

Jess A. Millar

Curriculum Vitae

October 2018

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EDUCATION	<p>University of Michigan 2022 Ph.D. Bioinformatics (exp) M.P.H. Hospital & Molecular Epidemiology</p> <p>Portland State University 2017 M.S. Biology <i>Thesis:</i> "Uncovering <i>Coxiella burnetii</i>'s pathogenicity by elucidating its metabolism and host interactions." M.S. Statistics <i>Thesis:</i> "Machine learning techniques in cancer prognostic modeling and performance assessment."</p> <p>Portland State University 2014 B.S. Micro/Molecular Biology, Health Studies, & Science Minor: Mathematics Coll. & Dept. Honors, <i>magna cum laude</i> <i>Thesis:</i> "Effect of mycorrhizal colonization and light limitation on growth and reproduction of lima bean."</p> <p>Portland Community College 2010 A.S. Science</p>
FELLOWSHIPS & SCHOLARSHIPS	<p>University of Michigan Rackham Merit Fellowship (\$163,000) 2017-2022 NSF Graduate Research Fellowship (\$138,000) 2016-2021 University of Michigan Benard Maas Fellowship (\$5,000) 2017-2018 Fariborz Maseeh Statistics Teaching Assistantship (\$23,500) 2016-2017 Portland State Elsa Jorgenson Award [3x] (\$4,500) 2014-2017 Portland State Laurels Graduate Award (\$10,600) 2015-2016 Portland State President's Equal Access Scholarship (\$1,200) 2015-2016 Fariborz Maseeh Statistics Teaching Assistantship (\$21,700) 2014-2015 Portland State Laurels Graduate Supplemental Tuition Grant (\$1,100) 2014-2015 American Society for Microbiology Research Capstone Fellowship (\$1,500) 2014 Portland State Honors Laurels Merit Scholarship [2x] (\$1,100) 2013-2014 Oregon University System Supplemental Tuition Grant [2x] (\$3,900) 2010-2014 Oregon Opportunity Grant [4x] (\$7,800) 2010-2014 NIH-NHGRI Genomic Research Fellowship (\$4,150) 2013 NIH-NHGRI Genomic Research GRE Prep Scholarship (\$1,450) 2013 Portland State Supplemental Tuition Grant [2x] (\$6,000) 2011-2013 McNair Scholars Research Fellowship (\$2,800) 2012 McNair Scholars Supplemental Tuition Grant (\$1,750) 2011-2012 NIH-NIGMS Bridges to Baccalaureate Summer Research Internship (\$1,350) 2010</p>

