drosophila Research Conference, Invited Workshop speaker: Intro to the Drosophila microbiome: How can I control the microbiome in my research? Dallas, TX March 2019
Society for Integrative and Comparative Biology, Symposium speaker: Beyond the powerhouse: integrating mitonuclear evolution, physiology, and theory in comparative biology, Tampa FL, January 2019
Society for Integrative and Comparative Biology, Symposium speaker: Inside the Black Box: The Mitochondrial Basis of Life-history Variation and Animal Performance, San Francisco, January 2018
Society for the Study of Evolution, Symposium speaker: Cytonuclear Evolution, Austin TX, June 2016
Society for Developmental Biology, Symposium speaker: Growth and Metabolism, Snowbird UT, July 2015
APS Intersociety Meeting: Comparative Approaches to Grand Challenges in Physiology, Symposium speaker: Genomics in Integrative and Comparative Biology, San Diego, October 2014
Program of Excellence Symposium in Population Biology Speaker, Lincoln, NE, September 2014
Iowa City Darwin Day Speaker, University of Iowa & Iowa City, February 2014
IGERT Symposium Panel Member: The Future of Evo-Devo, February 2012
IGERT Symposium Speaker: Evolution, Genomics and Development, November 2009
U of Michigan Early Career Scientist Symposium Speaker: Networks in Ecology and Evolution, 2008

INVITED SEMINARS (19 since Fall 2014)
* Indicates student-invited speaker

University of Western Ontario, Department of Biology, Fall 2021
* Julius Thomas Hansen Endowed Lecture in Physiology, Integrative Biology, UC Berkeley, Spring 2021
University of Nebraska-Lincoln, Animal Breeding and Genetics seminar, Spring 2021
Vienna Graduate School of Population Genetics, Fall 2020
Washington State University, Biology Seminar, Fall 2020
Vanderbilt University, Biology Seminar, Spring 2019
North Dakota State University, Biology, Spring 2019
University of Nebraska-Lincoln, Entomology Spring 2019
Pennsylvania State University, Entomology, Fall 2018
University of Kansas, Molecular Biosciences, Spring 2018
University of Montana, Spring 2018
University of Oklahoma, Dept. of Biology, Fall 2017
Harvard Medical School, Dept of Systems Biology, Theory Lunch, Fall 2017
University of Wisconsin-Madison, Evolution Seminar, Spring 2017
University of Wisconsin-Madison, Genetics Colloquium, Spring 2017
University of Nebraska-Lincoln, Redox Biology Seminar Series, Spring 2017
* Nebraska Wesleyan University Student-invited Seminar Series, Spring 2017
Kansas State University, Division of Biology, Spring 2016
Clemson University, Department of Biological Sciences, Fall 2015
Dartmouth College, Cramer Seminar Series, Fall 2013
Marine Biological Labs, Woods Hole, Spring 2013
University of Georgia, Dept. of Genetics, Spring 2013
University of Nebraska, School of Biological Sciences, Spring 2013
Washington University in St. Louis, Evolution, Ecology and Population Biology Seminar, Fall 2012
Portland State University, Dept. of Biology, Spring 2011
University of Western Ontario, Dept. of Biology, Fall 2010
* Stanford's Hopkins Marine Station, Fall 2010
Binghamton University, Dept. of Biology, Fall 2010
University of Chicago, Dept. of Ecology & Evolution, Spring 2010
University of Nebraska, School of Biological Sciences, Spring 2009
University of Pennsylvania, Dept. of Biology, Spring 2009
* Duke University, Population Genetics Seminar Series "Super Speaker", Fall 2008
Indiana State University, Dept. of Biology, Fall 2008
University of Massachusetts Amherst, Entomology Seminar Series, Fall 2007
University of Oregon, Center for Ecology and Evolutionary Biology, Spring 2007
Indiana University, Dept. of Biology, Spring 2007
Harvard University, Dept. of Organismal and Evolutionary Biology, Fall 2006
University of Massachusetts Lowell, Dept. of Biological Sciences, Fall 2006
University of Nevada Las Vegas, Dept. of Biological Sciences, Fall 2006
University of Oregon, Center for Ecology and Evolutionary Biology, Fall 2005
Harvard University, Population and Evolutionary Genetics/Genomics Seminar, Fall 2005
University of Rochester, Evolution seminar, Fall 2003

