

Jess A. Millar

Curriculum Vitae

August 2023

1105 N. University Ave., Rm. 3050F
Ann Arbor, MI 48109

E-mail: jamillar@umich.edu

EDUCATION	University of Michigan	2022
	Ph.D. Bioinformatics <i>Advsr.:</i> Robert J. Woods <i>Diss.:</i> “Modeling of infectious disease informed by investigative focus and data characteristics, from the microscopic to county community level.”	
	M.P.H. Hospital & Molecular Epidemiology <i>Advsr.:</i> Denise E. Kirschner <i>Thesis:</i> “Spatial organization and non-specific T cell recruitment may limit T cell-macrophage interactions within <i>Mycobacterium tuberculosis</i> granulomas.”	
	Cert. Computational Discovery & Engineering	
	University of Michigan	2020
	M.S. Bioinformatics	
	Portland State University	2017
	M.S. Biology <i>Advsr.:</i> Rahul Raghavan <i>Thesis:</i> “Uncovering <i>Coxiella burnetii</i> ’s pathogenicity by elucidating its metabolism and host interactions.”	
	M.S. Statistics <i>Advsr.:</i> Yiyi Chen & Mara Tableman <i>Exams:</i> Mathematical Statistics, Applied Statistics <i>Thesis:</i> “Machine learning techniques in cancer prognostic modeling and performance assessment.”	
	Portland State University	2014
B.S. Micro/Molecular Biology, Health Studies, & Science Minor: Mathematics Coll. & Dept. Honors, <i>magna cum laude</i> <i>Advsr.:</i> Daniel J. Ballhorn <i>Thesis:</i> “Effect of mycorrhizal colonization and light limitation on growth and reproduction of lima bean.”		
Portland Community College	2010	
A.S. Science		
FELLOWSHIPS & SCHOLARSHIPS	University of Michigan Rackham Merit Fellowship (\$240,000)	2017-2022
	University of Michigan Excellence in Basic Science Award [2x] (\$10,000)	2019-2021
	NSF Graduate Research Fellowship (\$138,000)	2016-2021
	University of Michigan SSE Teaching Assistantship (\$1,000)	2020
	University of Michigan SSE Tuition Scholarship [2x] (\$1,400)	2019-2020

University of Washington SIS MID Tuition Scholarship (\$1,650)	2018
University of Michigan Benard Maas Fellowship (\$5,000)	2017-2018
Fariborz Maseeh Statistics Teaching Assistantship [2x] (\$42,925)	2014-2017
Portland State Elsa Jorgenson Award [3x] (\$4,500)	2014-2017
Portland State Laurels Graduate Award (\$10,575)	2015-2016
Portland State President's Equal Access Scholarship (\$1,200)	2015-2016
Portland State Biology Graduate Research Assistantship (\$15,450)	2014-2016
Portland State Laurels Graduate Supplemental Tuition Grant (\$1,100)	2014-2015
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] (\$7,775)	2010-2014
NIH-NHGRI Genomic Research Fellowship (\$4,150)	2013
NIH-NHGRI Genomic Research GRE Prep Scholarship (\$1,475)	2013
Portland State Supplemental Tuition Grant [2x] (\$6,000)	2011-2013
Ronald E. McNair Scholars Research Fellowship (\$2,800)	2012
Ronald E. McNair Scholars Supplemental Tuition Grant (\$1,775)	2011-2012
NIH-NIGMS Bridges to Baccalaureate Summer Research Fellowship (\$1,325)	2010

**RESEARCH &
TRAVEL GRANTS**

Edward A. Bouchet Graduate Honor Society Travel Grant (\$1,000)	2022
American Society for Microbiology Research Capstone Fellowship (\$6,000)	2019-2021
University of Michigan Rackham Block Grant (\$1,150)	2020
University of Michigan Epidemiology Student Travel Grant [2x] (\$1,000)	2019-2020
University of Washington SIS MID Travel Scholarship (\$450)	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)	2016-2017
Pacific Northwest Women in Science Retreat Scholarship (\$125)	2016
Sigma Xi Columbia-Willamette Chapter Research Grant (\$100)	2016
Portland State Forbes-Lea Research Award (\$775)	2015-2016
American Society for Microbiology Student Travel Grant (\$500)	2015
American Society for Microbiology Research Capstone Grant (\$1,525)	2014
Rose E. Tucker Trust Undergraduate Research Grant [2x] (\$700)	2012-2014
Free Geek Computer Hardware Grant (\$1,000)	2013
NIH-NHGRI Genomic Research Conference Travel Grant [2x] (\$2,900)	2013
NIH-NHGRI Genomic Research Travel and Lodging Grant (\$2,125)	2013
Portland State AAA Conference Travel Grant (\$750)	2013
Harvard CCDD Conference Travel Grant (\$875)	2013
NIH-NIGMS Bridges to Baccalaureate Conference Travel Grant [2x] (\$1,950)	2012-2013
Ronald E. McNair Scholars Research Grant (\$200)	2012
Ronald E. McNair Scholars Conference Travel Grant (\$500)	2012