RESEARCH & TRAVEL GRANTS	University of Washington SISIMID Tuition and Travel Scholarship (\$2,100)	2018
	University of Michigan RMF Bridge Stipend (\$500)	2017
	Society for the Study of Evolution Travel Award (\$500)	2017
	Emory MITII Summer School Travel and Lodging Grant (\$675)	2017
	Society for Applied Microbiology Registration Fees Grant (\$200)	2017
	Sigma Xi Grants-in-Aid of Research Copernicus Fund (\$1,000)	2016
	Pacific Northwest Women in Science Retreat Scholarship (\$120)	2016
	Sigma Xi Columbia-Willamette Chapter Research Grant (\$100)	2016
	American Society for Microbiology Student Travel Grant (\$500)	2015
	Portland State Forbes-Lea Research Award (\$775)	2015
	Rose E. Tucker Trust Undergraduate Research Grant (\$400)	2014
	Free Geek Computer Hardware Grant (\$1,000)	2013
	NIH-NHGRI Genomic Research Travel and Lodging Grant (\$2,100)	2013
	NIH-NHGRI Genomic Research Conference Travel Grant [2x] (\$2,900)	2013
	NIH-NIGMS Bridges to Baccalaureate Conference Travel Grant (\$700)	2013
	Portland State AAA Conference Travel Grant (\$750)	2013
	Harvard CCDD Conference Travel Grant (\$850)	2013
	McNair Scholars Research Grant (\$200)	2012
	NIH-NIGMS Bridges to Baccalaureate Conference Travel Grant (\$1,250)	2012
	Rose E. Tucker Trust Undergraduate Research Grant (\$300)	2012
McNair Scholars Conference Travel Grant (\$500)	2012	
BOOK CHAPTERS	Chen Y, Millar JA . "Machine learning techniques in cancer prognostic modeling and performance assessment." In: Matsui S, Crowley JJ. (eds.) <i>Frontiers of Biostatistical Methods and Applications in Clinical Oncology</i> . (pp. 193-230). Singapore: Springer.	2017
REFEREED PUBLICATIONS	Zou Z, Qin H, Brenner A, Raghavan R, Millar JA , Gu Q, Xie Z, Kreth J, Merritt J. "LytTR Regulatory Systems: A potential new class of prokaryotic sensory system." <i>PLoS Genet</i> . 14(10):e1007709.	2018
	Cicchese JM*, Evans S*, Hult C*, Joslyn LR*, Wessler T*, Millar JA , Marino S, Cilfone NA, Mattila JT, Linderman JJ, Kirschner DE. "Dynamic balance of pro- and anti-inflammatory signals controls disease and limits pathology." <i>Immunol Rev</i> . 285(1):147-167. (*Co-first authors)	2018
	Schumann C*, Chan S*, Millar JA , Bortnyak YV, Carey K, Fedchyk AF, Wang L, Korzun T, Moses AS, Lorenz A, Shea D, Taratula O, Khalimonchuk O, Taratula O. "Intraperitoneal nanotherapy for metastatic ovarian cancer based on siRNA-mediated suppression of DJ-1 protein combined with a low dose of cisplatin." <i>Nanomedicine</i> . 14(4):1395-1405. (*Co-first authors)	2018
	Millar JA* , Beare PA*, Moses AS, Martens CA, Heinzen RA, Raghavan R. "Whole-genome sequence of <i>Coxiella burnetii</i> Nine Mile RSA439 (phase II, clone 4), a laboratory workhorse strain." <i>Genome Announc</i> . 5(23):e00471-17. (*Co-first authors)	2017
	Moses AS*, Millar JA* , Bonazzi M, Beare PA, Raghavan R. "Horizontally acquired biosynthesis genes boost <i>Coxiella burnetii</i> 's physiology." <i>Front Cell Infect Microbiol</i> . 7:174. (*Co-first authors)	2017

