

Molly K. Gibson

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Education	Ph.D. Computational & Systems Biology Washington University, St. Louis, Missouri <i>Advisor:</i> Dr. Gautam Dantas <i>Expected Graduation:</i> June 2015	2010-Present
	B.S. Computer Science Truman State University, Kirksville, Missouri	2005-2009 <i>summa cum laude</i>
Honors and Awards	National Science Foundation Graduate Fellowship Outstanding Talk, Genetics & Computational Biology Retreat 1st Place Overall Poster, International Meeting on Microbial Genomics Outstanding Poster, Genetics & Computational Biology Retreat Clinton Global Initiative University (CGIU) Mr. & Mrs. Spencer T. Olin Fellowship Undergraduate Research Fellowship Phi Kappa Phi, Truman State University Chapter Omicron Delta Kappa, National Leadership Honor Society The Boeing Company - Math & Computer Science Scholar Dean's List (Truman State Univ.) National Merit Corporation Scholar President's Honorary Scholar President's Leadership Scholar	2011-2014 2014 2014 2013 2013 2010-2015 2008-2009 2009 2007 2008 2005-2009 2005-2009 2005-2009 2005-2009
Professional Experience	Washington University School of Medicine, Saint Louis, MO <i>Graduate Researcher, Center for Genome Sciences and Systems Biology</i> <i>Mr. and Mrs. Spencer T. Olin Fellow, Washington University in Saint Louis</i> <i>NSF Graduate Research Fellow</i> Developed and applied computational tools and models for studying antibiotic resistance in soil and human associated microbial communities	2010-Present 2010-Present 2011-2014
	The Balsa Group, Saint Louis, MO <i>Project Manager/Consultant</i> Provided data-driven consulting solutions to startup and growth-stage biotechnology companies, including market analysis & budget review, intellectual property and licensing analysis, and technology assessment.	2011-Present
	The Boeing Company, Saint Louis, MO <i>Software Engineer</i> Developed, maintained, and tested code that integrates software components into a fully functional software system for high fidelity F15-E flight simulator	2009-2010
	Maize Shoot Apical Meristem Project, Kirksville, MO <i>Undergraduate Researcher</i> Designed, developed and populated a relational database to house the expression and functional	2007-2009

annotation data of a set of approximately 40,000 *Zea mays* genes.

The SERVE Center, Kirksville, MO

Senior Staff Coordinator

2006-2009

Led a staff of 15 employees, including scheduling, payroll, and performance evaluation, executing staff meetings and delegating tasks to ensure the highest level of productivity.

Computational Skills

Languages

bash, Python, Perl, R, Java, C++, Ada, XML

Version Control

git, hg, svn, cvs

Other

L^AT_EX, MatLab, SQL, nose

Teaching

Bioinformatics Workshop

January 6-8, 2015

<http://mollykgibson.com/bioinformatics>

Washington University School of Medicine

Developed and led a novice-level bioinformatics workshop for scientists at Washington University

Software Carpentry

2013-Present

Mozilla Labs (<https://www.softwarecarpentry.org>)

Instructor/Contributor

- Washington University in Saint Louis (August 11-12, 2014)
- Lawrence Berkeley National Laboratory (April 14-15, 2014)
- Iowa State University (January 8-9, 2014)

Bio5495: Algorithms for Computational Biology

Fall 2011

Washington University in Saint Louis

Teaching Assistant

Topics covered: probability theory, hidden Markov models (HMMs), network inference, transcription factor binding motifs, modeling gene regulation dynamics, metabolic modeling, short read alignment

Science Outreach

The Young Scientist Program (<http://ysp.wustl.edu>)

2011-2015

Washington University in Saint Louis

Director (2014-2015)

Director of Information Technology (2012-2014)

College Prep Coordinator (2011-2012)

Professional Service

Professional Affiliation

American Society for Microbiology (ASM)

2013-Present

Association for Women in Science (AWIS)

2012-Present

Publications

1. Kaminski J*, **Gibson MK***, Franzosa EA, Segata N, Dantas G, Huttenhower C. Fast and Accurate Metagenomic Search with ShortBRED. (In preparation)
2. Moore AM, Ahmadi S, Patel S, **Gibson MK**, Wang B, Ndao M, Deych E, Shannon W, Tarr P, Warner BB, Dantas G. Resistome development in infant twins and their mothers. (In preparation)
3. **Gibson MK**, Forsberg KJ, Dantas G. Improved annotation of antibiotic resistance determinants reveals resistomes cluster by ecology. *The ISME Journal*. 2015; 9:207.
4. Lax S, Smith DP, Hampton-Marcell J, Owens SM, Handley KM, Scott NM, Gibbons SM, Larsen P, Shogan BD, Weiss S, Metcalf JL, Ursell LK, Vazquez-Baeza Y, Van Treuren W, Hasan NA, **Gibson MK**, Colwell R, Dantas G, Knight R, Gilbert JA. Longitudinal Analysis of Microbial Interaction Between Humans and the Indoor Environment. *Science*. 2014; 345(6200):1048

5. **Gibson MK***, Pesesky MW*, Dantas G. The Yin and Yang of Bacterial Resilience in the Human Gut Microbiota. *J. Mol. Biol.* 2014; DOI: 10.1016/j.jmb.2014.05.029
6. Forsberg KJ*, Patel S*, **Gibson MK**, Lauber CL, Knight R, Fierer N, Dantas G. Bacterial phylogeny structures soil resistomes across habitats. *Nature.* 2014; 509 (7502): 612.
7. Pehrsson EC, Forsberg KJ, **Gibson MK**, Ahmadi S and Dantas G. Novel resistance functions uncovered using functional metagenomic investigations of resistance reservoirs. *Front Microbiol.* 2013; 4:145. doi: 10.3389/fmicb.2013.00145

* *These authors contributed equally*

References

Available upon request