**REFEREED
PUBLICATIONS**

Forté CA, Millar JA, Colacino JA. "Integrating NHANES and toxicity forecaster data to compare pesticide exposure and bioactivity by farmwork history and US citizenship." <i>J Expo Sci Environ Epidemiol.</i> (in press)	2023
Millar JA, Dao HDN, Stefopoulos M, Estevam CG, Fagan-Garcia K, Taft DH, Park C, Alruwaily A, Desai AN, Majumder M. "Risk factors for increased COVID-19 case-fatality in the United States: A county-level analysis during the first wave." <i>PLoS ONE.</i> 16(10):e0258308.	2021

- Renardy M, Joslyn JR, **Millar JA**, Kirschner DE. "To Sobol or not to Sobol? The effects of sampling schemes in systems biology applications." *Math Biosci.* 337:108593. 2021
- Hebert JF, **Millar JA**, Raghavan R, Romney A, Podrabsky JE, Rennie MY, Felker A, O'Tierney-Ginn P, Morita M, DuPriest EA, Morgan TK. "Male fetal sex affects uteroplacental angiogenesis in growth restriction mouse model." *Biol Reprod.* 104(4):924-934. 2021
- Millar JA**, Raghavan R. "Modulation of bacterial fitness and virulence through antisense RNAs." *Front Cell Infect Microbiol.* 10:596277. 2021
- Millar JA**, Butler JR, Evans S, Grant NL, Matilla J, Linderman JJ, Flynn JL, Kirschner DE. "Spatial organization and recruitment of non-specific T cells may limit T cell-macrophage interactions within *Mycobacterium tuberculosis* granulomas." *Front Immunol.* 11:613638 (Corrigendum: 12:790557). 2021
- Millar JA**. "The GRE in public health admissions: Barriers, waivers, and moving forward." *Front Public Health.* 8:609599. 2020
- Chanderraj R, **Millar JA**, Patel T, Read AF, Washer L, Kaye KS, Woods RJ. "Vancomycin-resistant *Enterococcus* acquisition in a tertiary care hospital: Testing the roles of antibiotic use, proton pump inhibitor use, and colonization pressure." *Open Forum Infect Dis.* 6(4):ofz139. 2019
- 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." *PLoS Genet.* 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." *Immunol Rev.* 285(1):147-167. (*Co-first authors) 2018
- Schumann C*, Chan S*, **Millar JA**, Bortnyak YV, Carey K, Fedchyk AF, Wong L, Korzun T, Moses AS, Lorenz A, Shea D, Taratula OR, 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." *Nanomedicine.* 14(4):1395-1405. (*Co-first authors) 2018
- Millar JA***, Beare PA*, Moses AS, Martens CA, Heinzen RA, Raghavan R. "Whole-genome sequence of *Coxiella burnetii* Nine Mile RSA439 (phase II, clone 4), a laboratory workhorse strain." *Genome Announc.* 5(23):e00471-17. (*Co-first authors) 2017
- Moses AS*, **Millar JA***, Bonazzi M, Beare PA, Raghavan R. "Horizontally acquired biosynthesis genes boost *Coxiella burnetii*'s physiology." *Front Cell Infect Microbiol.* 7:174. (*Co-first authors) 2017
- Millar JA**, Raghavan R. "Accumulation and expression of horizontally acquired genes in *Arcobacter cryaerophilus* that thrives in sewage." *PeerJ.* 5:e3269 (Correction: 5: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
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
SUBMITTED MANUSCRIPTS	Millar JA , Washer L, Woods RJ. "Assessing surveillance strategies and compliance for the detection of vancomycin resistant <i>Enterococcus</i> colonization in hospitals." <i>Antimicrob Steward Healthc Epidemiol.</i>	2023
MANUSCRIPTS IN PREP	Tracy KC, McKaig JM, Kinnear CL, Millar JA , King AA, Read AF, Woods RJ. "Loss of antibiotic resistance is facilitated by historically contingent but genetic accessible mutational pathways."	2023
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 DS, 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**