	Millar JA , Raghavan R. "Accumulation and expression of horizontally acquired genes in <i>Arcobacter cryaerophilus</i> that thrives in sewage." <i>PeerJ</i> . 5(2):e3269 (Correction: 5(1):e3269/correction-1).	2017
	Kacharia FR*, Millar JA *, Raghavan R. "Emergence of new sRNAs in enteric bacteria is associated with low expression and rapid evolution." <i>J Mol Evol</i> . 84(4):204-213. (*Co-first authors)	2017
	Ballhorn DJ, Schädler M, Elias JD, Millar JA , Kautz S. "Friend or foe - Light availability determines the relationship between mycorrhizal fungi, rhizobia and lima bean (<i>Phaseolus lunatus</i> L.)." <i>PLoS ONE</i> . 11(5):e0154116.	2016
	Millar JA , Valdés R, Kacharia FR, Landfear SM, Cambronne ED, Raghavan R. " <i>Coxiella burnetii</i> and <i>Leishmania mexicana</i> residing within similar parasitophorous vacuoles elicit disparate host responses." <i>Front Microbiol</i> . 6:794.	2015
	Raghavan R, Kacharia FR, Millar JA , Sislak CD, Ochman H. "Genome rearrangements can make and break small RNA genes." <i>Genome Biol Evol</i> . 7(2):557-566.	2015
	Millar JA , Ballhorn DJ. "Effect of mycorrhizal colonization and light limitation on growth and reproduction of lima bean (<i>Phaseolus lunatus</i> L.)." <i>J Appl Bot Food Qual</i> . 86(1):172-179.	2013
	Yeh PJ, Simon DM, Millar JA , Alexander HF, Franklin D. "A diversity of antibiotic-resistant <i>Staphylococcus</i> spp. in a public transportation system." <i>Public Health Res Perspect</i> . 2(3):202-209 (Erratum: 3(1):61).	2011
MANUSCRIPTS IN PREP	Hebert JF, Millar JA , Raghavan R, Romney A, Podrabsky JE, Rennie M, Felker A, Morgan TK. "Fetal sex affects uteroplacental angiogenesis in mouse model of fetal growth restriction." <i>Biol Reprod</i> .	2018
	Mariita RM, Millar JA , Moss AG. "Draft genome of <i>Pseudoalteromonas</i> sp. strain BMB from the stomodeum of <i>Mnemiopsis leidyi</i> : Insights into biosynthetic gene clusters and antibiotic resistance determinants."	2018
	Chanderraj R, Millar JA , Patel T, Read AF, Washer L, Kaye KS, Woods RJ. "VRE acquisition in a tertiary care hospital: Testing the roles of antibiotic use, proton pump inhibitory use and colonization pressure."	2018
PUBLISHED ABSTRACTS	Hebert JF, Millar JA , Romney A, Raghavan R, Podrabsky JE, Morgan TK. "Placental gene expression is affected by male fetal sex and maternal genotype in fetal growth restriction model." <i>Reprod Sci</i> . 24(S1):212A (abstract # F-138).	2017
	Millar JA , McNulty SN, Zarlenga D, Mitreva M. "Transcriptional profiling of Ivermectin resistant <i>Cooperia punctata</i> using deep sequencing." <i>Mol Biol Cell</i> . 24(24):3775 (abstract #1026).	2013
	Millar JA , Ballhorn DJ. "Effects of light limitation on plant-rhizobia and plant-mycorrhiza interactions." <i>Anthós</i> . 4(2).	2012

Millar JA. “The SARS virus - Different methods of curbing the epidemic.” 2004
55th ISEF Abstracts. Science Service, Washington, D.C.

**HONORS &
AWARDS**

Rackham Merit Fellow Certificate of Achievement, University of Michigan 2018
AAAS/Science Program for Excellence in Science 2015-2017
SALP Academic Excellence Award, Portland State University [4x] 2013-2017
NRHH Academic Achievement Award, Portland State University [8x] 2011-2017
2nd Place Poster Competition, Portland State Dept. Biology 2016
Sigma Xi (Full Member), Scientific Research Society 2015
Pi Mu Epsilon, National Mathematics Honor Society 2015
American Society for Microbiology Science Teaching Fellow 2014-2015
Most Read Article, Journal of Applied Botany and Food Quality 2014
Portland State Dean’s Academic Achievement Award (*top undergrad in college) 2013
National Residence Hall Honorary, Portland State (*top 1% of student leaders) 2013
Phi Kappa Phi National Honor Society (*top 7.5% of students) 2012
Golden Key International Honour Society (*top 15% of students) 2012
Urban Honors Scholar, Portland State University 2012
President's List, Portland State University [4x] 2010-2012
President's List, Portland Community College [5x] 2008-2010

**CONFERENCE
PRESENTATIONS**

Millar JA, Chanderraj R, Woods RJ, King AA. “Quantifying the transmission dynamics of hospital acquired VRE.” 17th Annual Michigan Epidemiology Conference. Ann Arbor, MI. March 23rd. 2018

Millar JA, Moses AS, Bonazzi M, Beare PA, Raghavan R. “Horizontally acquired biosynthesis genes boost *Coxiella burnetii*’s physiology.” Evolution 2017. Portland, OR. June 23rd-27th. 2017

Millar JA, Moses AS, Bonazzi M, Beare PA, Raghavan R. “Horizontally acquired biosynthesis genes boost *Coxiella burnetii*’s physiology.” American Society for Microbiology Microbe 2017. New Orleans, LA. June 1st-5th. 2017

Millar JA, Chen Y. “Machine learning techniques in cancer prognostic modeling and performance assessment.” Immunology and Evolution of Influenza Symposium. Emory, Atlanta, GA. May 25th-26th. 2017

