Emily R. Davenport

Assistant Professor – Pennsylvania State University

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http://davenport-lab.github.io/ | @emo_davenport

Education

2009 - 2014 Ph.D in Human Genetics
Certificate in University Teaching
University of Chicago; Chicago, IL
Advisor: Yoav Gilad (supported by NIH training grant)

2003 - 2007 B.S. in Bacteriology (with comprehensive honors)
University of Wisconsin – Madison; Madison, WI

2005 International Study Program, selected participant
National University of Ireland, Galway; Galway, Ireland

Academic, Research, and Industry Experience

2019 - **Assistant Professor**. Department of Biology, Huck Institutes of the Life Sciences, Institute for Computational and Data Sciences; The Pennsylvania State University; University Park, PA.

2018 - 2019 **Visiting Post-doctoral Fellow**. Supervisor: Ruth Ley (supported by NIH NRSA)
Department of Microbiome Science, Max Planck Institute for Developmental Biology; Tübingen, Germany.

2014 - 2019 **Post-doctoral Fellow**. Advisor: Andrew Clark (supported by NIH NRSA)
Department of Molecular Biology and Genetics, Cornell University; Ithaca, NY.

2008 - 2009 **Sequence Capture Technician**. Supervisor: Mindy Bennett.
Roche NimbleGen; Madison, WI.

2007 - 2008 **Forensic Scientist – DNA Analyst**. Supervisor: Sherry Culhane.
DNA Unit, Department of Justice - Wisconsin State Crime Lab; Madison, WI.

2004 - 2007 **Undergraduate Research Assistant/Independent Research**. Advisor: Steven Barclay
Department of Bacteriology, University of Wisconsin – Madison; Madison, WI.

2006 **International Research Experience for Students (IRES) in Microbiology Summer Research Program Participant**. Advisor: Sukathida Ubol
Department of Microbiology, Mahidol University; Bangkok, Thailand.

Publications – peer reviewed

* denotes equal contribution

Underlined denotes mentee author

Submitted

23. Cappas V, **Davenport ER**, and Sykes D. *The microbiome and volatile organic compounds reflect the state of decomposition in an indoor environment.*

22. Gancz AS, Farrer AG, Nixon M, Arriola L, Adler C, **Davenport ER**, Gully N, Cooper A, Britton K, Dobney K, Silverman J, Weyrich L. *Ancient dental calculus reveals novel oral microbiome diversity in pre-Industrialized British people.*

2022

21. Ryu EP and **Davenport ER**. *Host genetic determinants of the microbiome across animals: from C. elegans to cattle.* Annual Reviews of Animal Biosciences. 2022 10:1, 203-226

2021

20. Jeganathan NA, **Davenport ER**, Yochum GS, Koltun WA. *The microbiome in diverticulitis.* Current Opinion in Physiology. 2021;22

19. Amato KR, Arrieta M, Azad M, Bailey MT, Broussard JL, Bruggeling C, Claud EC, Costello EK, **Davenport ER**, Dutilh BE, Swain Ewald HA, Ewald P, Hanlon EC, Julion WA, Keshavarzian A, Maurice CF, Miller GE, Preidis GA, Ségurel L, Singer BH, Subramanian S, Zhao L, Kuzawa CW. *The Human Microbiome and Health Inequities.* PNAS. 2021;118(25)

18. Marderstein AR, **Davenport ER**, Kulm S, Van Hout C, Elemento O, Clark AG. *Leveraging phenotypic variability to identify genetic interactions in human phenotypes.* American Journal of Human Genetics. 2021;108(1)

2020

17. Nichols RG and **Davenport ER.** *The relationship between the gut microbiome and host gene expression: A review.* Human Genetics.140(5), 747-760 DOI: 10.1007/s00439-020-02237-0

2019

16. Gong X, **Davenport ER**, Wang D, Clark AG. *Lack of spatial and temporal genetic structure of Anguilla japonica populations.* Conservation Genetics. 2019;20:467

