Rowan K. O'Hara

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EDUCATION

Virginia Commonwealth University (VCU), Richmond, Virginia, Jan 2021 - May 2023.
    Candidate for **Master of Science in Bioinformatics**, thesis track.
    GPA: 3.87/4.0

Virginia Commonwealth University, Richmond, Virginia, Jul 2018 - May 2022.
    Bachelor of Science in Bioinformatics, concentration in biological/genomic sciences.
    Bachelor of Science in Psychology.
    Cum laude

RESEARCH EXPERIENCE

Research Associate*,* POP-GEM Lab, VCU Virginia Institute for Psychiatric and Behavioral Genetics, Aug 2021 - Present.
- Clean, visualize, and analyze large datasets using the R programming language and the tidyverse packages.
- Lead data analysis and manuscript preparation of ongoing project "Examining the genetic and environmental interaction on the relationship between IPV exposure and alcohol use."
- Presented *Examination of sex differences in the association of interpersonal violence and symptoms of depression and anxiety among college students* at the annual meeting of the VCU Women's Health Research Day, Richmond, VA (2022, Apr).
- Attended *Goodbye, p-value: Practical Bayesian Statistics to Replace Frequentist Statistics* webinar presented by Sean Koebley, Ph.D. as a part of the How-to Talks by Postdocs series hosted by the Health Science Library at Virginia Commonwealth University (2021, Oct).
- Certified in Collaborative Institutional Training Initiative (CITI) program training in Biomedical course in the Basic/Refresher Course Human Subjects Research curriculum (2021, Sept).
- Supervised by Roseann E. Peterson, Ph.D.

Laboratory of Translational Genomics, Division of Cancer Epidemiology and Genetics, National Cancer Institute.
    Special Volunteer, Aug 2022 - Present.
    Intern, Graduate Data Science Summer Program, Jun 2022 - Aug 2022
- Employ machine learning to predict the MNS16A genotype on data from the 1000 Genome Project (Phase 3).
- Contribute to the preparation of a methods paper.
- Developed a research question and designed a bioinformatics pipeline to find results.
- Presented *Genotyping the TERT-MNS16A minisatellite repeat based on short-read whole-genome sequencing data using machine learning* at the annual NIH Summer Poster Day (2022, Aug).
- Attended *Profiling of structural variants and complex rearrangements in cancer genome using long-read sequencing* webinar presented by Mikhail Kolmogorov, Ph.D. from the Cancer Data Science Library, National Cancer Institute at the National Institutes of Health (2022, Jul).

- Attended *EPI 101* webinar series presented by faculty members of the National Cancer Institute at the National Institutes of Health (2022, Jul).
- Participated in *Laboratory of Translational Genomics (LTG) Journal Club* bioinformatics webinar series presented by faculty members of the LTG branch of the National Cancer Institute at the National Institutes of Health (2022, Jun - Jul).
- Completed *Becoming a Resilient Scientist* webinar series presented by Sharon Milgram, Ph.D. from the Office of Intramural Training and Education at the National Institutes of Health (2022, Jun).
- Supervised by Oscar Florez-Vargas, Ph.D. & Ludmila Prokunina-Olsson, Ph.D.

Independent Study Research Assistant*, VCU Virginia Institute for Psychiatric and Behavioral Genetics, Jan 2021 - Jun 2021.

- Designed thesis project and completed a literature review on genetic and environmental determinants of major depression and cross-ancestry genome-wide association study (GWAS) methods.
- Presented *Cross-Ancestry GWAS for Major Depression* to independent study students and mentors (2021, May).
- Earned 8 LinkedIn Learning certificates in R data cleaning and analysis (2021, Mar-Apr).
- Attended webinar on *Fuma, LD Hub* presented by Alexander Hatoum, Ph.D. and Ray Walters, Ph.D. as a part of the Short Course on the Genetics of Addiction hosted by the Jackson Laboratory (2021, Apr).
- Attended *GWAS Fundamentals* webinar presented by Sandra Sanchez-Roige, Ph.D. as a part of the Short Course on the Genetics of Addiction hosted by the Jackson Laboratory (2021, Apr).
- Attended *How Do We Study Human Genetics of Addiction: Heritability, Twin Studies, Phenotype, and Development?* webinar presented by Danielle Dick, Ph.D. as a part of the Short Course on the Genetics of Addiction hosted by the Jackson Laboratory (2021, Apr).
- Participated in a 14-Day Writing Challenge hosted by the National Center for Faculty Development and Diversity (2021, Mar).
- Attended *Become a UseR: A brief tour of R* webinar presented by Gregory Farage, Ph.D. and Saunak Sen, Ph.D. hosted by the NIDA Center of Excellence in Omics, System Genetics, and the Addictome (2021, Mar).
- Supervised by Roseann E. Peterson, Ph.D.