Millar JA, Raghavan R. “A sewage microbiome is dominated by *Arcobacter cryaerophilus* that expresses multiple drug resistance and virulence genes.” American Society for Microbiology Microbe 2016. Boston, MA. June 16th-20th. 2016

Millar JA, Raghavan R. “Pathogens residing within similar intracellular vacuoles elicit discordant host responses.” 1st Festival of Genomics California. San Mateo, CA. November 3rd-5th. 2015

Millar JA, Valdés R, Cambronne ED, Landfear SM, Raghavan R. “*Coxiella burnetii* and *Leishmania mexicana* residing within similar parasitophorous vacuoles elicit discordant host responses.” 1st Pacific Northwest Quantitative Biology Meeting. Portland, OR. September 11th. 2015

Millar JA, Valdés R, Cambronne ED, Landfear SM, Raghavan R. “*Coxiella burnetii* and *Leishmania mexicana* residing within similar parasitophorous

	vacuoles elicit discordant host responses.” 115 th General Meeting of the American Society for Microbiology. New Orleans, LA. May 30 th -June 2 nd .	
	Millar JA , Raghavan R. “A horizontally acquired tRNA facilitates <i>Coxiella burnetii</i> adaptation to an extreme environment.” 114 th General Meeting of the American Society for Microbiology. Boston, MA. May 17 th -20 th .	2014
	Millar JA , McNulty SN, Zarlenga D, Mitreva M. “Transcriptional profiling of Ivermectin resistant <i>Cooperia punctata</i> using deep sequencing.” 53 rd Annual Meeting of the American Society for Cell Biology. New Orleans, LA. December 14 th -18 th .	2013
	Millar JA , McNulty SN, Zarlenga D, Mitreva M. “Transcriptional profiling of Ivermectin resistant <i>Cooperia punctata</i> using deep sequencing.” 2 nd International Conference on Genomics in the Americas. Sacramento, CA. September 12 th -13 th .	2013
	Millar JA , Ballhorn DJ. “Effect of mycorrhizal colonization and light limitation on growth and reproduction of lima bean (<i>Phaseolus lunatus</i> L.)” 113 th General Meeting of the American Society for Microbiology. Denver, CO. May 18 th -21 st .	2013
	Millar JA , Ballhorn DJ. “Effects of light limitation on legume-mycorrhizae interactions.” 12 th Annual Biomedical Research Conference for Minority Students. San Jose, CA. November 7 th -10 th .	2012
	Millar JA , Ballhorn DJ. “Effects of light limitation on plant-rhizobia and plant-mycorrhiza interactions.” 20 th Annual Pacific NW McNair/EIP/GO-MAP Research Conference. University of Washington, Seattle, WA. May 17 th .	2012
	Millar JA . “The SARS virus - Different methods of curbing the epidemic.” 55 th Intel International Science and Engineering Fair. Portland, OR. May 9 th -14 th .	2004
CAMPUS & MISC PRESENTATIONS	Millar JA , Chanderraj R, Woods RJ, King AA. “Quantifying the transmission dynamics of hospital acquired VRE.” Department of Computational Medicine and Bioinformatics 4 th Annual Retreat. Frankenmuth, MI. September 14 th -16 th .	2018
	Millar JA , Linderman JJ, Kirschner DE. “Exploring the direct effects of <i>Mycobacterium tuberculosis</i> on T cell responsiveness.” Michigan Institute for Computational Discovery and Engineering 5 th Annual Symposium. University of Michigan, Ann Arbor, MI. March 22 nd .	2018
	Millar JA , Chanderraj R, Woods RJ, King AA. “Quantifying the transmission dynamics of hospital acquired VRE.” Multi-Scale Bio-Imaging in Systems Biology Symposium. University of Michigan, Ann Arbor, MI. January 31 st .	2018
	Millar JA , Moses AS, Bonazzi M, Beare PA, Raghavan R. “Horizontally acquired biosynthesis genes boost <i>Coxiella burnetii</i> ’s physiology.” Department of Computational Medicine and Bioinformatics 3 rd Annual Retreat. Oregon, OH. September 15 th -17 th .	2017