15. Kachoo P*, Eraso JM*, Beres SB, Olsen RJ, Zhu L, Nasser W, Bernard PE, Cantu CC., Ojeda Saavedtra M, José Arredondo M, Strope B, Do H, Kumaraswami M, Vuopio J, Gröndahl-Yli-Hannuksela K, Kristinsson KG, Gottfredsson M, Pesonen M, Pensar J, **Davenport ER**, Clark AG, Corander J, Caugant DA, Gaini S, Magnusses MD, Porter AR, DeLeoFR, and Musser JM. *Integrated analysis of population genomics, transcriptomics and virulence provides novel insights into* Streptococcus pyogenes *pathogenesis.* Nature Genetics. 2019;51 548-559

2018

14. Jha AR, **Davenport ER**, Gautam Y, Bhandari D, Tandukar S, Ng K, Holmes S, Prasad Gautam G, Bahadur Sherchand J, Bustamante CD, and Sonnenburg JL. *Gut microbiome transition across a life gradient in Himalaya*. PLoS Biology. 2018;16(11):e2005396 (epub 2018 Nov 15)

2017

13. **Davenport ER***, Sanders JG*, Song SJ, Amato KR, Clark AG, and Knight R. *The human microbiome in evolution*. BMC Biology. 2017. 15:127

12. Goodrich JK, **Davenport ER,** Clark AG, and Ley RE. *The relationship between the human genome and microbiome comes into view*. Annual Reviews Genetics. 2017. 51(1)

11. Igartua C, **Davenport ER**, Gilad Y, Nicolae DL, Pinto J, and Ober C. *Host genetic variation in mucosal immunity pathways influences the upper airway microbiome*. Microbiome. 2017 Feb 1;5:16

2016

10. **Davenport ER**, Goodrich JK, Bell JT, Spector TD, Ley RE, Clark AG. *ABO antigen and secretor statuses are not associated with gut microbiota composition in 1,500 twins*. BMC Genomics. 2016 Nov 21;17:941

9. Beaumont M, Goodrich JK, Jackson MA, Yet I, **Davenport ER**, Vieira-Silva S, Debelius J, Pallister T Mangino M, Raes J, Knight R, Clark AG, Ley RE, Spector TD, and Bell JT. *Heritable components of the human fecal microbiome are associated with visceral fat*. Genome Biology. 2016 Sep 26;17:189

8. Goodrich JK, **Davenport ER**, Beaumont M, Jackson MA, Knight R, Spector TD, Bell JT, Clark AG, and Ley RE. *Genetic determinants of the gut microbiome in UK twins*. Cell Host and Microbe. 2016: 19(5), 731-743

7. Goodrich JK*, **Davenport ER***, Waters JL*, Clark AG, and Ley RE. *Cross-species comparisons of host genetic associations with the microbiome*. Science. 2016: 352(6285), 532-535

6. **Davenport ER**. *Elucidating the role of the host genome in shaping microbiome composition*. Gut Microbes. 2016: 7(2), 178-184

5. Blischak JD, **Davenport ER**, and Wilson G. *A quick introduction to version control with Git and GitHub*. PLoS Computational Biology. 2016;12(1):e1004668 (epub 2016 Jan 19)

2015

4. **Davenport ER,** Cusanovich DA, Michelini K, Barrerio LB, Ober C, and Gilad Y. *Genome-wide association studies of the human gut microbiota*. PLoS One. 2015;10(11):e0140301 (epub 2015 Nov 3)

   -----> *An Editor's Pick for the PLoS Microbiology special collection:*
   http://collections.plos.org/microbiology-picks
   -----> *An Editor's Pick for the PLoS Experimental Biology special collection:*
   http://collections.plos.org/experimental-biology

2014

3. Zhou X, Cain CE, Myrthil M, Lewellen N, Michelini K, **Davenport ER**, Stephens M, Pritchard JK, and Gilad Y. *Epigenetic modifications are associated with inter-species gene expression variation in primates*. Genome Biology. 2014 Dec 3;15(12):547

2. **Davenport ER**, Mizrahi-Man O, Michelini K, Barreiro LB, Ober C, and Gilad Y. *Seasonal variation in human gut microbiome composition*. PLoS One. 2014;9(3):e90731 (epub 2014 Mar 11)

2013

1. Mizrahi-Man O, **Davenport ER**, and Gilad Y. *Taxonomic classification of bacterial 16S rRNA genes using short sequencing reads: Evaluation of effective study designs*. PLoS One. 2013;8(1):e53608 (epub 2013 Jan 7)