CONFERENCE PRESENTATIONS (not including trainee presentations)
GSA Drosophila Research Conference 2021 (poster)
Special Session in Memory of George Gilchrist, Society for Integrative & Comparative Biology 2021 (talk)
Evolutionary Genetics of Adaptation, UNVEIL symposium 2018 (talk)
GSA Population, Evolutionary and Quantitative Genetics Conference 2018 (talk)
GSA Drosophila Research Conference 2017 (poster)
GSA Drosophila Research Conference 2015 (poster)

Society of Integrative and Comparative Biology 2014 (talk)
Evolution 2013 (talk)
GSA Drosophila Research Conference 2013 (talk)
Midwest Drosophila Conference 2012 (talk)
Midwest Drosophila Conference 2011 (talk)
Congress of the European Society of Evolutionary, Tubingen, Germany Biology 2011 (Symposium talk)
Society for Integrative and Comparative Biology Meetings 2011 (talk)
GSA Drosophila Research Conference 2010 (poster)
Midwest Drosophila Meetings 2009 (talk)
Midwest Drosophila Meetings 2008 (talk)
Society for Molecular Biology and Evolution, Barcelona, Spain 2008 (talk)
American Genetics Association: Genome Evolution Meetings 2007 (poster)
Gordon Conf Quant Genet and Genomics 2007 (poster)
GSA Drosophila Research Conf 2007 (poster)
Evolution 2006 (talk)
GSA Drosophila Research Conf 2006 (poster)
GSA Drosophila Research Conf 2005 (talk)
Society for Molecular Biology and Evolution Meetings 2004 (poster)
Keystone Meeting on Natural Variation and Quantitative Genetics in Model Organisms 2004 (poster)
GSA Drosophila Research Conf 2003 (poster)
GSA Drosophila Research Conference 2002 (poster)
Congress of the European Society of Evolutionary Biology, Aarhus, Denmark 2001 (talk)
GSA Drosophila Research Conference 2001 (poster)
Society for Integrative and Comparative Biology Meetings 2001 (talk)
GSA Drosophila Research Conference 2000 (poster)
Society for Integrative and Comparative Biology Meetings 2000 (talk)
Evolution 1999 (talk)
American Genetics Association: Genome Diversity and Evolution Meeting, 1999 (poster)

TRAINING OF STUDENTS AND POSTDOCTORAL RESEARCHERS

Postdoctoral researchers and research assistant professors:

Dr. Brent Lockwood, PhD Stanford University, 2011-2014
Currently Associate Professor, University of Vermont
NIH NRSA Postdoctoral Fellowship, $146,070

Dr. Katherine O'Brien, PhD University of Pennsylvania, 2014-2016
Currently Instructor and Science Communicator at Ohio State U

Dr. Omera Matoo, PhD University of North Carolina Charlotte, 2014-2022
Starting as Assistant Professor, University of south Dakota, January 2023
NSF EPSCoR UNVEIL Postdoctoral Fellowship

Dr. Jessica Hite, PhD Indiana University, co-mentored with C. Cressler, 2018-2021
Currently Assistant Professor, University Wisconsin Madison
NIH NRSA Postdoctoral Fellowship

Dr. Ibrahim El-Shesheny, Assistant Professor at Tanta University, Egypt, 2018-present
Visiting Assistant Professor

Dr. Megan Kobiela, Ph.D. University of Minnesota, 2019-2021
Currently Assistant Professor at Sweet Briar College
NSF EPSCoR UNVEIL Postdoctoral Fellowship

Dr. Lisa Treidel, Ph.D. UC Berkeley, 2021-present
UNL PoE Postdoctoral Fellow in Population Biology and NSF PRFB recipient