Edward A. Bouchet Graduate Honor Society, UM Chapter 2022
OGPS Excellence in Promoting Diversity, Equity, and Inclusion Award, UM 2022
BWF Integrated Training in Microbial Systems Associate, UM 2020-2022
Bioinformatics Student Service Award, UM 2020
Best Graduate Poster Presentation, oSTEM Conference 2020
PeerJ Open Access Ambassador, PeerJ 2018-2019
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. “The GRE in public health admissions: Using public data to influence institutional change.” 18th Annual Yale Bouchet Conference on Diversity and Graduate Education. Virtual. April 7th-8th. [talk] 2022

Millar JA. “The GRE in public health admissions: Barriers, waivers, and moving forward.” American Public Health Association Annual Meeting and Expo. Virtual. October 24th-27th. [talk] 2021

Millar JA, Dao HDN, Stefopoulos M, Estevam CG, Fagan-Garcia K, Taft DH, Park C, Alruwaily A, Desai AN, Majumder M. “Risk factors for increased COVID-19 case-fatality in the United States: A county-level analysis during the first wave.” ASM and FEMS World Microbe Forum. Virtual. June 20th-24th. 2021

Millar JA. “The GRE in public health admissions: Barriers, waivers, and moving forward.” 10th Annual Out in Science, Technology, Engineering, and Mathematics (oSTEM) Conference. Virtual. November 12th-15th. 2020

Millar JA, King AA, Woods RJ. “Quantifying hospital VRE screening compliance.” American Society for Microbiology Microbe 2020. Chicago, IL. June 18th-22nd. (*accepted, conference canceled*) 2020

Millar JA, Flynn JL, Linderman JJ, Kirschner DE. “The effects of *Mycobacterium tuberculosis* on T cell responsiveness in granulomas.” American Society for Microbiology Microbe 2019. San Francisco, CA. June 20th-24th. 2019

- Millar JA**, Flynn JL, Linderman JJ, Kirschner DE. “Using Multi-Scale Modeling to explore the effects of *Mycobacterium tuberculosis* on T cell responsiveness in granulomas.” Society for Industrial and Applied Mathematics Great Lakes Section 2019 Meeting. Ann Arbor, MI. April 27th. 2019
- 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.” 115th General Meeting of the American Society for Microbiology. New Orleans, LA. May 30th-June 2nd. 2015
- Millar JA**, Raghavan R. “A horizontally acquired tRNA facilitates *Coxiella burnetii* adaptation to an extreme environment.” 114th General Meeting of the American Society for Microbiology. Boston, MA. May 17th-20th. 2014
- Millar JA**, McNulty SN, Zarlenga D, Mitreva M. “Transcriptional profiling of Ivermectin resistant *Cooperia punctata* using deep sequencing.” 53rd Annual Meeting of the American Society for Cell Biology. New Orleans, LA. December 14th-18th. 2013
- Millar JA**, McNulty SN, Zarlenga D, Mitreva M. “Transcriptional profiling of Ivermectin resistant *Cooperia punctata* using deep sequencing.” 2nd International Conference on Genomics in the Americas. Sacramento, CA. September 12th-13th. 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 . "The GRE in public health admissions: Using public data to influence institutional change." The 5 th Annual Data for Public Good Symposium. University of Michigan, Ann Arbor, MI. March 24 th -25 th . [talk]	2022
	Millar JA , Woods RJ, King AA. "Quantifying hospital VRE screening compliance and ability to detect cases." Bioinformatics Student Research Hour. University of Michigan, Ann Arbor, MI. September 23 rd . [talk]	2021
	Millar JA . "Modeling of infectious disease informed by system characteristics and investigative focus." Integrated Training in Microbial Systems Fall Retreat. University of Michigan, Ann Arbor, MI. August 16 th . [talk]	2021
	Millar JA . "Modeling of infectious disease informed by system characteristics and investigative focus." Integrated Training in Microbial Systems Spring Retreat. University of Michigan, Ann Arbor, MI. April 26 th . [talk]	2021
	Millar JA . "The GRE in public health admissions: Barriers, waivers, and moving forward." Epidemiology Annual Internship Poster Session. University of Michigan, Ann Arbor, MI. November 6 th .	2020
	Millar JA . "Modeling microbial infections and measuring transmission." Integrated Training in Microbial Systems Fall Retreat. University of Michigan, Ann Arbor, MI. September 9 th . [talk]	2020
	Millar JA , Woods RJ, King AA. "Quantifying transmission of hospital acquired vancomycin - resistant <i>Enterococcus</i> ." Bioinformatics Student Research Hour. University of Michigan, Ann Arbor, MI. May 7 th . [talk]	2020
	Millar JA , Butler JR, Matilla J, Linderman JJ, Flynn JL, Kirschner DE. "Spatial organization may limit T cell-macrophage interactions within <i>Mycobacterium tuberculosis</i> granulomas." Research in Hospital and Molecular Epidemiology Seminar Series. University of Michigan, Ann Arbor, MI. January 28 th . [talk]	2020
	Millar JA , Flynn JL, Linderman JJ, Kirschner DE. "The effects of <i>Mycobacterium tuberculosis</i> on T cell responsiveness in granulomas."	2019

