WADE ROBERTS

I have 10 years of experience conducting research independently and collaboratively. My current work heavily involves computational biology, but I also have previous experience as a field and wet lab biologist. My experience has resulted in strong expertise in genomics, transcriptomics, and phylogenetics. I have extensive experience generating and working with NGS and long read sequencing. I am highly skilled in data wrangling, statistical analysis, and data visualization using R (base and Tidyverse), Python, and the command line interface. I regularly design and execute workflows using R, Bash, and Slurm, with some experience using Snakemake. I strive for reproducibility and execute end-to-end reports and visualization using RMarkdown. For my career, I am focused on pursing my passion for applying genomics and computational biology to scientific discovery.
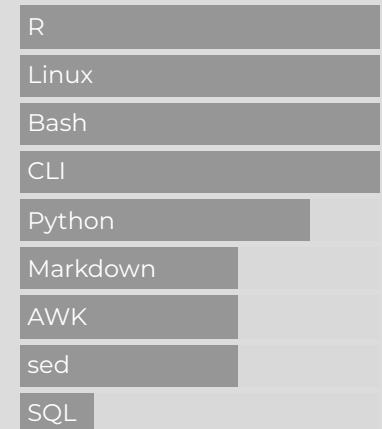
💼 EXPERIENCE

current | 2018

Postdoctoral Researcher
University of Arkansas 📍 Fayetteville, AR

- Managed and lead multiple research projects into genome evolution and the transcriptomic response of diatoms to environmental changes. Expertise in genomic, metagenomic, transcriptomic, and phylogenomic approaches.
- Sequenced new reference genomes for 50+ species using Illumina and Oxford Nanopore technologies. Increased the number of available genomes for diatoms 4-fold.
- Performed bioinformatic analyses and designed workflows to analyze genomic data from 280+ genomes and transcriptomes. Provided reproducibility, interpretation, and data visualization using R and Markdown. Expansive practical knowledge of current genomics software and methodologies.
- Used high-performance computing (HPC) servers and virtual compute nodes daily. Regularly used databases to manage and curate biological metadata.
- Reviewed scientific and technical writing for dozens of journal articles and SOPs. Communicated research to different audiences at conferences and journal publications.

2018 | 2012

Graduate Research Assistant
Washington State University 📍 Pullman, WA

- Managed and lead multiple research projects in phylogenetics and the evolution of gene expression. Expertise in molecular genetics, plant biology, and phylogenetics.
- Designed experiments to sequence and analyze RNA-seq data collected across multiple developmental time points in 12 species.
- Performed bioinformatic and phylogenetic analyses to gather, clean, and analyze publicly available genetic and trait data for 500+ species.
- Communicated research through presentations at national conferences and journal publications.
- Designed, built, and maintained in-house computing and storage servers.

2012 | 2010

Greenhouse worker
Whitworth University 📍 Spokane, WA

- Managed and maintained two greenhouse collections of plants used for research and teaching.

🎓 EDUCATION

2018 | 2012

Ph.D., Molecular Plant Sciences
Washington State University 📍 Pullman, WA

- Dissertation: Evolutionary genomics of flower diversification in Achimenes (Gesneriaceae)

2012 | 2007

B.S., Biology | B.A., Art
Whitworth University 📍 Spokane, WA

View this Resume online with links at *wrroberts.github.io*

CONTACT

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- ⌨ github.com/wrroberts
- 🔗 wrroberts.github.io
- 📞 1 (509) 631-4330

LANGUAGE SKILLS

- R
- Linux
- Bash
- CLI
- Python
- Markdown
- AWK
- sed
- SQL

MORE INFO

See full CV at wrroberts.github.io for more complete list of publications and activities.

TEACHING AND OUTREACH

myDiatoms
current | 2020
https://www.mydiatoms.org/

· A citizen science project to introduce students, naturalists, and the public to diatoms.

Genome Assembly Workshop
2023
University of Arkansas 📍 Fayetteville, AR

· Designed from bottom up a course to teach all stages of genome assembly, annotation, and analysis.
· Covers raw data cleaning, assembly, contaminant removal, genome size estimation, ploidy estimation, and gene prediction. Uses R, Python, Bash, and Anaconda.

Northwest Arkansas Regional Science Fair
2023 | 2018
University of Arkansas 📍 Fayetteville, AR

· Science project judging for middle and high school students.

Graduate Teaching Assistant
2018 | 2013
WSU Biology Department 📍 Pullman, WA

· TA and lectured for 10 semesters.
· Courses included Intro Biology, Intro Botany, and Systematic Botany.
· Revised course materials with new activities to better engage students with active learning and focus on PNW flora.

Plant Science Day
2017 | 2016
Washington State University 📍 Pullman, WA

· Co-chair, organizer, and exhibit lead. Provided learning activities about plant biology for local students and their families.