- Millar JA**, Moses AS, Bonazzi M, Beare PA, Raghavan R. “Horizontally acquired biosynthesis genes boost *Coxiella burnetii*’s physiology.” Biology Graduation Symposium. Portland State University, Portland, OR. June 16th. 2017
- Millar JA**, Chen Y. “Machine learning techniques in cancer prognostic modeling and performance assessment.” 6th Annual OHSU Research Week. Oregon Health Science University, Portland, OR. May 1st-3rd. 2017
- Millar JA**, Raghavan R. “A sewage microbiome is dominated by *Arcobacter cryaerophilus* that expresses multiple drug resistance and virulence genes.” 20th Annual Biology Alumni Night Symposium. Portland State University, Portland, OR. October 21st. 2016
- Millar JA**, Raghavan R. “A sewage microbiome is dominated by *Arcobacter cryaerophilus* that expresses multiple drug resistance and virulence genes.” 4th Annual Pacific Northwest Women in Science Retreat. Rockaway Beach, OR. July 8th-10th. 2016
- Millar JA**, Raghavan R. “A horizontally acquired tRNA facilitates *Coxiella burnetii* adaptation to an extreme environment.” Sigma Xi Columbia-Willamette Chapter Annual Meeting. Portland, OR. May 26th. 2016
- Millar JA**, Raghavan R. “Pathogens residing within similar intracellular vacuoles elicit discordant host responses.” 19th Annual Biology Alumni Night Symposium. Portland State University, Portland, OR. October 23th. 2015
- Millar JA**, Raghavan R. “Parallel adaptation of a bacterium and an eukaryote to an intracellular extreme environment.” 18th Annual Biology Alumni Night Symposium. Portland State University, Portland, OR. October 17th. 2014
- Millar JA**, McNulty SN, Zarlenga D, Mitreva M. “Transcriptional profiling of Ivermectin resistant *Cooperia punctata* using deep sequencing.” 7th Annual Opportunities in Genomic Research Undergraduate Scholars Closing Program. Washington University School of Medicine, St. Louis, MO. July 31st. 2013
- Millar JA**, Ballhorn DJ. “Effect of mycorrhizal colonization and light limitation on growth and reproduction of lima bean (*Phaseolus lunatus* L.).” 9th Annual Sigma Xi Columbia-Willamette Chapter Student Research Symposium. Portland State University, Portland, OR. April 12th. 2013
- Millar JA**, Ballhorn DJ. “Effects of light limitation on plant-microbe interactions.” 9th Annual PSU Ronald E. McNair Scholars Program Summer Symposium. Portland State University, Portland, OR. August 15th. 2012
- Millar JA**, Ballhorn DJ. “Effects of light limitation on plant-rhizobia and plant-mycorrhiza interactions.” 9th Annual PSU Undergraduate Research Conference. Portland State University, Portland, OR. May 23rd. 2012
- Millar JA**, Kelley AL, Buckley BA. “Antibody testing for C/EBP δ in aquatic snails.” Portland Bridges to Baccalaureate Annual Meeting. Portland State University, Portland, OR. October 15th. 2010