Publications – non-peer reviewed

3. Ryu EP and **Davenport ER**. *Microbiome: Taming the beasts inside*. eLife 2021;10:e67634

2. **Davenport ER**. *Genetic variation shapes murine gut microbiota via immunity*. Trends in Immunology. 2020;41(1)

1. **Davenport ER**. *Tooth be told, genetics influence oral microbiome*. Cell Host & Microbe. 2017;22(3)

Presentations

Invited Plenary Platform Presentations

2020 **Davenport, ER**. *Role of host genetics in shaping the gut microbiota*. Gut Microbiome for Health World Summit. Madrid, Spain [note: presented remotely due to COVID-19]

Invited Platform Presentations

2023 **Davenport, ER**. *Associations between microbes and host gene expression reveal physiological insights into host-microbiome interactions*. Ventura, CA

2022 **Davenport, ER**. Using human genetics to understand the physiological basis of host microbiome interactions. Inflammatory Bowel Disease (IBD) Research Symposium. Pennsylvania State University College of Medicine. Hershey, PA

2022 **Davenport, ER**. *Using the microbiome as a proxy for the environment in genome-wide association studies*. Human Genetic Variation and Disease Gordon Research Conference (HGVD GRC). Manchester, NH [*cancelled]

2020 **Davenport, ER**. *Using human genetics to understand the physiological basis of host microbiome interactions*. The Vanderbilt Institute for Infection, Immunology, and Inflammation (VI4) Annual Symposium [*virtual due to COVID-19]

2020 **Davenport, ER**. *Using human genetics to understand the physiological basis of host microbiome interactions*. Workshop: Cultivating communities: Making sense of host-microbiome interactions through the lens of genetics. The Allied Genetics Conference (TAGC). Washington DC [*virtual due to COVID-19]

2019 **Davenport, ER**. *Causes and consequences of human gut microbiome variation*. One Health Workshop. Pennsylvania State University. State College, PA

2019 **Davenport, ER**, Spector TD, Ley RE, and Clark AG. *Simultaneously modeling host genetics and microbiome impact on immune-related traits*. Pennsylvania State University Bioinformatics and Genomics Annual Retreat. State College, PA

2018 **Davenport, ER**, Spector TD, Ley RE, and Clark AG. *Simultaneously modeling host genetics and microbiome composition reveals the heritability and proportion of variance explained due to the microbiome for immune-related traits*. Probabilistic Modeling in Genomics (ProbGen). Cold Spring Harbor Labs, NY

* Co-chair of "Cancer, the microbiome, and beyond" session

2017 **Davenport ER**. *Role of host genetics in shaping the gut microbiota*. The Human Capital and Economic Opportunity (HCEO) Working Group Conference on The Gut Microbiome in Human Biology and Health: New Opportunities for the Study of Health Disparities. Chicago, IL

2017 **Davenport ER**. *The role of host genetics in determining human gut microbiome composition*. The American Association of Physical Anthropologists Annual Meeting. Wiley Invited Podium Symposium - Humans as Holobionts: The Microbiome as a Biological System in Human Evolution. New Orleans, LA.

2016 **Davenport ER**. *The role of host genetics in determining human gut microbiome composition*. The 2016 Nordic-North American Symposium on Antimicrobial Resistance and Molecular Population Genomics in Houston, TX.

Platform Presentations

2022 **Davenport ER**, Spector TD, Ley RE, and Clark AG. *Using the microbiome as a proxy for host environmental influences in genome-wide association studies*. CSHL Microbiome in Cold Spring Harbor, NY.

2017 **Davenport ER**, Spector TD, Ley RE, and Clark AG. *Co-occurrence network modeling reveals disease-specific configurations of microbiome community structure across 2,500 twins*. American Society of Human Genetics Annual Meeting (ASHG) in Orlando, FL.

2017 **Davenport ER**, Spector TD, Ley RE, and Clark AG. *Modeling human gut microbiome community structure across healthy and diseased states in 2,500 twins*. Society of Molecular Biology and Evolution Annual Meeting (SMBE) in Austin, TX.