Doctoral students:

Luke Hoekstra, PhD student, 2008-2014
Currently Adjunct Professor, Oklahoma State University
Research/training awards, fellowships and grants totaling $92,864

Robert Kobey, MS student, 2009-2014
Research/training awards, fellowships and grants totaling $85,280

Brandon Cooper, PhD student, 2010-2014
Currently Assistant Professor, University of Montana
Research/training awards, fellowships and grants totaling $126,874

Jeff Adrion, PhD student, co-advised with M. Hahn at Indiana University, 2013-2018
Currently Population Geneticist, Ancestry
Research/training awards, fellowships and grants totaling $252,500

Justin Buchanan, PhD student, 2014-2019
Currently postdoctoral fellow, U Wisconsin Madison
NSF DDIG and USDA NIFA Postdoctoral Fellowship awardee

Abhilesh Dhawanjewar, PhD student co-advised with C. Meiklejohn, 2015-2022
As of September, postdoctoral researcher, Univ College London
SSE Rosemary Grant and UNL Milton Mohr awardee

Cole Julick, PhD student, 2016-2022
As of September, research scientist, Washington Univ St Louis
Graduate representative on first UNL SBS Diversity, Equity & Inclusion committee

Alex Toalson, MS student co-advised with C. Meiklejohn, 2019-present, currently on leave
Nitin Bansal, PhD student, 2020-present
Miyauna Incarnato, PhD student co-advised with A Velez, 2021-present
Rasel Ahmad, rotating PhD student, Spring 2023
Patrick Nshizirungu, rotating PhD student, Spring 2023

Dissertation committees (14 active, including students in my group):

Catherine Hogan, University of Massachusetts, Lowell, MS student
Tami Cruishank, Indiana University, EEB PhD student
Wenli Li, Indiana University, EEB PhD student
Jonathan Andicoechea, Indiana University, MS student
Sam Miller, Indiana University, MS student
Amy Cash, Indiana University, MCDB PhD student
Daniel Schrider, Indiana University, EEB and Informatics PhD student
Mark Peterson, Indiana University, EEB PhD student
Harald Parzar, Indiana University, EEB PhD student
Mikus Abolins-Abols, Indiana University, EEB PhD student
Matt Ackerman, Indiana University, EEB PhD student
Dean Castillo, Indiana University, EEB PhD student
Logan Cole, Indiana University, EEB PhD student
Amy Dapper, Indiana University, EEB PhD student
Amanda Gibson, Indiana University, EEB PhD student
CJ Jewell, Indiana University, EEB PhD student
Jamie Kostyun, Indiana University, EEB PhD student
Parul Johri, Indiana University, EEB PhD student
Weiyi Li, Indiana University, EEB PhD student
Casey McGrath, Indiana University, EEB PhD student
James Pease, Indiana University, EEB PhD student
Rebecca Penny, Indiana University, EEB PhD student
Nathan Taylor, Indiana University, MCDB PhD student
Melissa Toups, Indiana University, EEB PhD student

Daniela Vergara, Indiana University, EEB PhD student
Laura Weingartner, Indiana University, EEB PhD student
Yen-chi Wu, Indiana University, MCDB PhD student
Chunyang Zhang, Indiana University, MCDB PhD student
Alissa Anderson, UNL, EEB PhD Student
Maria Goller, UNL, EEB PhD Student
Chelsea Stehle, UNL, EEB MS Student
Rudy Villegas, UNL, EEB PhD Student
Emily Wynn, UNL, GCMB PhD Student
Itzela Cruz-Solanilla, UNL, GCMB MS Student
Noori Choi, UNL, EEB PhD Student
Natalia Gutierrez-Pinto, UNL, EEB PhD Student
Erin Carr, UNL, GCMB PhD Student
Miranda Salsbery, UNL, EEB PhD Student
Keely Corder, U of Montana, PhD Student
Alaina Pfenning, UNL, EEB PhD student
Annie Krueger, UNL, Entomology PhD student
Lianna Walker, UNL, Animal Science PhD student
Lyndsie Wszola, UNL, EEB PhD student
Sterling Ericsson, UNL, GCMB PhD student
Laura Segura Hernández, UNL, EEB PhD student
Ana Martinez-Hottovy, UNL, GCMB PhD student
Ashley Foltz, UNL, GCMB PhD student
Brandi Pessman, UNL, EEB PhD student
Jeremy Brown, UNL, Biochemistry PhD student
Moira McNally, UNL, GCMB Master's student
Faiza Hafeez, UNL, EEB PhD student
Morgan Meyers, UNL, GCMB Master's student