	Millar JA. “Galinstan: Useful applications of a eutectic alloy.” 1 st Annual Better Living Through Chemistry in the 21 st Century. Portland Community College, Portland, OR. March, 10 th .	2007
RESEARCH EXPERIENCE	NSF Graduate Research Fellow, UM RMF Fellow, University of Michigan Depts. of Mathematics, Ecology & Evolutionary Biology, Advisor: Dr. King Transmission and evolution of antibiotic resistant bacteria in hospitals.	2017-2018
	NSF Graduate Research Fellow, UM RMF Fellow, University of Michigan Department of Microbiology & Immunology, Advisor: Dr. Kirschner Modeling <i>Mycobacterium tuberculosis</i> within-host infection and treatment.	2018
	Graduate Research Assistant, Oregon Health & Science University Department of Public Health & Preventive Medicine, Advisor: Dr. Chen Oncological prognostic modeling using machine learning techniques.	2016-2017
	PSU Laurels Graduate Scholar, Portland State University Department of Biology, Advisor: Dr. Raghavan Pathogenic bacterial genome evolution and adaption to host niches.	2013-2017
	Graduate Research Assistant, Portland State University Fariborz Maseeh Dept. of Mathematics & Statistics, Advisor: Dr. Tableman Experimental design and analysis of agriculture data.	2012-2017
	NIH-NHGRI Genomic Research Scholar, Washington Univ. in St. Louis McDonnell Genome Institute, Advisor: Dr. Mitreva Differential gene expression of Ivermectin resistant <i>Cooperia punctata</i> in cattle in response to drug treatment.	2013
	Ronald E. McNair Scholar, PSU Urban Honors, Portland State University Department of Biology, Advisor: Dr. Ballhorn Fitness shifts between <i>Phaseolus lunatus</i> and mycorrhizae in response to light limitation.	2011-2013
	Undergraduate Research Assistant, Portland State University Department of Biology, Advisor: Dr. Yeh Diversity of <i>Staphylococcus</i> spp. antibiotic resistance in public transit.	2011
	NIH-NIGMS Bridges Scholar, Portland State University Department of Biology, Advisor: Dr. Buckley Protein expression level analysis of physiological heat shock and bacterial infection response in marine animals.	2010-2011
	Undergraduate Research Assistant, Oregon Health & Science University Department of Cell & Developmental Biology, Advisor: Dr. Danilchik Furrow-specific endocytosis during cytokinesis in <i>Xenopus laevis</i> .	2002-2003
MEDIA FEATURES	“The Spell of <i>Coxiella</i> .” Small Things Considered. Blog post. July 10 th . “Living in the Stomach of a Cell.” This Week in Microbiology. Podcast. #155. June 28 th .	2017 2017

“Portland State graduate student Jess Millar wins NSF GRFP award.” Portland State University News. Website feature. May 16 th .	2016
“Jess Millar: Honors success.” Portland State University News. Website feature. December 4 th .	2013
“Germs on wheels.” PSU Vanguard. 66(4):4. July 19 th .	2011
“Riding TriMet? Plenty of bugs could be sharing your seat.” The Oregonian. Front page article. July 14 th .	2011
“Study: TriMet bus seats tested for bacteria.” KGW News. TV interview. July 14 th .	2011

MENTORED STUDENTS

Amanda Brenner (<i>PSU Biology undergraduate</i>)	2017
Auguste Dutcher (<i>PSU Biology postbac</i>)	2016-2017
Abe Moses (<i>PSU Biology postbac</i>)	2013-2014
Tina Schroyer (<i>PSU Biology & Envir. Sciences undergrad, McNair Scholar</i>)	2012-2014
Janice Ballantine (<i>PSU P.A.C.E. graduate</i>)	2012
Katherine Huynh (<i>PSU Biology undergraduate, Millennium Gates Scholar, LSAMP Scholar, McNair Scholar</i>)	2011
Dominick Keim-bay (<i>PSU Biology undergraduate, LSAMP Scholar</i>)	2011

TEACHING ACTIVITIES

Assistant Grader , University of Michigan Department of Biology Principles of Animal Physiology (Win. '18)	2018
Guest Lecturer , Oregon Health & Science University Department of Public Health & Preventive Medicine Categorical Data Analysis (Spr. '17)	2017
Guest Lecturer , Portland State University McNair Scholars Program “Preparing for Grad School.” McNair Seminar (Spr. '16, Spr. '17) “Funding Outside of McNair.” McNair Seminar (Spr. '15, Spr. '16, Spr. '17)	2015-2017
Department of Mathematics and Statistics Applied Stats for Business (Sum. '17) Statistical Consulting (Spr. '17)	
Teaching Assistant , Portland State University Department of Mathematics and Statistics Intro to Probability & Statistics I (Win. '15, Fall '16, Spr. '17) Intro to Probability & Statistics II (Spr. '15, Win. '17) Intro to Probability & Statistics for Business II (Fall '14)	2014-2017
Teaching Assistant , Portland Community College Department of Mathematics Calculus I (Spr. '13, Sum. '14)	2013-2014