Epidemiology Annual Internship Poster Session. University of Michigan, Ann Arbor, MI. November 8th.

Millar JA, Flynn JL, Linderman JJ, Kirschner DE. “The effects of *Mycobacterium tuberculosis* on T cell responsiveness in granulomas.” PIBS 20th Anniversary Symposium. University of Michigan, Ann Arbor, MI. September 23rd. 2019

Millar JA, Flynn JL, Linderman JJ, Kirschner DE. “The effects of *Mycobacterium tuberculosis* on T cell responsiveness in granulomas.” Department of Computational Medicine and Bioinformatics 5th Annual Retreat. Oregon, OH. September 13th-15th. 2019

Millar JA, Flynn JL, Linderman JJ, Kirschner DE. “The effects of *Mycobacterium tuberculosis* on T cell responsiveness in granulomas.” Michigan Institute for Computational Discovery and Engineering 6th Annual Symposium. University of Michigan, Ann Arbor, MI. April 10th. 2019

Millar JA, Chanderraj R, Woods RJ, King AA. “Quantifying the transmission dynamics of hospital acquired VRE.” Department of Computational Medicine and Bioinformatics 4th Annual Retreat. Frankenmuth, MI. September 14th-16th. 2018

Millar JA, Linderman JJ, Kirschner DE. “Exploring the direct effects of *Mycobacterium tuberculosis* on T cell responsiveness.” Michigan Institute for Computational Discovery and Engineering 5th Annual Symposium. University of Michigan, Ann Arbor, MI. March 22nd. 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 31st. 2018

Millar JA, Moses AS, Bonazzi M, Beare PA, Raghavan R. “Horizontally acquired biosynthesis genes boost *Coxiella burnetii*'s physiology.” Department of Computational Medicine and Bioinformatics 3rd Annual Retreat. Oregon, OH. September 15th-17th. 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 <i>Coxiella burnetii</i> adaptation to an extreme environment.” Sigma Xi Columbia-Willamette Chapter Annual Meeting. Portland, OR. May 26 th . [talk]	2016
Millar JA , Raghavan R. “Pathogens residing within similar intracellular vacuoles elicit discordant host responses.” 19 th Annual Biology Alumni Night Symposium. Portland State University, Portland, OR. October 23 th .	2015
Millar JA , Raghavan R. “Parallel adaptation of a bacterium and an eukaryote to an intracellular extreme environment.” 18 th Annual Biology Alumni Night Symposium. Portland State University, Portland, OR. October 17 th .	2014
Millar JA , McNulty SN, Zarlenga D, Mitreva M. “Transcriptional profiling of Ivermectin resistant <i>Cooperia punctata</i> using deep sequencing.” 7 th Annual Opportunities in Genomic Research Undergraduate Scholars Closing Program. Washington University School of Medicine, St. Louis, MO. July 31 st . [talk]	2013
Millar JA , Ballhorn DJ. “Effect of mycorrhizal colonization and light limitation on growth and reproduction of lima bean (<i>Phaseolus lunatus</i> L.)” 9 th Annual Sigma Xi Columbia-Willamette Chapter Student Research Symposium. Portland State University, Portland, OR. April 12 th .	2013
Millar JA , Ballhorn DJ. “Effects of light limitation on plant-microbe interactions.” 9 th Annual PSU Ronald E. McNair Scholars Program Summer Symposium. Portland State University, Portland, OR. August 15 th . [talk]	2012
Millar JA , Ballhorn DJ. “Effects of light limitation on plant-rhizobia and plant-mycorrhiza interactions.” 9 th Annual PSU Undergraduate Research Conference. Portland State University, Portland, OR. May 23 rd .	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 15 th .	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

