

Jess Millar
Curriculum Vitae
January 2018

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EDUCATION	<p>University of Michigan 2022 Ph.D. Bioinformatics (exp) M.S. Molecular Epidemiology</p> <p>Portland State University 2017 M.S. Biology <i>Thesis: "Uncovering <i>Coxiella burnetii</i>'s pathogenicity by elucidating its metabolism and host interactions."</i> M.S. Statistics <i>Thesis: "Machine learning techniques in cancer prognostic modeling and performance assessment."</i></p> <p>Portland State University 2014 B.S. Biology, Health Studies, & Science Minor: Mathematics Coll. & Dept. Honors, <i>magna cum laude</i> <i>Thesis: "Effect of mycorrhizal colonization and light limitation on growth and reproduction of lima bean."</i></p> <p>Portland Community College 2010 A.S. Science</p>
FELLOWSHIPS & SCHOLARSHIPS	<p>University of Michigan Rackham Merit Fellowship (\$157,000) 2017-2022 NSF Graduate Research Fellowship (\$138,000) 2016-2021 University of Michigan Benard Maas Fellowship (\$5,000) 2017 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 Portland State Honors Laurels Merit Scholarship [2x] (\$1,100) 2013-2014 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	<p>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</p>

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
American Society for Microbiology Research Capstone Grant (\$1,500)	2014
Rose E. Tucker Trust Undergraduate Research Grant (\$400)	2014
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." <i>In: Matsui S, Crowley JJ. (Eds.) Frontiers of Biostatistical Methods and Applications in Clinical Oncology.</i> (pp. 193-230). Singapore: Springer.	2017
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**REFEREED
PUBLICATIONS**

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 multiple antibiotic resistance genes in <i>Arcobacter cryaerophilus</i> that thrives in sewage." <i>PeerJ.</i> 5(2):e3269.	2017
Kacharia FR*, Millar JA* , Raghavan R. "Emergence of new sRNA in enteric bacteria is associated with low expression and rapid evolution." <i>J Mol Evol.</i> 84(4):204-213. (*Co-first authors)	2017
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
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
SUBMITTED MANUSCRIPTS	Xie Z*, Zou Z*, Raz A, Raghavan R, Millar JA , Qin H, Fischetti V, Zhang S, Kreth J, Merritt J. "Molecular insights into LytTR Regulatory Systems: A new class of prokaryotic signal 2 transduction system." <i>Genes Dev.</i> (*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> (*Co-first authors)	2018
MANUSCRIPTS IN PREP	Hebert JF, Millar JA , Raghavan R, Romney A, Podrabsky JE, Rennie M, Felker A, Morgan TK. "Male fetal sex inhibits uteroplacental vascular growth in a mouse model of fetal growth restriction."	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." 55th ISEF Abstracts. Science Service, Washington, D.C.	2004
HONORS & AWARDS	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
	2 nd 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
	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

**CONFERENCE
PRESENTATIONS**

- 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 (*Phaseolus lunatus* L.)” 113th General Meeting of the American Society for Microbiology. Denver, CO. May 18th-21st. 2013
- Millar JA**, Ballhorn DJ. “Effects of light limitation on legume-mycorrhizae interactions.” 12th Annual Biomedical Research Conference for Minority Students. San Jose, CA. November 7th-10th. 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." 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 <i>Coxiella burnetii</i> 's physiology." Biology Graduation Symposium. Portland State University, Portland, OR. June 16 th .	2017
	Millar JA , Chen Y. "Machine learning techniques in cancer prognostic modeling and performance assessment." 6 th Annual OHSU Research Week. Oregon Health Science University, Portland, OR. May 1 st -3 rd .	2017
	Millar JA , Raghavan R. "A sewage microbiome is dominated by <i>Arcobacter cryaerophilus</i> that expresses multiple drug resistance and virulence genes." 20 th Annual Biology Alumni Night Symposium. Portland State University, Portland, OR. October 21 st .	2016
	Millar JA , Raghavan R. "A sewage microbiome is dominated by <i>Arcobacter cryaerophilus</i> that expresses multiple drug resistance and virulence genes." 4 th Annual Pacific Northwest Women in Science Retreat. Rockaway Beach, OR. July 8 th -10 th .	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 .	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 .	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 .	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**

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
NSF Graduate Research Fellow, UM RMF Fellow , University of Michigan Department of Ecology & Evolutionary Biology, Advisor: Dr. King Transmission and evolution of antibiotic resistant bacteria in hospitals.	2017-2018
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 , Oregon Health & Science University Department of Public Health & Preventive Medicine, Advisor: Dr. Chen Oncological prognostic modeling using machine learning techniques.	2016-2017
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 , 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

