Sage M. Wright

sagemwright@gmail.com
+1 (208) 602 0891

Education

2017 **Ph.D. Bioinformatics and Genomics**, *Penn State University*, State College, PA.

2013–2017 **B.S. Bioinformatics**, *Brigham Young University*, Provo, UT.
Minors: Computer Science, English, Music · GPA: 3.75

Relevant Coursework

Computer Science: Data Structures, Discrete Structures, Advanced Programming Concepts, Algorithm Design & Analysis, Bioinformatics, Bioinformatics & Genomics

Biology: Molecular Biology, Genetics, Genomics, Evolutionary Biology, Metagenomics, Bioinformatics (cross-listed as Computational Biology)

Experience

Research

2015–2017 **Bioinformatics Research Assistant**, *Kauwe Lab*, Provo, UT.
Analyze the effect of Natural Selection on Alzheimer's Disease through the usage of multiple computing programs. Prepare a pipeline to automate the process of running Natural Selection analyses from .bam files. Calculate correlation between IL6R and CRP CSF levels in Alzheimer's Disease patients. Determine relationship between rare variants and Alzheimer's Disease status and progression.

2016 **Summer Undergraduate Research Intern**, *Yue Lab*, Hershey, PA.
Examine the effect of structural and copy number variations in both Osteosarcoma and Parkinson's Disease. Propose a plan for further investigation in certain loci for validation of duplicated genes identified. Prepare and present a poster in addition to several oral presentations to explain results of the analyses.

Teaching

2017 **Teaching Assistant**, *CS 312 - BYU Computer Science Department*, Provo, UT.
Teach students about different programming concepts and algorithms, including linear and dynamic programming, and various NP-complete and NP-hard computational problems. Aid students on programming projects implementing algorithms under both complexity and time constraints. Grade homework assignments and coding project reports.

2015 **Teaching Assistant**, *BIO 165 - BYU Biology Department*, Provo, UT.
Coach students in learning Python and understanding programming concepts, such as conditionals, logic, and loops, with regard to beginning bioinformatic algorithms, including finding the reverse complement of a sequence, translation, etc.

Awards, Conferences, Fellowships, & Grants

2017-2018 **University Graduate Fellowship**, Penn State University
This fellowship is described as "*the most prestigious and competitive graduate fellowship bestowed by the Graduate School*" for incoming graduate students.

2017-(2019) **Robert W Graham Endowed Fellowship**, Penn State University

2017-(2020) **Huck Distinguished Graduate Scholarship**, Penn State University

2016–2017 **Half Tuition Academic Scholarship**, Brigham Young University

2016 **Biotechnology and Bioinformatics Symposium**
Attended two-day conference in Provo, UT, and presented a poster during the poster session. (Determining the Effects Variants Have on Gene Splicing)

2016 **BYU ORCA Grant**, Kauwe Lab, Brigham Young University
Research Proposal: "Natural Selection in Samoan Metabolic Pathways"

2016 **Half Tuition Academic Scholarship**, Brigham Young University

2015–2016 **Half Tuition Academic Scholarship**, Brigham Young University

2015 **American Society of Human Genetics Annual Meeting**
Attended week-long conference in Baltimore, MD, with members of the Kauwe Lab

2015 **Full Tuition Academic Scholarship**, Brigham Young University

2015 **Blessing-Kagel Literature and Landscape Study Abroad Award for Creative Writing**, Brigham Young University

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

Skills & Qualifications

Programming Languages

- Python
- C++
- C#
- Android
- SQLite
- R
- Bash/Shell

Bioinformatic Skills

- GWAS software (Plink, ShapeIt, etc.)
- CNV & SV detection programs (CNAnorm, Delly, etc.)
- Slurm Workload Manager
- NGS analysis tools (GATK, BamTools, etc.)
- Statistical analysis via R
- Command line proficiency
- Linux, macOS, and Windows proficiency

Oral Presentations

Poster Presentations

Michael Cormier, **Sage Wright**, Justin Miller, and Perry Ridge. Determining the Effects Variants Have on Gene Splicing. Provo, UT, December 2016. Biotechnology and Bioinformatics Symposium.

Sage Wright, Vonn Walter, James Broach, and Feng Yue. Structural and copy number variation detection in complex diseases. Hershey, PA, August 2016. Penn State College of Medicine Summer Undergraduate Research Symposium.

Publications

Wright SM, Carroll C, Walters A, Newell PD, Chaston JM. 2017. Genome sequence of *Leuconostoc citreum* DmW_111, isolated from wild *Drosophila*. Genome Announc 5:e00507-17. https://doi.org/10.1128/genomeA.00507-17.

Justin B. Miller, Ariel A. Hippen, **Sage M. Wright**, Caroline Morris, and Perry G. Ridge. Human Viruses Have Codon Usage Biases that Match Highly Expressed Proteins in the Tissues They Infect. Biomedical Genetics and Genomics. *Accepted June 2017.*

Sage M. Wright, Samantha L. Jensen, Kristen L. Cockriel, Brian Davis, JoAnn T. Tschanz, Ronald G. Munger, Christopher D. Corcoran, and John S. K. Kauwe. rs3846662 as a Protective Variant for Alzheimer's Disease: the Cache County Study. *In Progress.*

Languages

English	**Native**	*Reading, Speaking, Writing*
Spanish	**Basic**	*Reading, Speaking*