Research Associate I , University of Michigan Department of Environmental Health Sciences, Advisor: Dr. Colacino Predict mixture effects of environmental toxicants on breast cancer outcomes in African American women.	2021-2023
NSF Graduate Research Fellow, UM RMF Fellow , University of Michigan Department of Internal Medicine, Advisor: Dr. Woods Transmission of Vancomycin-resistant <i>Enterococcus</i> in hospitals.	2017-2022
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.	2018-2021

NSF Graduate Research Fellow, UM RMF Fellow , University of Michigan Depts. of Mathematics, Ecology & Evolutionary Biology, Advisor: Dr. King Measuring infectious disease transmission through partially observed Markov process epidemic models.	2017-2021
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> ssp. 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	
“Introducing the 2022 Bouchet Society Inductees.” Rackham Graduate School News. Website feature. April 22 nd .	2022
“OGPS PhD Student Awards go to Jess Millar & Zena Lapp.” UM Computational Medicine and Bioinformatics Department News. Website feature. January 25 th .	2022
“Counties with intervention measures, more hospitals experienced fewer COVID-19 deaths.” University of Michigan News. Website feature. October 14 th .	2021
“Hospital access, virtual religious services helped lower COVID case fatality rate.” Infectious Disease Special Edition. Website feature. July 23 rd .	2021
“Top in ID: Pandemic public health approaches, <i>C. difficile</i> guidance.” Healio Infectious Disease News. Website feature. June 29 th .	2021

“This Week's Headlines: June 28, 2021.” Healio Infectious Disease News. Podcast. June 28 th .	2021
“Older age, asthma, Black population influence county-level COVID-19 fatality.” Contagion Live. Website interview. June 22 nd .	2021
“Researchers identify variables associated with COVID-19 fatalities during first wave.” Healio Infectious Disease News. Website feature. June 22 nd .	2021
“How moving the GRE online rerouted students in graduate school admission processes.” Empoword Journalism. Website feature. February 14 th .	2021
“Pandemic takeaway: Time to waive GRE requirement for public health degrees.” University of Michigan News. Website feature. September 29 th .	2020
“Bioinformatics with Jess Millar.” LGBTQ+ Stem Cast. #8. Podcast. September 21 st .	2020
“Rackham candidacy ceremony celebrates important doctoral milestone.” Rackham Graduate School News. Website feature. February 13 th .	2020
“2018 - 2019 EEB grad student awards brag book.” UM Ecology and Evolutionary Biology Department News. Website feature. June 19 th .	2019
“Students of MI: Jess.” Michigan Association of State Universities: Get MI Degree. Website feature. February 14 th .	2019
“LytTR Regulatory Systems: A potential new class of prokaryotic sensory system.” PLoS Genet. 14(10). Website feature cover image. October 12 th -26 th .	2018
“Second Annual LGBTQ Monologues event creates space for intersectional identities.” The Michigan Daily. 128(10):1A. Newspaper. October 12 th .	2018
“Stateside: Detroit hospital under investigation; coming out stories; politics in the classroom.” Michigan Radio. Radio interview. October 11 th .	2018
“Introduction to modeling viral infections and immunity.” Immunol Rev. 285(1):5-8. Editorial feature. August 11 th .	2018
“The Spell of Coxiella.” Small Things Considered. Blog post. July 10 th .	2017
“Living in the Stomach of a Cell.” This Week in Microbiology. #155. Podcast. June 28 th .	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
“Is the public transportation system safe from a public health perspective?” Public Health Res Perspect. 2(3):149-150. Editorial feature. November 25 th .	2011
“Germs on wheels.” PSU Vanguard. 66(4):4. Newspaper. 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**

