

Dakota Hawkins

Contact

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Work Experience

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| 2015 – 2016 | Pacific Northwest National Laboratory, Richland, WA
<i>Post Baccalaureate Research Assistant</i>
Worked in the Applied Statistics and Computational Modeling group under the Computational and Statistical Analysis division. Research focused on bioinformatic-based projects such as analysis of -omics data and development of new quantitative tools to assist researchers. |
| 2013 – 2015 | Westminster College, Salt Lake City, UT
<i>QUARC Student Statistics Consultant</i>
Helped develop quantitative reasoning on Westminster College Campus. Responsibilities focused on aiding in statistical analysis for local projects, teaching in-class lessons, and developing new quantitative literacy courses for Westminster College |

Education

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| 2016 – Current | Doctor of Philosophy, Boston University , Boston, MA
Bioinformatics |
| 2010 – 2015 | Bachelor of Science, Westminster College , Salt Lake City, UT
<i>cum laude</i> Majors: Biology and Mathematics
GPA: 3.7 |

Research

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| Jul. 2016 – Current | James Galagan Laboratory at Boston University, Boston, MA
Conducted ChIP-Seq and RNA-Seq experiments to help map the transcriptional regulatory network of <i>E. coli</i> . |
| Mar. 2016 – Jul. 2016 | Pacific Northwest National Laboratory, Richland, WA
Aided in protein-based stable isotope probing experiments by running analysis pipelines to calculate labeling statistics. |
| Nov. 2015 – Jul. 2016 | Pacific Northwest National Laboratory, Richland, WA
Provided statistical support to determine differences in -omic make-up of the fecal microbiome between successful and unsuccessful gastric bypass patients. |
| Jul. 2015 – Feb. 2016 | Pacific Northwest National Laboratory, Richland, WA
Helped create and implement displays and algorithms to visualize and quantify shotgun proteomic data. |
| 2013 – 2014 | Westminster College, Salt Lake City, UT
Developed novel program in Python for automating detection of singing on the nest in field recordings of Northern Mockingbirds. |
| 2012 – 2013 | Westminster College, Salt Lake City, UT
Collected field recordings of House Finch songs to compare urban and non-urban song dialects. |
| Jan. 2012 – Jun. 2012 | University of Utah Health Care, Salt Lake City, UT
Aided in genetic analysis running reverse transcription and PCR analysis. |

Relevant Course Work

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| Math | Mathematical Biology (I & II), Differential Equations, Mathematical Statistics, Probability and Statistics, Applied Statistics, Statistics for the Life Sciences, Networks, Abstract Algebra |
| Science | Genetics, Cell Biology, Organic Chemistry, Developmental Biology, Ecology |
| Computing | Scientific Computing, Intro to Data Structures |

Programming Languages

- Python: Developed program to automate detection of bird songs in field recordings.
<https://github.com/HawkinsDakota/SOTN>
- R: Created programs for -omics data analysis and visualization.
Proprietary
- MATLAB: Used for numerical analysis of different mathematical systems.
<https://github.com/HawkinsDakota/MCM2015>
- C++: Self-taught basic C++ using the book *Essential C++* by Stanley B. Lippman.
<https://github.com/HawkinsDakota/EssentialCpp>
- Java: Used in class for object-oriented programming and data structure creation.
<https://github.com/HawkinsDakota/DataStructure>

Selected Posters and Presentations

- 2014 *Detecting Singing on the Nest*
Westminster College Undergraduate Research Conference
Presented undergraduate work to automatically isolate bird songs in field recordings.
- 2014 *An Interdisciplinary Quantitative Analysis and Research Cooperative (QUARC) at Westminster College*
Electronic Conference on Teaching Statistics
Helped present current activities and goals of QUARC to promote quantitative reasoning at Westminster College.
- 2014 *O Captain! My Captain!*
Mathematical Association of America, Intermountain Section
Presented methods to determine the best college sports coach over the past century.
- 2014 *Introducing QUARC*
Westminster College - Tutorpalooza
Presented activities and goals of QUARC to fellow tutors and aids on Westminster campus.
- 2013 *Frequency Characteristics of Urban House Finch Songs*
Ecological Society of America
Presented undergraduate research on house finch dialects in urban areas within Salt Lake.
- 2013 *Frequency Characteristics of Urban House Finch Songs*
Utah Conference on Undergraduate Research
Presented undergraduate research on house finch dialects in urban areas within Salt Lake.

Awards and Accolades

- 2016 NIH Trainee – Boston University
- 2016 Outstanding Performance Award – Pacific Northwest National Laboratory
- 2014, 2015 Honorable Mention – Mathematical Competition in Modeling
- 2013 – 2015 Gore Math/Science Scholarship – Westminster College
- 2013, 2014 Gore Math/Science Summer Research Grant – Westminster College
- 2012 Scholars Summer Research Grant – Westminster College

Professional Affiliations

- 2014 – *Current* Beta Beta Beta (Biology Honor Society)