Course-Based Research Assistant, Topics in Biology: Spit for Science, VCU College Behavioral and Emotional Health Institute, Jan 2020 - May 2020.

- Performed data analysis and genome-wide association study on VCU Spit for Science data.
- Presented *The Relationship Between Symptoms of Internalizing Feelings and Alcohol Use in College Students* with colleagues at the Spit for Science Symposium, Richmond, VA (2020, Apr).
- Completed independent project "The relationship between alcohol dependence in college students and SNPs on the *GABRA2* gene."
- Certified in Collaborative Institutional Training Initiative (CITI) program training in Social and Behavioral course in the Basic Course Human Subjects Research curriculum (2020, Jan).
- Supervised by Amy Adkins, Ph.D. & Sally Kuo, Ph.D.

Course-Based Research Assistant, Phage Discovery I & II, VCU Center for Biological Data Science, Jan 2019 - Dec 2019.

- Utilized wet-lab protocols to isolate a Pantoea phage from a sample collected.
- Demonstrated meticulous work ethic in the annotation of a Bacillus phage using DNA Master.

- Co-authored Genbank submission of Bacillus phage Phireball (Accession number MN038176.1), annotating gene products 67-99 (2019, Jul).
- Presented *Virginia Commonwealth University Bacillus Phages* at the annual meeting of Phage Phest at William & Mary College, Williamsburg, VA (2019, Apr).
- Presented *A Comparative Study of Bacillus Phage Phireball's Genomics to Other Bacillus Phage Genomes* with colleagues on behalf of the Spring 2019 BNFO 252 Phage Hunters at the annual meeting of the Undergraduate Research Symposium at Virginia Commonwealth University, Richmond, VA (2019, Apr).
- Supervised by Allison Johnson, Ph.D.

TEACHING AND LEADERSHIP EXPERIENCE

Graduate Teaching Assistant, Center for Biological Data Science, Virginia Commonwealth University.
Quantitative Methods in Bioinformatics, Aug 2022 - Present.
Applications in Bioinformatics, Jan 2022 - May 2022.
- Developed lectures and assignments on computational topics such as Python and R fundamentals, Python utilization in bioinformatics, and command line basics.
- Advised both undergraduate and graduate students on their projects.
- Supported students by offering open office hours.

Bioinformatics Graduate Student Organization, VCU Center for Biological Data Science.
President, May 2022 - Present.
Treasurer, Jan 2022 - May 2022.
- Coordinate collaboration with the undergraduate organization.
- Represent the organization at Graduate Student Association meetings.
- Managed the organization's finances.
- Assisted in the planning and facilitation of all events.

Gamma Phi Beta Sorority, Eta Phi Chapter, Virginia Commonwealth University.
Vice President of Education, November 2021 - Present.
Academic Chairwoman, August 2020 - November 2021.
- Plan education and sisterhood events.
- Support sisters individually who are not achieving our 3.0 minimum GPA.
- Recorded and monitored academic points to ensure the chapter is reaching our academic goals.

"BNFOthon" Bioinformatics Hackathon Planning Committee, VCU Center for Biological Data Science.
Chairwoman, Jul 2022 - Present.
Member, Jan 2022 - Jul 2022.
- Supervise the committee in the planning and facilitation of the event.
- Create bioinformatics prompts for the attendees to work on.

Mentor, Graduate Shadow Day, Women in Science, Virginia Commonwealth University, October 2021.
- Mentored an undergraduate student about graduate school and the bioinformatics program.

Mentor, Effective Mentoring Practice, Health Sciences Academy, Cosby High School, Richmond, VA, Jan 2020 - May 2020.
- Mentored two high school students at a Health Sciences Specialty Center through a dual enrollment course at VCU and critiqued their work to prepare them for the rigor of college.
- Guided them to determine a career in the healthcare field, and kept them on track with their work.