PROFESSIONAL SERVICES

Science Communicator – “Ask a Scientist.” Engaging Scientists in Policy and Advocacy, UM. (<i>upcoming</i>)	2018
Journal Reviewer – Environmental Science & Technology	2018
Abstract Reviewer – ASM Microbe Conference	2018

	Panelist – “NSF GRF Workshop.” Program in Biomedical Sciences, UM	2017-2018
	Secretary – Biology Investigation and Outreach, PSU Chapter	2016-2017
	Panelist – “Research Methodology.” McNair Scholars Program, PSU	2013-2017
	Judge – Intel Northwest Science Expo Regional Science Fair	2016
	Panelist – “Options After Undergrad.” TRiO Student Support Services, PSU	2015
	Committee Member – Portland State Student Educational Travel Committee	2013-2014
	Conference Volunteer – XXXII Scientific Committee on Antarctic Research	2012
	Website Developer – Portland State Biology Professor (Dr. Yeh)	2011
UNIVERSITY SERVICE	Committee Member – Bioinformatics Website Committee, UM	2018
	Symposium Volunteer – LGBTQ Inclusion as Researchers & in Research, UM	2018
	Student Host – Program in Biomedical Sciences Interview Weekend, UM	2018
	Committee Member – Teach-in for Freedom, Democracy, and Diversity, UM	2018
	Panelist – Student Life Professional Development Conference, UM	2017
	Statistics Tutor – Math/Stats Dept., PSU	2015-2017
	Computer Lab Assistant – Math/Stats Dept., PSU	2014-2017
	Volunteer – Portland State Reuse Room	2013-2014
	Planning Member – National Residence Hall Honorary, PSU Viking Chapter	2013-2014
	Tech Chair – Golden Key International Honour Society, PSU Chapter	2013
	Computer Lab Assistant – Graphic Design Dept., PSU	2011-2012
COMMUNITY SERVICE	Volunteer – Free Geek, Portland, OR	2012-2013
	Archives Assistant – City of Portland Archives and Records Center	2010-2011
	Assistant Docent – 3D Center of Art and Photography	2010
	Lab Assistant – Red Cross, Portland, OR	2006-2008
SHORT COURSES	University of Washington	2018
	10 th Annual Summer Institute in Statistics and Modeling in Infectious Diseases. Seattle, WA. July 9 th -25 th .	
	Simulation-based Inference for Epidemiological Dynamics	
	Evolutionary Dynamics and Molecular Epidemiology of Viruses	
	Spatial Statistics in Epidemiology and Public Health	
	Duke University	2018
	Introduction to Programming in C Specialization. Coursera.	
	Programming Fundamentals (<i>in progress</i>)	
	Writing, Running, and Fixing Code in C (<i>in progress</i>)	
	Pointers, Arrays, and Recursion (<i>in progress</i>)	
	Interacting with the System and Managing Memory (<i>in progress</i>)	
	University of Michigan	2016-2018
	Python for Everybody. Coursera.	
	Programming for Everybody (Getting Started with Python)	
	Python Data Structures	
	Using Python to Access Web Data (<i>in progress</i>)	
	Using Databases with Python (<i>in progress</i>)	
	Emory University	2017
	12 th Annual Summer School on Modeling Immunology. Atlanta, GA. May 21 st -24 th .	

Infectious Diseases, Immunology, and Within-Host Models
 Spatial Spread of Virus Infections and Immunity Using Agent-Based Models
 Pathogen Evolution, Selection, and Immunity

Portland Community College 2012
 Introduction to Perl Programming. Community Education Online Learning.
 Perl Programming Level I