Guest Lecturer , Portland State University McNair Scholars Program “Preparing for Grad School.” McNair Seminar (Spr. '16, Spr. '17, Spr. '19, Sum. '20, Sum. '21, Spr. '22, Spr. '23) “Funding Outside of McNair.” McNair Seminar (Spr. '15, Spr. '16, Spr. '17, Spr. '19, Sum. '20, Sum. '21, Spr. '22, Spr. '23) Department of Mathematics and Statistics Applied Statistics for Business (Sum. '17) Statistical Consulting (Spr. '17)	2015-2023
Teaching Assistant , University of Michigan Department of Epidemiology Molecular Epidemiology (Win. '21) Survival Analysis Applied to Epidemiologic & Medical Data (Sum. '20)	2020-2021
Guest Lecturer , University of Michigan Department of Epidemiology Molecular Epidemiology (Win. '19, Win. '20, Win. '21)	2019-2021
Assistant Grader , University of Michigan Department of Biology Principles of Animal Physiology (Win. '18, Win. '19, Fall '19, Win. '20)	2018-2020
Guest Lecturer , Oregon Health & Science University Department of Public Health & Preventive Medicine Categorical Data Analysis (Spr. '17)	2017
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
SERVICE**

Abstract Reviewer – Annual Michigan Epidemiology Conference	2023
Grand Awards Judge – Regeneron International Science and Engineering Fair, Computational Biology and Bioinformatics Section [2x]	2021-2022
Panelist – “McNair Alumni Intellectual Community.” McNair Scholars Program, PSU [2x]	2021-2022
Journal Reviewer – PLoS One [6x]	2021-2022
Judge – Epidemiology Annual Internship Poster Session, UM	2021
Journal Reviewer – Frontiers in Medicine	2021
Panelist – “Student Training and Public Health Workforce Development Roundtable.” American Public Health Association Annual Meeting and Expo	2021
Abstract Reviewer – American Public Health Association Annual Meeting and Expo, Applied Public Health Statistics Section	2021
Panelist – “Public Health Graduate School Panel.” Public Health Association,	2021

UM		
Panelist – “Choosing a lab/PI/program.” Program in Biomedical Sciences, UM		2021
Mentor – Public Health Undergraduate-Graduate Mentorship Program, UM		2020-2021
Contributing Member – COVID-19 Dispersed Volunteer Research Network		2020-2021
Peer Mentor – Bioinformatics Peer Mentorship Program, UM		2019-2021
Curator – “Public Health Graduate Programs Dropping GRE Requirement List”		2019-2021
Letter Co-author – “An Open Letter Response to NSF 20-587 GRFP.”		2020
ISEF Finalist Judge – Northwest Science Expo State Science Fair, Microbiology Section		2020
Committee Member – PIBS Curriculum Committee, UM		2019-2020
Application Mentor – Office National Scholarships and Fellowships, UM [4x]		2017-2020
Panelist – “NSF GRF Workshop.” Program in Biomedical Sciences, UM [4x]		2017-2020
Panelist – “1st Gen Student Success.” National Academic Advising Association Great Lakes Region Conference		2019
Journal Reviewer – Environmental Science & Technology		2018
Abstract Reviewer – American Society for Microbiology Microbe Conference, Antimicrobial Agents and Chemotherapy Section		2018
Panelist – “Research Methodology.” McNair Scholars Program, PSU [4x]		2013-2017
Judge – Intel Northwest Science Expo State Science Fair, Animal Science		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