Undergraduate researchers trained (Mentored > 50 undergraduate students in research, 38 at UNL with 6 completing honors thesis since 2014):

Nicholas Molby, 2008-2010, MD

Elizabeth Eggleston, Hutton-Holland student, 2008-2010
Hutton Research Partnership Grant, $750, Spring 2009

Lindsay Davies, Honors student, 2008-10, completed PhD Sustainable Agriculture, U of Georgia
Hutton Research Partnership Grant, $750, Spring 2009

Nicholas Fisher, Honors student, 2010-2011, MD
Hutton Honors Research Grant, $2500, Summer 2010

Katie Mika, Honors student 2008-2012, Currently Postdoctoral Fellow, U of Chicago
Hutton Research Partnership Grant, $750, Spring 2009
STARs summer research fellowship, $3000, Summer 2010

Mohammad Siddiq, Honors student, 2009-2012, Currently Postdoctoral Fellow, U Michigan
Hutton Research Grants (4), $7,000
Departmental awards (2), $1,500
Inaugural Victoria Finnerty Travel Award from the Genetics Society of America, $750

Cecilia Lemke, Honors student, 2009-2012

Anna Guanzon, Honors student, 2011-2012
Hutton Honors Research Grant, $3000, Summer 2011

Sonya Josephs, Honors student, 2011
Rob Gassert, IFLE and STARs student, 2010-2014, MD
Dan Gutt, 2011-2012, JD

Nathan Byrd, 2012-2014, MD
Hutton Research Partnership Grant, $750, Summer 2012
Hutton Honors Research Grant, $3000, Summer 2013
Shaye Mentzer, 2012-2014, Cox Scholar
Cole Julick, 2013-2014, completed PhD at UNL, research scientist at Washington Univ St Louis
Kathleen Gordon, Honors student, 2013-14, PhD student at Cornell University
Hutton Research Partnership Grant, $1000, Summer 2013
Shelby Beil, 2013-2014, MD
Hutton Research Partnership Grant, $750, Spring 2010
Carl Kulow, 2013-2014
Cassie Treu, 2015-2016, UCARE scholar
Katie Church, 2015-2017, UCARE scholar, Genetic Counselor, UNMC
Madeleine Koenig, 2015-2018, UCARE scholar
Matthew Baier, 2016-2018, UCARE scholar (co-advised with Colin Meiklejohn)
Jenny Libov, 2018-2019, UCARE scholar, medical school, UNMC
Brittni McGuire, 2018
Olivia Miller, 2018-2019, UCARE scholar
Lauren Reiman, 2018-2020, UCARE scholar (co-advised with Clay Cressler and Jessica Hite), research assistant U of Colorado Medical Campus
Vanessa Reiser, 2018-2019
Chloe Hogue, 2018-2019
Ava Westerly, 2018-2019
Alex Toalson, 2018-2019
Gina Marcuzzo, 2019-2021, medical school, UNMC
Joevy Sum, 2019-2021, UCARE scholar, research assistant, UNL
Alexus Hansen, 2019-2022, UCARE scholar
Kathryn Whittaker, 2019-2020
Nicole Valentina Acosta Sandoval, 2019-2021, UCARE Scholar, research scientist
Karyssa Richardson, 2019-2020
Miranda Shreves, 2019-2020, FYRE scholar
Haley DeWitt, 2019-2021, UCARE scholar, medical school, UNMC
Jaden Feeny, 2019-2021, UCARE scholar, master's program in biomedical science, UNMC
Kennedy Whiting, 2019-present, FYRE student
Carlie Saline, 2020-2022, UCARE scholar, PhD student at North Dakota State University
Himani Patel, 2020-2022, UCARE scholar, scientist at Alnylam Pharmaceuticals, Cambridge MA
Bridget Price, 2021, Summer REU scholar
Yousuf Al Farqani, 2020-2022, UCARE scholar
Patrick Nshizirungu, 2021-2022, CUSP scholar, PhD student, UNL
Kennedy Whiting, 2020-present, FYRE & UCARE scholar
Bailey Walden, 2021-present
Manal Amon, Bridge & FYRE scholar, 2021-2022
Kailee Ward, 2021-present
Emma Farson, 2021
Zahra'a Al Ghareeb, FYRE scholar, 2021-present
Tori Randolph, FYRE scholar, 2021-present
Priscilla Lebesse, 2021-present
Renee Box, 2022-present, UCARE scholar
Hannah Nguyen, 2022-present
Carson Dettmer, 2022-present

