Lyndsay Staley

Education

2012–2015 **B.S. Bioinformatics, Comp. Sci. Minor**, *Brigham Young University*, Provo, UT, *GPA: 3.7 of 4.0*.

Relevant Courses and Experience:

- Science: Molecular Biology, Genetics, Computational Biology, Genetics of Human Disease, Bioinformatics and Proteomics
- Computer Science: Advanced Programming Concepts, Data Structures, Discrete Structures, Internet Programming

Experience

Teaching

2012–2015 **Head TA for Introduction to Bioinformatics class**, *BYU*, Provo, UT.

Taught students basic python programming skills, helped them learn to "think like a computer", and apply scientific concepts to their programs. Trained and managed TAs, graded and provided feedback on assignments.

Research

2012–present **Bioinformatics Research Assistant**, *Kauwe Lab*, Provo, UT.

Developed, managed, and collaborated on multiple projects, from beginning to end. These opportunities allowed me to write and submit IRB proposals for human studies, present posters, give presentations, publish papers, and mentor students. Throughout these project, I worked with next generation sequence analysis tools (e.g. GATK, Samtools, and Picard), whole genome analysis tools (e.g. PLINK), and pathway analysis tools to analyze gene expression data (e.g. R package gage). I honed my proficiency on the commandline and gained additional experience with multiple programming languages. I also used annotation tools (e.g. dbSNP, wAnnovar, RegulomeDB, snpNexus, NHGRI GWAS database) to characterize genetic mutations and possible consequences, and coupled this with research using Pubmed, BLAST, and OMIM. I have conducted research in Alzheimer's Disease, Mitochondrial Disease, prostate cancer, and autoimmune diseases (e.g. SLE and APS).

Grants

2014 **BYU ORCA grant ($1,500)**, *Kauwe Lab*, BYU Provo, UT.

Awarded to research Prostatic Acid Phosphatase (manuscript under revision now).

2013 **BYU ORCA grant ($1,500)**, *Kauwe Lab*, BYU Provo, UT.

Awarded to research Mitochondrial Disease.

Awards/Recognition

2015 **Honored Graduate**, *Department of Biology*, Brigham Young University.

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2015 **Full Tuition Academic Scholarship**, *Brigham Young University*, Provo, UT.

2015 **Half Tuition Academic Scholarship**, *Scholarship Foundation for Academic Excellence*, CA.

2015 **Magazine Publication**, *Life Science Magazine, Brigham Young University*, Provo, UT.

2015 **Newspaper Article**, *White Mountain Independent*, AZ.

2013–2014 **Half Tuition Academic Scholarship**, *Brigham Young University*, Provo, UT.

2013–2014 **Full Tuition Academic Scholarship**, *Scholarship Foundation for Academic Excellence*, CA.

Publications

Journal Publications

Lyndsay A. Staley*, Mark T.W. Ebbert*, Daniel Bunker, Matthew Bailey, for the Alzheimer's Disease Neuroimaging Initiative, Alison M. Goate, and John S.K. Kauwe. Variants in acpp are associated with cerebrospinal fluid prostatic acid phosphatase levels. June 2016. BMC Genomics.

Lyndsay A. Staley*, Mark T. W. Ebbert*, Sheradyn Parker, Matthew Bailey, Kelly Bales, Eve H. Pickering, for the Alzheimer's Disease Neuroimaging Initiative, Perry G. Ridge, Alison M. Goate, and John S. K. Kauwe. Snps across the genome affect prolactin levels in plasma and cerebrospinal fluid. June 2016. BMC Genomics.

Mark T. W. Ebbert*, **Lyndsay A. Staley***, Joshua Parker, Sheradyn Parker, Matthew Bailey, Kelly Bales, Eve H. Pickering, for the Alzheimer's Disease Neuroimaging Initiative, Perry G. Ridge, Alison M. Goate, and John S. K. Kauwe. Ccl16 mutations modify protein levels in both cerebrospinal fluid and blood plasma. June 2016. BMC Genomics.

Mark T. W. Ebbert*, Mark E. Wadsworth*, **Lyndsay A. Staley***, Kaitlyn L. Hoyt, John Duce, Justin Miller, Brandon Pickett, John S.K. Kauwe, and Perry G. Ridge. An evaluation of the necessity of pcr duplicate removal from next-generation sequencing data and a comparison of approaches. July 2016. BMC Bioinformatics.

Mark T.W. Ebbert, Kevin L. Boehme, Mark E. Wadsworth, **Lyndsay A. Staley**, for the Alzheimer's Disease Neuroimaging Initiative, Alzheimer's Disease Genetics Consortium, Shubhabrata Mukherjee, Paul K. Crane, Perry G. Ridge, and John S.K. Kauwe. Interaction between variants in clu and ms4a4e modulates alzheimer's disease risk. *Alzheimer's and Dementia*, In Press 2015.