Outreach Volunteer – “Eastern Michigan University TRiO Student Support Services Visit.” Rackham Graduate School, UM		2022
Panelist – “Admitted Student Virtual Experience.” Office for Student Engagement and Practice, School of Public Health, UM		2022
Panelist – “Planning and Preparing for Prelim Exams.” Program in Biomedical Sciences, UM		2022
Panelist – “Supporting Michigan First-Gens: Blazing your own trail.” Office for Student Engagement and Practice, School of Public Health, UM		2022
Board Member – LGBTQ+ Graduate Student Needs Assessment Advisory Committee, UM		2021-2022
Big Sibs/Little Sibs Coordinator – Ecology and Evolutionary Biology, UM		2021-2022
Admissions Diversity Ambassador – Program in Biomedical Sciences, UM		2021-2022
Admissions Ambassador – Office for Student Engagement and Practice, School of Public Health, UM		2021-2022
Student Host – Program in Biomedical Sciences Interview Weekend, UM [5x]		2018-2022
Bioinformatics Dept. Student Representative – Program in Biomedical Sciences Summer Research Open House, UM		2021
Admissions Committee Consultant/Co-Presenter – “GRE Discontinuation at U-M: Improving Equity in Graduate Admissions.” Rackham Student Government, UM		2021
Speaker – “Michigan Research and Discovery Scholars’ Winter Technology Seminar.” Michigan Research and Discovery Scholars, UM		2021
Admissions Committee Consultant – “Efficacy of GRE Q Score in Assessing Quant Skills and Alternatives.” Epidemiology Admissions Committee, UM		2020
Admissions Committee Consultant – “COVID-19 Emergency GRE Waiver.” Office for Student Engagement and Practice, School of Public Health, UM		2020
Student Host – Program in Biomedical Sciences Preview Visit, UM		2020
Panelist – “Explore Michigan Engineering Research and Graduate Education		2020

(EMERGE) 2020 Virtual Event.” Office of Student Affairs, UM	
Panelist – “TRiO/McNair Scholars Virtual Visit: Transitioning to Graduate Programs.” Rackham Graduate School, UM	2020
Transgender Consultant – Office of Graduate and Postdoctoral Studies DEI Task Force, UM	2020
Board Member – 1st Generation Graduate Student Advisory Committee, UM	2020
Speaker – “Ph.D. Doctoral Candidacy Ceremony.” Rackham, UM	2020
Epidemiology Dept. Lead – Sexual and Gender Diversity in Public Health, UM	2019-2020
Outreach Volunteer – Kent State TRiO & McNair Scholars Visit [2x]	2019
Committee Member – Bioinformatics Website Committee, UM	2018-2019
Transgender Consultant – “Trans Care Team.” University Health Services, 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
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

OUTREACH & COMMUNITY SERVICE

Social Media Facilitator – “GRE Bias/Removal.” Twitter, @AcademicGREtalk	2020-2022
Volunteer Financial Aid Advisor – “Wolverine Pathways FAFSA Navigation.” Association of Multicultural Scientists, UM	2020
Expert Interviewee – “Algorithmic Bias.” Student project, PCC	2020
Speaker – “Wolverine Pathways Professional Development Day: Career Workshop.” Association of Multicultural Scientists, UM	2019
Panelist – “Queer in STEM: A Post-Graduate Experience.” Rackham Graduate School, Spectrum Center, UM	2019
Speaker – “Becoming Comfortable with Failure.” Rackham Student Government Failure Symposium, UM [2x]	2019
Panelist – “Navi(Gay)ting Grad School.” Spectrum Center, UM	2019
Science Communicator – “Ask a Scientist.” Engaging Scientists in Policy and Advocacy, UM	2018
Symposium Volunteer – LGBTQ Inclusion as Researchers & in Research, UM	2018
Committee Member – Teach-in for Freedom, Democracy, and Diversity, UM	2018
Secretary – Biology Investigation and Outreach, PSU Chapter	2016-2017
Volunteer – Portland State Reuse Room	2013-2014
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, Portland, OR	2010
Lab Assistant – Red Cross, Portland, OR	2006-2008

SHORT COURSES

University of Michigan	
PostgreSQL for Everybody Specialization. Coursera.	2022-2023
Database Design and Basic SQL in PostgreSQL	
Intermediate PostgreSQL	
JSON and Natural Language Processing in PostgreSQL	
Database Architecture, Scale, and NoSQL with Elasticsearch	
Python for Everybody Specialization. Coursera.	2022-2023
Programming for Everybody (Getting Started with Python)	
Python Data Structures	
Using Python to Access Web Data	
Using Databases with Python	

Capstone: Retrieving, Processing, and Visualizing Data with Python		
55 th Annual Summer Session in Epidemiology. Ann Arbor, MI. July 12 th -31 st .		2020
Introduction to Multilevel Analysis in Public Health		
54 th Annual Summer Session in Epidemiology. Ann Arbor, MI. July 7 th -26 th .		2019
Spatial Statistics for Epidemiologic Data		
University of Washington		
10 th Annual Summer Institute in Statistics and Modeling in Infectious Diseases.		2018
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		
Emory University		
12 th Annual Summer School on Modeling Immunology. Atlanta, GA. May 21 st -24 th .		2017
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		
Introduction to Perl Programming. Community Education Online Learning.		2012
Perl Programming Level I		

