Christopher J. Fiscus, PhD

Bioinformatics Scientist
Irvine, California

1-209-613-9384
fiscuscj@gmail.com
fiscuscj
cjfiscus

Summary

R&D Scientist with extensive experience in bioinformatics, computational biology, and data science. Strong track record of leading high-impact research projects within cross-functional teams. Expert communicator with a talent for translating complex technical information to diverse stakeholders, fostering collaboration and driving project success.

Professional Experience

Postdoctoral Researcher 09/2022 - Present
University of California, Irvine Irvine, CA

- Conducting cutting-edge research on wild grape genomics utilizing novel genomics and machine learning algorithms, leading to 4 conference presentations (3 talks, 1 poster)
- Led a team of 4 in the 2023 Pan-Structural Variation Hackathon in the Cloud, designed an algorithm to characterize copy number variation from next generation sequencing data
- Developed and implemented bioinformatics algorithms for analysis of multi-omics NGS sequencing data in a high-performance computing environment

Graduate Student Researcher 09/2016 - 09/2022
University of California, Riverside Riverside, CA

- Contributed to genomics research projects as part of a cross-functional R&D team, leading to 3 peer-reviewed publications and 8 conference presentations (2 talks, 6 posters)
- Developed a novel pipeline utilizing K-mer frequencies from WGS reads to profile genomes, estimate repeat copy number variation, and map genetic determinants of CNV using GWAS
- Mentored and managed teams of 1-2 direct reports (5 mentees total), enhancing their technical skills and contributing to successful project outcomes

Quality Control Laboratory Technician 12/2015 - 08/2016
Charles Krug Winery St. Helena, CA

- Conducted enology laboratory tests throughout production, ensuring legal compliance and maintaining quality standards across multiple product lines
- Redesigned 5 SOPs for quality control laboratory assays, improving laboratory efficiency by 20% and ensuring consistent, reliable testing procedures
- Collaborated with production teams to identify and resolve product quality issues, enhancing overall product consistency through thorough data analysis and problem-solving

Harvest Laboratory Technician 08/2015 - 12/2015
Charles Krug Winery (via Apex Life Sciences) St. Helena, CA

- Conducted enology laboratory tests and data evaluation supporting the production of 1.5 million cases annually

Skills

- **Data analysis**: inferential statistics, regression, clustering, PCA, machine learning (random forests)
- **Programming**: R (tidyverse, ggplot2), bash, python
- **Bioinformatics**: NGS data analysis, SNP calling, GWAS, bwa, GATK, samtools/bcftools, bedtools, plink
- **Computing**: Unix command line, SLURM (HPC), conda, git (version control), snakemake (workflow)

Education

Ph.D. Genetics, Genomics and Bioinformatics 2022
University of California, Riverside

B.S. Biotechnology 2015
University of California, Davis

Certifications

AWS Cloud Technical Essentials 11/2023
Coursera

Publications 0000-0001-9569-1809

Landis JB, Guercio AM, Brown KE, **Fiscus CJ**, Morrell PL, Koenig D. Natural selection drives emergent genetic homogeneity in a century-scale experiment with barley. Science. 2024;385: eadl0038. doi:10.1126/science.adl0038

Deb SK, Kalra D, Kubica J, Stricker E, Truong VQ, Zeng Q, **Fiscus CJ**, [41 authors], Sedlazeck FJ, Busby B. The fifth international hackathon for developing computational cloud-based tools and resources for pan-structural variation and genomics. F1000Res. 2024;13: 708. doi:10.12688/f1000research.148237.1

Fiscus CJ, Herniter IA, Tchamba M, Paliwal R, Muñoz-Amatriaín M, Roberts PA, Abberton M, Alaba O, Close TJ, Oyatomi O, Koenig D. The pattern of genetic variability in a core collection of 2,021 cowpea accessions. G3. 2024. doi:10.1093/g3journal/jkae071

Martinez SE, Conn CE, Guercio AM, Sepulveda C, **Fiscus CJ**, Koenig D, Shabek N, Nelson DC. A KARRIKIN INSENSITIVE2 paralog in lettuce mediates highly sensitive germination responses to karrikinolide. Plant Physiol. 2022. doi:10.1093/plphys/kiac328