John S.K Kauwe, Matthew H. Bailey, Perry G. Ridge, Rachel Perry, Kaitlyn L.Hoyt Mark E. Wadsworth, **Lyndsay A. Staley**, Celeste M. Karch, Oscar Harari, Carlos Cruchaga, Benjamin J. Ainscough, Kelly Bales, Eve H. Pickering, Sarah Bertelsen, for the Alzheimer's Disease Neuroimaging Initiative, Anne M. Fagan, David M. Holtzman, John C. Morris, and Alison M. Goate. Genome-wide association study of csf levels of 59 alzheimer's disease candidate proteins: significant associations with

proteins involved in amyloid processing and inflammation. *PloS Genetics*, October 2014.

Oral Presentations

Talks

Lyndsay A. Staley*, Mark T.W. Ebbert*, Daniel Bunker, Matthew Bailey, for the Alzheimer's Disease Neuroimaging Initiative, Alison M. Goate, and John S.K. Kauwe. Variants in acpp are associated with cerebrospinal fluid prostatic acid phosphatase levels. In *Proceedings of the Biotechnology and Bioinformatics Symposium*, Brigham Young University, Provo, Utah, USA, December 2015. Biotechnology and Bioinformatics Symposium.

Lyndsay A. Staley*, Mark T. W. Ebbert*, Sheradyn Parker, Matthew Bailey, Kelly Bales, Eve H. Pickering, for the Alzheimer's Disease Neuroimaging Initiative, Perry G. Ridge, Alison M. Goate, and John S. K. Kauwe. Snps across the genome affect prolactin levels in plasma and cerebrospinal fluid. In *Proceedings of the Biotechnology and Bioinformatics Symposium*, Brigham Young University, Provo, Utah, USA, December 2015. Biotechnology and Bioinformatics Symposium.

Mark T. W. Ebbert*, **Lyndsay A. Staley***, Joshua Parker, Sheradyn Parker, Matthew Bailey, Kelly Bales, Eve H. Pickering, for the Alzheimer's Disease Neuroimaging Initiative, Perry G. Ridge, Alison M. Goate, and John S. K. Kauwe. Ccl16 mutations modify protein levels in both cerebrospinal fluid and blood plasma. In *Proceedings of the Biotechnology and Bioinformatics Symposium*, Brigham Young University, Provo, Utah, USA, December 2015. Biotechnology and Bioinformatics Symposium.

Mark T. W. Ebbert*, Mark E. Wadsworth*, **Lyndsay A. Staley***, Kaitlyn L. Hoyt, John Duce, Justin Miller, Brandon Pickett, John S.K. Kauwe, and Perry G. Ridge. An evaluation of the necessity of pcr duplicate removal from next-generation sequencing data and a comparison of approaches. In *Proceedings of the Biotechnology and Bioinformatics Symposium*, Brigham Young University, Provo, Utah, USA, December 2015. Biotechnology and Bioinformatics Symposium.

Poster Presentations

Lyndsay A. Staley, Perry G. Ridge, Matthew H. Bailey, Carlos Cruchaga, Alison Goate, and John S.K.Kauwe. Genome-wide association study of cerebrospinal fluid prostatic acid phosphatase levels. San Diego, CA, October 2014. American Society of Human Genetics.

Kaitlyn L. Hoyt, Perry G. Ridge, Kevin Boehme, **Lyndsay A. Staley**, John S.K. Kauwe, and Alzheimer's Disease Genetic Consortium. Alzheimer's disease: Analyzing the missing heritability. San Diego, CA, October 2014. American Society of Human Genetics.

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Mark T. W. Ebbert, Kevin L. Boehme, Mark E. Wadsworth, **Lyndsay A. Staley**, ADNI, for the Alzheimer's Disease Neuroimaging Initiative, Perry G. Ridge, and John S. K. Kauwe. Interaction between variants in clu and ms4a4e modulates alzheimer's disease risk. Baltimore, MD, October 2015. American Society of Human Genetics.

Skills and Qualifications

Computational Biology and Bioinformatics Skills:

- Algorithm development
- Next-generation sequence data analysis (RNASeq, exome, etc.)
- Gene expression analysis
- Statistical analysis with R
- Data mining and information storage with databases
- Database development
- Super computers
- Next-generation sequence analysis tools (e.g. GATK, SAMTools, etc.)
- GWAS tools(e.g. PLINK, IMPUTE2, etc.)

Programming Languages:

- Python
- C++
- Java
- R
- HTML/CSS
- SQL
- Bash/Shell

Typesetting Languages:

- LaTeX

Operating Systems:

- Mac OS X
- Linux
- Windows

Languages

English **Native**

Spanish **Basic**

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