Undergraduate honors thesis committees:
Clare Crosh, Cherbas lab, 2010
Jenny Kulow, Hangarter lab, 2011

Katelyn Mika, Montooth lab, 2012
Mohammad Siddiq, Montooth lab, 2012
Emily Jezewski, Christensen lab, 2018-2019
Jenny Libov, Montooth lab, 2018-2019
Rose McCoy, Christensen lab, 2019-2020
Lauren Reiman, Montooth lab, 2019-2020
Nicole Valentina Acosta Sandoval, Montooth lab, 2020-2021
Haley DeWitt, Montooth lab, 2020-2021
Joevy Sum, Montooth lab, 2020-2021
Himani Patel, Montooth Lab, 2021-2022
Carlie Saline, Montooth Lab, 2021-2022
Peyton Alder, Meiklejohn Lab, 2021-2022

High-school students advised in research:
Elena Dahlke, Central City High School, 2017-2018, worked in the lab on her science fair project on the effects of green tea compounds on performance in a Drosophila model of Huntington's Disease
Brianna Mundorf, Central City High School, 2021-2022, advised her science fair research project on effects of anthropogenic chemicals on neurodegenerative disease models in fruit flies
Sofia Sarroub-LeSueur, Lincoln East High School, 2021-2022, research internship working on thermal performance in fruit flies

Co-creator and co-director with Marianna Burks of the Upward Bound Math-Science Research Bridge Program in the Life Sciences at UNL, 2021-present

TEACHING ACCOMPLISHMENTS

Classroom teaching:

UNL:
Bios 915E: EEB seminar, 2016-2017
Bios 998: Graduate Evolutionary Genetics (3 credits, 7-9 students), Fall 2015, Fall 2017
Life 121 (3 credits, ~100 students), Spring 2015, 2016, 2018
Bios 497/897 Special Topics: Biochemical Adaptation & Disease (3 credits, 5-20 students), Fall 2018, 2020
Bios 206 Genetics (4 credits, 240-272 students), Spring 2019, 2020, 2021, 2022)
Covid-19 Course (with many other instructors; 1 credit, 5-week online course), Summer 2020
Bios 205 (2 credits, 105 students), Fall 2021

Indiana University:
EEB Brown Bag Seminar, Spring 2014
Biology L111, Foundations in Biology: Ecology, Evolution & Diversity (3 credits, 100-150 students), Fall 2008, 2010, 2011, 2012, 2013
Biology Z620/L568, Graduate Evolutionary Genetics (3 credits, ~20 students), Fall 2009, 2011
Biology L433, Tropical Biology (3 credits, 15 students), Intersession 2009/2010

