Tracy K. Teal
Data Carpentry
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Professional Preparation

2007   PhD Computation & Neural Systems, California Institute of Technology
1999   MA Biology, University of California, Los Angeles
1997   BS Cybernetics, University of California, Los Angeles

Appointments

2015 -   Data Carpentry Executive Director
2016 -   Research Scientist, University of California, Davis
2015 -   Adjunct Assistant Professor, BEACON, Michigan State University
2013-2015   Assistant Professor, BEACON and Microbiology and Molecular Genetics, Michigan State University
2013-2014   Research Specialist, Institute for Cyber-Enabled Research, Michigan State University
2010-2012   Research Associate, Microbiology and Molecular Genetics, Michigan State University
2008-2010   NSF Postdoctoral Fellow in Biological Informatics, Michigan State University

Five Most Relevant Publications and Products

Wilson G, Bryan J, Cranston K, Kitzes J, Nederbragt L, Teal TK. Good Enough Practices in Scientific Computing. PLOS Computational Biology 13(6): e1005510. (2017)

Williams JJ, Teal TK. A Vision for Collaborative Training Infrastructure for Bioinformatics. *Ann. N.Y. Acad. Sci.*, 1387: 54–60. doi:10.1111/nyas.13207. (2017)

Shade A, Teal TK. Computing Workflows for Biologists: A Roadmap. PLoS Biol 13 (11), e1002303 (2015)

Teal TK**,** Cranston KA, Lapp H, White EP, Wilson GV, Ram K, Pawlik A. Data Carpentry: Workshops to Increase Data Literacy for Researchers. *International Journal of Digital Curation.* 10:135-143. (2015)

Gomez-Alvarez V*, Teal TK*, Schmidt TM. Systematic artifacts in metagenomes from complex microbial communities. *The ISME Journal.* 3(11): 1314-17. (2009)

Five Other Publications and Products

Johnson BK, Scholz MB, Teal TK, Abramovitch RB. SPARTA: Simple Program for Automated reference-based bacterial RNA-seq Transcriptome Analysis. BMC Bioinformatics. 2016 Feb 4;17(1):66 (2016)

Werling BP, Dickson TL, Isaacs RI, Gaines H, Gratton C, Gross KL, Liere H, Malmstrom CM, Meehan TD, Ruan L, Robertson BA, Robertson GP, Schmidt TM, Schrotenboer AC, Teal TK, Tuell J, Landis DA. Perennial grasslands increase multiple ecosystem services in bioenergy landscapes. *Proceedings of the National Academy of Science.* doi:10.1073/pnas.1309492111 (2014)

Teal TK. Replicate Filter Software. Released April 2010. https://github.com/tracykteal/replicate-filter/

Müller HM, Rangarajan A, Teal TK, Sternberg PW. Textpresso for neuroscience: searching the full text of thousands of neuroscience research papers. *Neuroinformatics.* 6(3):195-204. (2008)

Dietrich LEP, Teal TK, Price-Whelan A, Newman DK. Redox-active antibiotics control gene expression and community behavior in divergent bacteria. *Science.* 321(5893):1203-1206. (2008)

Synergistic Activities

Data Carpentry and Software Carpentry: Co-founder and Executive Director of Data Carpentry developing curriculum, organizing workshops, teaching workshops, establishing infrastructure and strategies for more effective workshop coordination and assessment, developing and maintaining web site and email lists, engaging in social media, coordinating volunteers, and co-PI or key personnel on grants supporting Data Carpentry. Co-organizer of hackathons to develop Data Carpentry lessons for Genomics, Geospatial Data, and Social Sciences and a workshop on Tools, Resources and Practices for Reproducible Science. All materials CC-BY and taught by instructors and others around the world. Software Carpentry instructor since 2012, including lead instructor for a Women in Science and Engineering Workshop for 100 women.

Instruction and Development of Bioinformatics Training Materials: Co-founder and instructor for Explorations in Data Analyses for Metagenomic Advances in Microbial Ecology (EDAMAME) workshop 2014. Faculty at the Woods Hole Marine Biological Laboratory Strategies and Techniques for Analyzing Microbial Population Structures (STAMPS) course, Summer 2014, 2015 & 2016. Developed and taught workshops on RNASeq, amplicon analysis, introduction to the command line for biologists, and multivariate statistics for Institute for Cyber-Enabled Research at Michigan State 2013-2015. All lesson materials distributed CC-BY.

Conference and Workshop organization: Co-organizer of NCEAS Data Intensive Training Workshop, 2015. Chair of the SciPy Bioinformatics Mini-symposium, 2014 & 2015 and Reproducible Research 2016. Co-organizer of the National Earth Observatory Network (NEON) Advanced Analysis of Genomic Data in Microbial Research Workshop, 2014.

Grant and paper reviewing: Grant reviewer for NSF, DOE and Graduate Women in Science. Journal reviewer for *Bioinformatics, Nature Biotechnology, Applied and Environmental Microbiology, Scientific Reports, Database, PLOS Biology, PLOS ONE, Journal of Microbiological Methods.* Editor for the Journal of Open Source Software.

Open source software development: Developed and contributed to several open source software projects, including Replicate Filter (quality filtering of 454 data), Textpresso (an information extracting and processing package for biological literature) and OligoSelect (a tool to create oligos from sets of genes).