2017 **Davenport ER**, Spector TD, Ley RE, and Clark AG. *Modeling human gut microbiome community structure across healthy and diseased states in 2,500 twins*. Biology of Genomes (BoG) in Cold Spring Harbor, NY.

2012 **Davenport ER**, Mizrahi-Man O, Barreiro LB, Ober C, and Gilad Y. *Examining the roles of diet, age, and sex on the composition of the human fecal microbiome*. University of Chicago Molecular Biosciences Cluster Retreat in Galena, IL.

Poster presentations

2015 **Davenport ER**, Goodrich JK, Bell JT, Spector TD, Ley RE, and Clark AG. *ABO antigen and secretor status are not associated with gut microbiota composition*. American Society of Human Genetics Annual Meeting (ASHG) in Baltimore, MD.

2014 **Davenport ER**, Mizrahi-Man O, Michelini K, Barreiro LB, Ober C, and Gilad Y. *poopQTLs: Genome-wide associations of the human gut microbiota*. Society for Molecular Biology and Evolution Annual Meeting (SMBE) in San Juan, PR.

2013 **Davenport ER**, Mizrahi-Man O, Michelini K, Barreiro LB, Ober C, and Gilad Y. *Temporal variation in human gut microbiome composition in the Hutterites*. American Society of Human Genetics Annual Meeting (ASHG) in Boston, MA.

2013 **Davenport ER**, Mizrahi-Man O, Michelini K, Barreiro LB, Ober C, and Gilad Y. *Examining the temporal stability of the fecal microbiome in an isolated, founder population*. Cell Symposium: the Microbiome and Host Health in Lisbon, Portugal.

2012 **Davenport ER**, Mizrahi-Man O, Barreiro LB, Ober C, and Gilad Y. *Examining the roles of diet, age, and sex on the composition of the human fecal microbiome*. American Society of Human Genetics Annual Meeting (ASHG) in San Francisco, CA.

2012 **Davenport ER**, Mizrahi-Man O, Barreiro LB, Ober C, and Gilad Y. *Examining the genetic basis of interindividual variation in the human fecal microbiome*. International Human Microbiome Conference in Paris, France.

2011 Yao T, **Davenport ER**, Poroyko V, Liu D, Lemanske R, Gern J, Ober C, Jackson D, Gilad Y, Pinto J. *The nasal microbiome and development of asthma in a birth cohort*. Biology of Genomes (BoG) in Cold Spring Harbor, NY.

Invited Seminars

2022 ProK Seminar Series, University of Pennsylvania
Your Researcher Live, Researcher (online)

2021 MCIBS Graduate Program Retreat, Pennsylvania State University
UGA Interdepartmental Health Disparities Working Group, University of Georgia
Department of Biology, Trinity University
Department of Human Genetics, University of Chicago
Department of Cellular and Molecular Medicine, University of Arizona
Gut Interest Group, Penn State University College of Medicine
Microbiome Seminar Series, Penn State Microbiome Center, PSU

2020 Department of Public Health Sciences, Penn State College of Medicine
Department of Biology, Vanderbilt University [cancelled because of COVID-19]
Department of Human Genetics, UCLA [cancelled because of COVID-19]
Department of Human Genetics, University of Chicago [cancelled because of COVID-19]

2019 Penn State Microbiome Center Exchange, Penn State College of Medicine

Department of Biology, Duke University
Department of Nutrition, Pennsylvania State University
Department of Biology, University of New Mexico
Department of Biology, Marquette University
Department of Biology, Auburn University
Department of Biology, Pennsylvania State University

2018 Max Planck Institute for Developmental Biology
Department of Biology, Bucknell University
Department of Biology, Barnard College
Department of Biology, Smith College

2017 Department of Biology, Wake Forest University

2016 The Huck Institutes of the Life Sciences, Pennsylvania State University

2013 Department of Biology, Chicago State University

2013 Emory University and Yerkes National Primate Research Center

Funding

Current

2022 – 2027 **R35 NIGMS/NIH (Award #R35GM146980)** ($1,938,350)
Characterizing human-microbiome interactions via molecular and functional genomic approaches
Role: PI

2022 – 2023 **Interdisciplinary Innovation Fellowship**, Microbiome Center, Penn State ($5000)