Writing Retreats:
Inaugural CAS Trainee Writing Retreat, Cedar Point Biological Station, co-facilitated with Drs. Emily Kayzak and William Thomas, May 2021
SBS Trainee Writing Retreat, Cedar Point Biological Station, May 2021
SBS Trainee Writing Retreat (16 participants), Virtual Pandemic version, May 2020
Inaugural SBS Trainee Writing Retreat, Cedar Point Biological Station, co-facilitated with Dr. Meredith Steck, May 2019

Contributions to the Scholarship of Teaching and Learning:
Deep Dive to invesitgate equity gaps in learning at UNL (led by Chad Brassil), 2021-2022

Member of BUILD team (Biology Undergraduate Information Literacy Development), 2012-2014
Presenter at "From Note-Taking to Knowledge-Making: Engaging Students in Scientific Inquiry," 2012
Taught a master class on working with primary literature, data and graphs in intro biology lectures, 2011
Course Development Institute, Indiana University, 2009

Peer-reviewed contributions in pedagogy:
Petzold, J, Winterman, B and **KL Montooth.** 2010 Science Seeker: A new model for teaching information literacy to entry-level biology undergraduates. Issues in Sci Tech Librarianship, http://www.istl.org/10-fall/refereed2.html

SERVICE TO THE UNIVERSITY

Departmental service:

UNL:
SBS Research and Awards Committee, SBS UNL 2020-2022, chair
Evolutionary Developmental Biology Search Committee, chair SBS UNL 2021, search cancelled
Ad hoc committee to draft the SBS Strategic Diversity Initiative, Summer 2020
Executive Committee, SBS UNL 2017-2020
Graduate committee, SBS UNL 2015-2017
Faculty search committee in Infectious Disease Biology, SBS UNL 2014-2015

Indiana University:
Departmental Policy Committee, 2012-2014
Committee to write an EEB hiring vision plan, 2012
Evaluated Dissertation Year Fellowship Applications, 2012
Graduate Admissions Committee, 2012
Undergraduate Biology Specializations Committee, 2011
Undergraduate Curriculum Study Committee, 2009-2010
Graduate recruitment weekend committee, chair, 2009, 2011
IGERT student steering committee, 2008-2011

University service:

UNL:
Panel member: Research Mentoring, offered by ORED, UNL, Spring 2017
CAS Research Advisory Committee member, UNL, 2019-present
Ad hoc committee member to revise the Fall 2020 Attendance Policy, Summer 2020
Dean of CAS Search Committee member, UNL, 2018-2019
SciComm Conference Organizing Committee, UNL, 2017-2019
Biotechnology Seminar Series Committee, UNL, 2017-2020
Panel member: CAREER workshop, offered by ORED, UNL, Spring 2017
College of Arts & Sciences Space Committee, UNL, 2016-2018
Steering and admissions committee, Complex Biosystems Graduate Program, UNL, 2014-2018

Indiana University:
Workshop presenter: CITL roundtable: Active learning in STEM, 2012
Panel member: CAREER workshop offered by Proposal Development Services, 2012
Discussion leader: Women in Science Luncheon, 2012
BSES exchange program: I worked with a senior faculty from Hanoi University in my L111 course during Fall 2011. Invited to teach L111 at Hanoi University for two weeks in 2012, but declined.
Panel member: Training Future Faculty Workshop, 2011
Judge: Women in Science Research Conference, 2010, 2011
Judge: STARs Undergraduate Research Symposium, 2010
Panel member: Associate Instructor Workshop on Campus Climate, 2009