	<p>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.</p>	2010-2011
	<p>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>.</p>	2002-2003
MEDIA FEATURES	<p>“The Spell of <i>Coxiella</i>.” Small Things Considered. Blog post. July 10th. “Living in the Stomach of a Cell.” This Week in Microbiology. Podcast. #155. June 28th. “Portland State graduate student Jess Millar wins NSF GRFP award.” Portland State University News. Website feature. May 16th. “Jess Millar: Honors success.” Portland State University News. Website feature. December 4th. “Germs on wheels.” PSU Vanguard. 66(4):4. July 19th. “Riding TriMet? Plenty of bugs could be sharing your seat.” The Oregonian. Front page article. July 14th. “Study: TriMet bus seats tested for bacteria.” KGW News. TV interview. July 14th.</p>	2017 2017 2016 2013 2011 2011 2011
MENTORED STUDENTS	<p>Amanda Brenner (<i>PSU Biology undergraduate</i>) Auguste Dutcher (<i>PSU Biology postbac</i>) Tina Schroyer (<i>PSU Biology & Envir. Sciences undergrad, McNair Scholar</i>) Janice Ballantine (<i>PSU P.A.C.E. graduate</i>) Katherine Huynh (<i>PSU Biology undergraduate, Millennium Gates Scholar, LSAMP Scholar, McNair Scholar</i>) Dominick Keim-bay (<i>PSU Biology undergraduate, LSAMP Scholar</i>)</p>	2017 2016-2017 2012-2014 2012 2011 2011
TEACHING ACTIVITIES	<p>Guest Lecturer, Oregon Health & Science University Department of Public Health & Preventive Medicine Categorical Data Analysis (Spr. '17)</p> <p>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) Department of Mathematics and Statistics Applied Stats for Business (Sum. '17) Statistical Consulting (Spr. '17)</p> <p>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)</p>	2017 2015-2017 2014-2017

	Teaching Assistant , Portland Community College Department of Mathematics Calculus I (Spr. '13, Sum. '14)	2013-2014
PROFESSIONAL SERVICES	Reviewer – ASM Microbe Conference Abstracts (<i>upcoming</i>)	2018
	Panelist – “NSF GRF Workshop.” Program in Biomedical Sciences, UM	2017
	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	Panelist – Student Life Professional Development Conference, UM	2017
	Computer Lab Assistant – Math/Stats Dept., PSU	2014-2017
	Statistics Tutor – Math/Stats Dept., PSU	2015-2017
	Volunteer – Portland State Reuse Room	2013-2014
	Active 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
	Lab Assistant – Red Cross, Portland, OR	2006-2008
CONFERENCES, SEMINARS, & WORKSHOPS ATTENDED	Python for Everybody Specialization Certificate. University of Michigan, Coursera. (<i>in progress</i>)	2016-2018
	Microbiology Career Choices: What’s Available and How to Succeed Workshop; American Society for Microbiology. New Orleans, LA. June 1 st .	2017
	12 th Annual Summer School on Modeling Immunology. Emory, Atlanta, GA. May 21 st -24 th .	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 Research Capstone 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
Perl Programming Level I Course; Portland Community College, Community Education.	2012
XXXII Scientific Committee on Antarctic Research Conference. Portland, OR. July 16 th -19 th .	2012

PROFESSIONAL AFFILIATIONS

American Statistical Association	2017-2018
Sigma Xi	2013-2018
Society for Industrial and Applied Mathematics	2012-2018
American Society for Microbiology	2011-2018
Genetics Society of America	2016-2017
American Association for the Advancement of Science	2015-2017
Association for Women in Mathematics	2015-2017
American Mathematical Society	2014-2017
Society for Applied Microbiology	2014-2017
Society for the Study of Evolution	2017
American Society for Cell Biology	2013-2014

TECHNICAL SKILLS

Computer Languages
Shell script, Perl, LaTeX, HTML, CSS
Statistical Software
R, SAS, Minitab, Maple, SPSS, XLSTAT
Bioinformatics Techniques
Sequence alignment, Neighbor-joining, Maximum likelihood trees, Bayesian trees, RNA-Seq, De novo assembly, GO term enrichment, Differential gene expression, Differential isoform expression, Protein-protein interaction networks
Bioinformatics Software
PhyML, PHYLIP, RAxML, MrBayes, Clustal Omega, Gblocks, Mesquite, CLC Genomic Workbench, FastQC, Picard, Seq Crumbs, Trimmomatic, BowTie, TopHat, Khmer, Velvet/Oases, Trinity, SAMtools, BLAST, InterProScan, Phobius, SecretomeP, RefCov, Prodigal, Gfold, Rfam, FUNC, QuickGO, Cufflinks, DESeq, EBSeq, STRING, HMMER, IDBA, HGTector, Circos
Molecular Biology
Gel electrophoresis, Western blot, PAM fluorometry, Cell staining, Confocal microscopy
Microbiology
Cell culture, PCR, MIC, MPC, Kirby-Bauer Disk