Trainee-led

2021 – 2023 **T32 (Award #T32GM102057)**
Computation, Bioinformatics, and Statistics (CBIOS) Training Program
Appointee: Nicholas Locatelli, Biology PhD Progam
Role: Co-mentor; Primary Mentor: Iliana Baums

2020 – 2022 **USDA NIFA (Award #R35GM146980)** ($165,000)
Investigating the effects of chronic, dietary, and environmentally relevant doses of chlorpyrifos on the gut microbiome of mice
PI: Robert Nichols

Role: co-sponsor. Sponsor: Andrew Patterson

2020 – 2022 **T32 (Award #T32GM102057)**
Computation, Bioinformatics, and Statistics (CBIOS) Training Program
Appointee: Erica Ryu, Biology PhD Program
Role: Mentor

Completed

2016 – 2019 **F31 NIDDK/NIH (Award #F32DK109595);** total: $173,089
Ruth L. Kirschstein National Research Service Award (NRSA)
Modeling human gut microbiome community structure in healthy and disease states
Role: PI

2017 Genetics Society of America (GSA) DeLill Nasser Travel Award for Professional Development in Genetics; total: $1,000

2014 University of Chicago Biological Sciences Division Travel Award; total: $1,000

2010 – 2012 NIH Genetics and Regulation Training Grant appointee (University of Chicago – 2 years of stipend support and tuition)

2011 University of Chicago Digestive Diseases Research Core Center (DDRCC) Pilot and Feasibility award (written by ER Davenport to support dissertation research, submitted by Y. Gilad); total: $20,000

Teaching Experience

University Courses – Instructor of Record

2020 – Penn State University, Department of Biology, *BIOL439: Practical Bioinformatics* (~25 students)

2020 – Penn State University, Department of Biology, *PSU16: First Year Seminar* (~30 students)

Teaching Assistantships

2014 University of Chicago, Biological Sciences Division: *HGEN 47300: Genomics and Systems Biology* (Taught 6 lectures)

2011 University of Chicago, Biological Sciences Division: *HGEN 47000: Human Genetics I*

2011 University of Chicago, Biological Sciences Division: *HGEN 47300: Genomics and Systems Biology*

2010 University of Chicago, Biological Sciences Division: *MGCB 31400: Genetic Analysis of Model Organisms*

Guest Lectures

2020; 2022 Penn State University, Anthropology *ANTH497: Microbial Insights into Anthropology – "Microbiome studies in the Hutterites"*

2016 Cornell University, Molecular Biology and Genetics: *BIOMG 4870: Human Genomics – "Cystic Fibrosis and PKU"*

2016 Cornell University, Biological Sciences: *BIOMI 3210: Human Microbes and Health – "Microbiome studies in the Hutterites"*

2016 Pennsylvania State University, Biochemistry and Molecular Biology: *BMB 484: Functional Genomics – "Introduction to Population Genetics"*

2015 Cornell University, Molecular Biology and Genetics: *BIOMG 4870: Human Genomics – "Linkage disequilibrium mapping, or Genome-wide Association Studies (GWAS)"*

2011 University of Chicago, Biological Sciences Division: *HGEN 47000: Human Genetics I – "Human genome structure and variation"*

Workshops

2021 **Instructor** – "Git and GitHub", Penn State, Huck Institutes of the Life Sciences, Microbiome Center

2020 – 2022 **Instructor** – "*Microbiome Center Kick-Start Workshop*", Penn State, Huck Institutes of the Life Sciences, Microbiome Center

2019 **Instructor** – "*Introduction to Statistics with R*", Max Planck Institute for Developmental Biology; Tübingen, Germany

2016 **Instructor** – "*Learn about Git and Github*", Cornell University, CPGSA

2016 **Instructor** – *"Introduction to R",* University of Chicago, Biological Sciences Division

Software Carpentry Workshops [content I taught]

2017 **Lead Instructor**, TGen, Phoenix, AZ (June) [R and version control with Git]

2016 **Instructor**, University of Chicago, Biological Sciences Division (September) [review of shell and R, writing reproducible reports, and version control with Git]

2016 **Lead Instructor**, Cornell University, Department of Molecular Biology and Genetics (August) [version control with Git]