PROFESSIONAL SERVICE

2022	Co-creation workshop invited participant for the Personalized Genomics Education (pgEd.org) Project to create a Hub
2020	Workshop organizer, Genetic Society of America Allied Genetics Conference, virtual
2019	Invited panel speaker, Work / Life Balance, SDSU course organized by Dr. Charlie Fenster
2019	Conference Organizer, 2nd Symposium on the Evolutionary Genomics of Adaptation, UNL
2019-2021	DCPB Program Officer, Society for Integrative and Comparative Biology, elected
2017-2022	Oversight Committee for the journal Evolution Letters, appointed by the Society for the Study of Evolution
2017	Invited chair for Evolution & Population Genetics Session, Drosophila Research Conference
2015-2017	Society for the Study of Evolution Council Member, elected
2015	Co-chair & poster judge for Evol & Quant Genet Session, Drosophila Research Conference
2014	SMBE Symposium Co-organizer, The Role of Epistasis in Molecular Evolution
2011	Conference Co-organizer, 2011 Midwest Drosophila Meetings
2010	Conference Organizer, 2010 Midwest Drosophila Meetings
2009-2010	Society for Molecular Biology and Evolution, nominating committee
2009, 2013	College of Reviewers for the Canada Research Chairs, served
2008	Society for Molecular Biology and Evolution, poster judging

SERVICE TO THE COMMUNITY

Public presentations:

Natural history, evolution, disease and the mitochondrial DNA – that other genome in your cells. Iowa City Darwin Day Public Lecture, 2014

Evolving metabolisms: A story of why the fruit fly loves your kitchen. Secular Alliance of Indiana University, 2010

Lessons learned from the genomes of chimps and flies. Isles of Shoals, New Hampshire, 2003

Mapping complex gene interactions underlying physiological performance in Drosophila. Cornell Life Science Forum, American Museum of Natural History 2003

Judge:

Pennsylvania Junior Science and Humanities Symposium, State College, PA 2000, 2001

Scituate RI High School Science Fair, 2008

Community Engagement & Outreach:

Keynote speaker, District TriBeta conference, Spring 2022

Summer engagement with Upward Bound students from Lincoln high schools, 2019-2020

SciComm 2020, Organizing Committee

SciComm 2018, Organizer for meeting that attracted ~125 local and out-of-state attendees for a two-day conference and workshop centered on how we communicate science at all levels

UNL Women in Science, Battle of the Beaks Workshop on Evolution, 2017

Saturday Investigate, Battle of The Beaks, 2017

Scientist speed-dating at Science Night Live!, A community event at the Cube in the Lincoln Haymarket associated with the SciComm 2016 Conference

Sunday with a Scientist at the NE State Museum at Morrill Hall: Evolution on the Wing, 2016

National Science Olympiad, UNL Science EXPO experiment, 2015

Indiana University Jim Holland Summer Science Research Program, 2013

Indiana University Lilly Scholars Program, hosted minority high school students in the lab to do research projects using Drosophila, 2008, 2010, 2011

Brownie Math & Science Day, 2010

Garden leader at the Bloomington Community Garden, 2010-2012

PROFESSSIONAL DEVELOPMENT WORKSHOPS (since 2018)

Welcoming seeds home: Seed rematriation 4-part webinar series, Spring 2022
MARVEL workshop on mentoring, Fall 2021
UNL Research Leader's Program, 2020-21
UNL Fall Teaching and Learning Symposium on course co-creation, 2021
PgEd/GSA workshops, Conversations on Controversial Topics in Genetics, 2021
IOT - Keep Teaching Mini-course, CTT, 2021
UNL Spring Teaching and Learning Symposium, Focus: Confronting Realities in the Classroom: Diversity, Equity, and Inclusion (keynote by Dr. Bryan Dewsbury, URI), 2021
Equity in Classrooms (UNL, EVC Office, Chad Brassil), 2021
Lessons from the National Protests: Strategies for Curriculum and Community Engagement (UNL Office of Diversity and Inclusion, Nkenge Friday and Helen Fagan), 2020
Data reproducibility for everyone (Repro4Everyone.org, sponsored by SSE), 2020
Making your course more user-friendly for students, CTT, 2020
Meeting the Moment: How Can Scientists Contribute to a Broad Conversation on Genetics and Society? (GSA and pgEd.org), 2020
Pronouns 101 (UNL LGBTQA+ Center), 2020
UNL Fall Teaching and Learning Symposium, Focus: Collaborative and Teamwork (CTT), 2018