**CONFERENCES,
SEMINARS, &
WORKSHOPS
ATTENDED**

Navigating Tough Conversations in Statistical Collaboration Traveling Course.		2022
American Statistical Association, Virtual. May 7 th .		
Integrated Training in Microbial Systems Mini-Grant Mock Site Visit.		2021
University of Michigan, Ann Arbor, MI. February 24 th .		
Becoming a Resilient Scientist Trainee Program. University of Michigan, Ann Arbor, MI. January 26 th -May 18 th .		2021
Festival of Genomics and Biodata. Virtual. January 26 th -29 th .		2021
Tools & Technology Seminar Series. University of Michigan, Ann Arbor, MI.		2017-2021
Bioinformatics Student Research Hour. University of Michigan, Ann Arbor, MI.		2017-2021
Society for Mathematical Biology Virtual Annual Meeting. August 17 th -20 th .		2020
Mathematical Models for Prediction and Control of Epidemics Workshop.		2020
Mathematical Sciences Research Institute. Virtual. August 12 th -14 th .		
MAC-EPID 32 nd Symposium: Diversity and Ecology of Virus in Human Health and the Environment. University of Michigan, Ann Arbor, MI. October 4 th .		2019
ASM 9 th Annual Microbe Academy for Professional Development. American Society for Microbiology, San Francisco, CA. June 19 th -20 th .		2019
MAC-EPID 31 st Symposium: Evolving Perspectives on Microbial Systems. University of Michigan, Ann Arbor, MI. March 29 th .		2019
MAC-EPID 30 th Symposium: Malaria Ecology and Epidemiology: Challenges to Interrupting Transmission. University of Michigan, Ann Arbor, MI. October 26 th .		2018
LGBTQ Inclusion as Researchers & in Research Symposium. University of Michigan, Ann Arbor, MI. September 6 th .		2018
Mentoring Others Results in Excellence Mentoring Plan Workshop. University of Michigan, Ann Arbor, MI. May 8 th .		2018
Mentorship and Professional / Personal Support Program. University of		2018

Michigan, Ann Arbor, MI.	
Microbiology Career Choices: What's Available and How to Succeed Workshop. American Society for Microbiology, New Orleans, LA. June 1 st .	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 22 nd .	2016
Data After Dark - BD2K Data Science Workshop. Oregon Health Science University, Portland, OR. January 13 th -14 th .	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 17 th .	2014
ASM 4 th Annual Capstone Research Institute. American Society for Microbiology, Boston, MA. May 16 th -17 th .	2014
Studying Whole-Genome Microbial Epigenetics Workshop. American Society for Microbiology, Denver, CO. May 18 th .	2013
America's Next Top Infectious Disease Model: HIV and Influenza Conference. Center for Communicable Disease Dynamics, Chicago, IL. April 21 st -22 nd .	2013
10th Western Regional International Health Conference. Portland, OR. April 5 th -7 th .	2013
XXXII Scientific Committee on Antarctic Research Conference. Portland, OR. July 16 th -19 th .	2012

PROFESSIONAL AFFILIATIONS

American Society for Microbiology	2011-2023
American Medical Informatics Association	2021-2022
Michigan Public Health Association	2018-2022
American Public Health Association	2018-2022
American Statistical Association	2017-2022
Association for Women in Mathematics	2015-2022
American Mathematical Society	2014-2022
Sigma Xi	2013-2022
Society for Industrial and Applied Mathematics	2012-2022
Society for Mathematical Biology	2020
American Association for the Advancement of Science	2015-2019
Society for the Study of Evolution	2017
Genetics Society of America	2016-2017
Society for Applied Microbiology	2014-2017
American Society for Cell Biology	2013-2014

PUBLICATION METRICS

Papers	21	Cites/paper	29.76	h-index	15
Citations	625	Cites/author	130.92	g-index	21
Years	12	Papers/author	5.78	i-10 index	17
Cites/Year	52.08	Authors/paper	5.76	Erdős number	4

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 Forrester, 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