2015 **Instructor**, University of Chicago, Biological Sciences Division (September) [review of shell and R, writing reproducible reports, and version control with Git]

2015 **Instructor**, Pennsylvania State University (June) [shell and version control with Git]

2014 **Instructor**, University of Chicago, Biological Sciences Division (September) [version control with Git]

2014 **Lead Instructor**, University of Toronto (July) [version control with Git]

2013 **Instructor**, University of Chicago, Biological Sciences Division (September) [shell]

2013 **Instructor**, University of Chicago. (June) [shell]

Data Carpentry Workshops [content I taught]

2016 **Instructor**, Cornell University (June) [reproducible reports with Rmarkdown and R programming]

2015 **Instructor**, Cornell University (January) [automating repetitive tasks with command line shell

Mentorship and Advising

Undergraduate Student Advising (Primary Advisor)

Years	Name	Institution	Program
2022 –	Mansi Chandra	Juniata	Bioinformatics
2021 –	Meera Gupta	PSU	Accelerated Premedical-Medical Program
2021 –	Aureo Zanon	PSU	Biology and Statistics, minor in Math
	---> Awarded an Erickson Discovery Grant (2022)		
2022	Shanisha McGuire	PSU	Biochemistry and Molecular Biology
2021	Kyrah Williams	PSU	Biology, Millennium Scholar
2021 – 2022	Jovial Joseph	PSU	Accelerated Premedical-Medical Program
	---> Awarded an Eberly College of Science Research Award (2021)		
2021	Yiyan Zhang	PSU	Statistics – Biostats, Math – Systems Analysis
2021	Sean O'Rourke	PSU	Biology – Neuroscience
2018	Adon Chowdhury	Cornell	Biometry and Statistics
2017 – 2018	Trang Dau	Cornell	Human Biology, Health, & Society
2015 – 2017	Monica Guardado	PSU	Biology
	---> Awarded an American Society of Microbiology (ASM) Research Capstone Fellowship (2017)		

Rotation Advisor

Year	Program	Name(s)
2022	Biology	Naomi Huntley, Nicholas Locatelli
2021	Bioinformatics and Genomics	Kobie Kirven, Polina Tikhonova
	Biology	Annamaria Calderon
	Molecular, Cellular, & Integrative Biosciences	Cassandra Whitmoyer
	Biochemistry, Microbiology, and Molec. Biology	Anh Pham
2020	Bioinformatics and Genomics	Kyle McGovern

2019	Biology	Erica Ryu

Graduate Student Advising (Primary Advisor)

Years	Name	Institution	Program
2022 –	Nicholas Locatelli	PSU	Biology
2022 –	Naomi Huntley	PSU	Biology
	---> *Awarded the Microbiome Center Data Analysis Leadership Fund (2022)*		
2022 –	Polina Tikhonova	PSU	Bioinformatics and Genomics
2020 –	Erica Ryu	PSU	Biology
	---> *Awarded the Dr. John Randall Shuman Troxell Memorial Scholarship in Biology (2022)*		
	---> *Awarded the J. Ben and Helen D. Hill Memorial Fund Award (2022)*		
	---> *Awarded an NSF GRFP Honorable Mention (2021)*		
	---> *NIH T32 CBIOS Training Grant Appointee (2021 - 2022)*		

Postdoc and Scientist Advising (Primary Advisor)

Years	Name	Type	Institution	Program
2020 –	Robert Nichols	Postdoc	Penn State	Biology
	---> *Awarded a USDA NIFA Postdoctoral Fellowship (2020)*			
2020 – 2022	Nur Shahir	Postdoc	Penn State	Biology
2016 – 2017	Xiaoling Gong	Scientist	Cornell	Molecular Bio and Genetics

Dissertation Committee Member

Defended	Deg.	Name	University	Department/Program
2022	M.S.	Miranda DePriest	Penn State	Plant Path. and Env. Micro.
N/A	M.S.	Nellie Heitzman	Bucknell University	Biology
In progress	Ph.D.	Shreya Ramachandran	University of Chicago	Human Genetics
In progress	Ph.D.	Scott Eckert	Penn State	Bioinfo. and Genomics
In progress	Ph.D.	Jeremy Sutherland	Penn State	Bioinfo. and Genomics
In progress	Ph.D.	Julia Stewart	Penn State	Biology
In progress	Ph.D.	Sterling Wright	Penn State	Anthropology
2022	Ph.D.	Lixiang Zhang	Penn State	Statistics
2022	MPS	Veronica Cappas	Penn State	Forensic Science
In progress	Ph.D.	Lan-Nhi Phung	Penn State	Biology
In progress	Ph.D.	Jennifer Harris	Penn State	Ecology
In progress	Ph.D.	Katrin Peterson	Penn State	BMMB
In progress	Ph.D.	Susan Tian	Penn State	BMMB