**CONFERENCES,
 SEMINARS, &
 WORKSHOPS
 ATTENDED**

LGBTQ Inclusion as Researchers & in Research Symposium. University of Michigan, Ann Arbor, MI. September 6th. 2018
 Mentoring Others Results in Excellence Mentoring Plan Workshop. University of Michigan, Ann Arbor, MI. May 8th. 2018
 Mentorship and Professional / Personal Support Program. University of Michigan, Ann Arbor, MI. 2018
 Tools & Technology Seminar Series. University of Michigan, Ann Arbor, MI. 2017-2018
 Bioinformatics Student Research Hour. University of Michigan, Ann Arbor, MI. 2017-2018
 Microbiology Career Choices: What's Available and How to Succeed Workshop; American Society for Microbiology. New Orleans, LA. June 1st. 2017
 Lester Newman Seminar Series. Portland State University, Portland, OR. 2011-2017
 All-levels Career Development Workshop: Moving Forward in the Professional Public Health Field. Oregon Public Health Association. Portland OR. May 22nd. 2016
 Data After Dark - BD2K Data Science Workshop. Oregon Health Science University, Portland, OR. January 13th-14th. 2016
 Maseeh Mathematics & Statistics Colloquium Series. Portland State University, Portland, OR. 2014-2016
 SIAM Student Chapter Seminar. Portland State University, Portland, OR. 2012-2016
 Microbiology Career Choices: What's Available and How to Succeed Workshop; American Society for Microbiology. Boston, MA. May 17th. 2014
 ASM Research Capstone Institute; American Society for Microbiology. Boston, MA. May 16th-17th. 2014
 Studying Whole-Genome Microbial Epigenetics Workshop; American Society for Microbiology. Denver, CO. May 18th. 2013
 America's Next Top Infectious Disease Model: HIV and Influenza Conference; Center for Communicable Disease Dynamics. Chicago, IL. April 21st-22nd. 2013
 10th Western Regional International Health Conference. Portland, OR. April 5th-7th. 2013
 XXXII Scientific Committee on Antarctic Research Conference. Portland, OR. July 16th-19th. 2012

**PROFESSIONAL
 AFFILIATIONS**

American Public Health Association 2018
 Michigan Public Health Association 2018
 American Statistical Association 2017-2018
 Association for Women in Mathematics 2015-2018
 American Association for the Advancement of Science 2015-2018
 American Mathematical Society 2014-2018
 Sigma Xi 2013-2018
 Society for Industrial and Applied Mathematics 2012-2018
 American Society for Microbiology 2011-2018
 Society for the Study of Evolution 2017

Genetics Society of America
Society for Applied Microbiology
American Society for Cell Biology

2016-2017
2014-2017
2013-2014

**CITATION
METRICS**

ORCID 0000-0001-8945-3396
ResearcherID J-6736-2014
Citations 72
h-index 5
i10-index 3
Erdős number 4 (Kirschner DE, van den Driessche P, Moon JW, Erdős P)

**TECHNICAL
SKILLS**

Computer Languages
Shell script, Python, Perl, SQLite, LaTeX, HTML, CSS

Statistical Software
R, SAS, MATLAB, Minitab, Maple, SPSS

Statistics/Machine Learning Techniques
Logistic Regression, Classification Trees, Random Forrest, Boosting, SVM, Naïve Bayes, Bayesian Networks, LDA, QDA, KNN, K-means, EM algorithm, Survival analysis, ARIMA, Experimental design

Bioinformatics Software
PhyML, PHYLIP, RAxML, MrBayes, Clustal Omega, Gblocks, Mesquite, CLC Genomic Workbench, FastQC, Trimmomatic, BowTie, TopHat, Trinity, SAMtools, BLAST, InterProScan, Prodigal, Gfold, Rfam, FUNC, QuickGO, DESeq, EBSeq, STAR, RSEM, kallisto, STRING, HMMER, IDBA, HGTector, Circos

Bioinformatics Techniques
Sequence alignment, Neighbor-joining, Maximum likelihood trees, Bayesian trees, RNA-Seq, De novo assembly, Metagenomic assembly, GO term enrichment, Differential gene expression, Differential isoform expression, Protein-protein interaction networks

Molecular Biology
Gel electrophoresis, Western blot, PAM fluorometry, Cell staining, Confocal microscopy

Microbiology
Cell culture, PCR, MIC, MPC, Kirby-Bauer Disk