Qualifying Exam Committee Member

Year	Program	Students
2022	Bioinformatics and Genomics	Avantika Diwadkar
2021	Bioinformatics and Genomics	Corrine Smolen
2020	Bioinformatics and Genomics	Jeremy Sutherland, Shaopeng Liu

Academic Honors

2007 Graduated with comprehensive honors: honors in Bacteriology and the liberal arts (University of Wisconsin – Madison)

2004 Dean's List (University of Wisconsin – Madison)

2003 William F. Vilas Scholarship (University of Wisconsin – Madison)

Professional Development

2022 Microbiome, Neurobiology and Disease Scialog Fellow

2021 **Safer People Safer Places Transgender and Gender Inclusion 101** – Penn State University

2020 **Becoming an Active Witness who Hears, Sees, Feels, and Does** active bystander training – Penn State University

2019 **Mentoring Matters Workshop** – Eberly College of Science, Penn State University

2017 – 2018 **Cornell Center for Teaching Excellence GET SET teaching and learning workshops completed**:

- An Integrated Course Design Approach to Planning Your Class
- Tips on Writing a Strong Teaching Philosophy Statement
- Integrating Technology into Your Classroom
- Developing Service-Learning in the Disciplines
- Flipping the Classroom as a TA
- Using Your Research Experience to Improve Your Teaching
- Holding Effective Office Hours
- Teaching and Mentoring Across Differences
- Leading a Discussion in an Online Classroom

2017 **Assessing Learning and Teaching certificate** – Cornell University Center for Teaching Innovation. Workshops included:

- Designing Learning Outcomes for Your Course
- Utilizing Classroom Assessment Techniques to Evaluate Student Learning
- Developing Rubrics for Effective Grading

2017 **Creating an Engaging Classroom certificate** – Cornell University Center for Teaching Innovation
- Building a Collaborative Learning Environment
- Using Theater Techniques to Enhance Your Teaching
- Engaging Students in Quantitative Courses

2016 **The Practice of Inclusive Teaching in STEM certificate** – Cornell University Center for Teaching Excellence

2016 **Building Mentoring Skills for an Academic Career certificate program** – Cornell University Center for the Integration of Teaching and Learning (CU-CIRTL)

2015 - 2016 **Postdoc Leadership Certificate Program** – Cornell University

2014 **Certificate in University Teaching** – University of Chicago Center for Teaching and Learning

2013 **Software Carpentry Instructor training** – Software Carpentry

Professional Affiliations

2017 – Genetics Society of America (GSA)

2014 – Society for Molecular Biology and Evolution (SMBE)

2012 – American Society of Human Genetics (ASHG)

2017, 2022 – American Society for Microbiology (ASM)

2019 – 2022 Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS)

2017 American Association of Physical Anthropologists (AAPA)

2016 – 2019 National Postdoc Association (NPA)

2011 – 2018 American Association for the Advancement of Science (AAAS)

Outreach

Panelist (2021) Microbiome Center Consortium Seminar Series NMDC Ambassadors Forum

Advocate (2021) American Society of Human Genetics Hill Day advocate

Interview (2020) Eberly College of Science "Hey! I Got a Question About That" podcast on the microbiome: https://www.youtube.com/watch?v=960zTLUD7VU&t=881s

Advocate (2019) Rally for Medical Research Hill Day advocate, representing American Society of Human Genetics

Reviewer (2015 -) American Society of Human Genetics (ASHG) DNA Day Essay Judge

Member (2015 - 2018) Genetics Education and Outreach Network (GEON)

Leadership and Service

Departmental

2020 - **Member** - Biology Seminar Series Organizing Committee, Department of Biology, PSU

2020 - **Member** - Biology Graduate Admissions Committee, Department of Biology, PSU

2010 - 2013 **Representative** - Molecular Biosciences organizational committee: student Representative from the Department of Human Genetics on orientation week, annual molecular biosciences retreat, and recruitment organizing committees, Department of Human Genetics, University of Chicago

Institutional

2021 – 2022 **Member** – Institute for Computational and Data Sciences (ICDS) Coordinating Committee

2021 – 2022 **Co-chair** – "Changing Microbiomes" Conference Organizing Committee

2021 **Member** – Microbiome Center Director Search Advisory committee, Huck Institutes of the Life Sciences, PSU

2021 **Invited Panelist** - "First Years as Faculty in STEM" GRADUCon, University of Chicago

2020 – 2021 **Grant reviewer** - Penn State and University at Buffalo Clinical and Translational Science Pilot Award Program

2018 **Member** - Consensual Relationships Policy Committee – Postdoc representative, Cornell University. See http://theuniversityfaculty.cornell.edu/news/consensual-relationships-policy-committee/ for details.

2017 – 2018 **Cofounder & Organizer** - Postdoc Fellow Invited Lecture in Research and Career Development series. Department of Molecular Biology, Cornell University

2016 – 2018 **Member** - Cornell University Postdoctoral Advisory Council

2016 – 2017 **Reviewer** - Sigma Xi Grants-In-Aid of Research, Cornell University

National/International

2015 – **Reviewer -**

Annals of Applied Statistics

American Journal of Primatology

Applied and Environmental Microbiology (AEM)

BMC Genomics
Cell
Cell Host & Microbe
Cell Reports
Communications Biology
Critical Reviews in Microbiology
Diabetologia
eLife
Environmental Microbiology
Genes
Genome Biology
Genome Research
Genomics, Proteomics, and Bioinformatics
Gut Microbes
Journal of Allergy and Clinical Immunology (JACI)
Journal of Evolutionary Biology
JoVE
Microbial Ecology
Microbiome
Microorganisms
mSystems
Nature Communications
Nature Microbiology
npj Biofilms and Microbiomes
PLoS Genetics
PLoS ONE
PNAS
Science
Scientific Reports
Thorax
Trends in Genetics
Trends in Immunology

2022 – 2025 **Member** – Genetics Society of America DeLill Nasser Award Selection Committee

2022 **Grant Reviewer** – Swiss National Science Foundation

2021 **Grant Reviewer** – NIH GCAT study section, Early Career Reviewer Program

2021 – 2022 **Ambassador** – National Microbiome Data Collaborative (NMDC)

2020 – **Co-chair** - American Society of Human Genetics (ASHG) Career Development Committee (CDC)

2019 – **Abstract Reviewer** - SACNAS research presentation abstracts (Life Sciences)

2019 – **Abstract Reviewer** - SACNAS Travel Scholarships (Life Sciences)

2019 – **Board Member** - Cards Against Humanity Science Ambassador Scholarship Program

2018 – **Member** - Federation of American Societies for Experimental Biology (FASEB) Training & Career Opportunities Subcommittee

2020 – 2022 **Grant Reviewer** - National Science Foundation (NSF)

2018, 2020 **Grant Reviewer** - Wellcome Trust Investigator Award in Science

2020 **Moderator** - The Allied Genetics Conference (TAGC) platform session: Disease Models and Aging (Mammal) *TAGC 2020 was held virtually due to COVID-19

2019 **Incoming Chair** - American Society of Human Genetics (ASHG) Training and Development Committee

2019 **Moderator** - American Society of Human Genetics (ASHG) Annual Meeting platform session: Gene Expression Variation Across Diverse Global Populations

2019 **Abstract Reviewer** - ASHG Annual Meeting abstracts (Bioinformatics and Computational Approaches)

2017 – 2019 **Member** - American Society of Human Genetics (ASHG) Training and Development (TDC) Committee

2017 **Moderator** - Academic Career Panel at the American Society of Human Genetics

Annual Meeting (ASHG)

2011, 2012, 2014 **Judge** - Annual Chicago Public Schools Student Science fair

2011 - 2014 **Judge** - Annual Chicago Area Undergraduate Research Symposium (CAURS)