

# Rowan K. O'Hara

oharark@vcu.edu | (540) 533-4050 | 5523 Pony Farm Drive, Richmond, VA 23227

## EDUCATION

Virginia Commonwealth University (VCU), Richmond, Virginia

Candidate for **Master of Science in Bioinformatics**, anticipated graduation May 2023.

Virginia Commonwealth University, Richmond, Virginia

**Bachelor of Science in Bioinformatics**, concentration in biological/genomic sciences, May 2022.

**Bachelor of Science in Psychology**, May 2022.

## RESEARCH EXPERIENCE

**Intern**, National Cancer Institute, National Institutes of Health Graduate Data Science Summer Program (GDSSP), Jun 2022 - Present.

Research focus: Genotyping the TERT-MNS16A minisatellite repeat based on short-read whole-genome sequencing data using machine learning.

Duties: Data analysis utilizing a high-performance cluster computing environment and Bash scripting.

Supervisors: Oscar Florez-Vargas, PhD & Ludmila Prokunina-Olsson, PhD

**Research Associate**, POP-GEM Lab, VCU Virginia Institute for Psychiatric and Behavioral Genetics, Aug 2021 - Present.

Research focus: Genetic and environmental determinants of substance use, mood disorders, and interpersonal violence.

Duties: Access databases and compile data, data cleaning, data analysis, and website building/design.

Supervisor: Roseann E. Peterson, PhD

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

Research focus: Perform GWAS of depression symptoms and clinical depression across ancestral groups.

Duties: Learned R programming language, reviewed literature, cleaned and analyzed data, and prepared presentation.

Supervisor: Roseann E. Peterson, PhD

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

Research focus: The relationship between symptoms of internalizing feelings and alcohol use in college students; The relationship between alcohol dependence in college students and SNPs on the *GABRA2* gene.

Duties: Literature review, data analysis, genome-wide association study using Plink, presentation preparation.

Supervisors: Amy Adkins, PhD & Sally Kuo, PhD

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

Research focus: Isolation of a *Pantoea* phage; Gene annotation of a *Bacillus* phage.

Duties: Isolated bacteriophage, analyzed data, annotated genome using DNA Master, prepared presentation.

Supervisor: Allison Johnson, PhD

## **VOLUNTEER AND LEADERSHIP EXPERIENCE**

**President**, Bioinformatics Graduate Student Organization, Virginia Commonwealth University, May 2022 - Present.

Duties: Oversee executive board, represent the organization at Graduate Student Association meetings, coordinate collaboration between BGSO and the undergraduate organization, lead the planning of the 2023 BNFOthon Bioinformatics Hackathon, and plan all Bioinformatics Graduate Student Organization's events.

**Graduate Teaching Assistant**, Applications in Bioinformatics, Virginia Commonwealth University, January 2022-May 2022.

Duties: Managed and taught computational topics in an undergraduate bioinformatics capstone course, including Python fundamentals and advanced topics and command line basics, provided guidance on student projects, and held open office hours to troubleshoot code.

**Treasurer**, Bioinformatics Graduate Student Organization, Virginia Commonwealth University, January 2022 - May 2022.

Duties: Managed organization's finances, maintained clear records of organization's expenditures, represented organization at Graduate Student Association meetings, and planned all Bioinformatics Graduate Student Organization's events.

**"BNFOthon" Bioinformatics Hackathon Planning Committee**, Virginia Commonwealth University, January 2022-April 2022.

Duties: Contact and secure sponsorships and faculty mentors, create advertising, and plan logistics, such as location, online platforms, merchandise, etc.

**Vice President of Education**, Gamma Phi Beta Sorority, Virginia Commonwealth University, November 2021 - Present.

Duties: Serve on the executive board for the chapter, plan education and sisterhood events, ensure the chapter is reaching our academic goals, and lead the Education department of the sorority.

**Mentor**, Graduate Shadow Day, Women in Science, Virginia Commonwealth University, October 2021.

Duties: Mentored an undergraduate student about graduate school and the bioinformatics program.

**Academic Chairwoman**, Gamma Phi Beta Sorority, Virginia Commonwealth University, August 2020 - November 2021.

Duties: Created an academic plan for the chapter to achieve our academic goals, recorded and monitored academic points to ensure the chapter is reaching our academic goals, and planned academic events.

**Mentor**, Effective Mentoring Practice, Health Sciences Academy, Cosby High School, Richmond, VA, Jan 2020 - May 2020.

Duties: Mentored two high school students at a Health Sciences Specialty Center to help them through a dual enrollment course at VCU, helped them determine a career in the healthcare field, kept them on track with their work, and critiqued their work to prepare them for the rigor of college.

**Director of Public Relations**, Residence Hall Association, Virginia Commonwealth University, May 2019 - May 2020.

Duties: Advocated for on-campus residents' needs (especially during the COVID-19 pandemic), served as a liaison between students and VCU's Residential Life and Housing department, led a student organization, worked as a team member with other executive board members, and completed work in a timely manner.

## CONFERENCES & PRESENTATIONS

**O'Hara, R.**, Florez-Vargas, O., Lee, C.H., Parkey, G., & Prokunina-Olsson, L. (2022, Aug). *Genotyping the TERT-MNS16A minisatellite repeat based on short-read whole-genome sequencing data using machine learning*. NIH Summer Poster Day.

**O'Hara, R.**, Lancaster, E., The Spit for Science Working Group, Sheerin, C., Prom-Wormley, E., & Peterson, R. (2022, April). *Examination of sex differences in the association of interpersonal violence and symptoms of depression and anxiety among college students*. VCU Women's Health Research Day, Richmond, VA. Poster can be found at [https://github.com/rowankohara/WHRD\\_2022/blob/5722f7910fef97c6f6346c58d99dc7620d852252/WHRD-Ohara\\_2022.pdf](https://github.com/rowankohara/WHRD_2022/blob/5722f7910fef97c6f6346c58d99dc7620d852252/WHRD-Ohara_2022.pdf)

**O'Hara, R.** (2021, May). *Cross-Ancestry GWAS for Major Depression*. Independent Study Presentation, Richmond, VA. Presentation can be found at <https://osf.io/wefmn/>

**O'Hara, R.**, Cull, S., & Patel, K. (2020, April). *The Relationship Between Symptoms of Internalizing Feelings and Alcohol Use in College Students*. Spit for Science Symposium, Richmond, VA. Presentation can be found at <https://osf.io/hqr2s/>

**O'Hara, R.** (2019, April). *Virginia Commonwealth University Bacillus Phages*. Research presented at the annual meeting of Phage Phest at William & Mary College, Williamsburg, VA.

Anumola, R., Bojja, R., Bowry, J., Essig, J., Minai, S., **O'Hara, R.**, Walley, K., on behalf of the Spring 2019 BNFO 252 Phage Hunters. (2019, April). *A Comparative Study of Bacillus Phage Phireball's Genomics to Other Bacillus Phage Genomes*. Poster presented at the annual meeting of the Undergraduate Research Symposium at Virginia Commonwealth University, Richmond, VA. Presentation can be found at <https://cbds.vcu.edu/research/poster-gallery/>

## PROFESSIONAL DEVELOPMENT

Attended *Profiling of structural variants and complex rearrangements in cancer genome using long-read sequencing* webinar presented by Mikhail Kolmogorov, PhD from the Cancer Data Science Library, National Cancer Institute at the National Institutes of Health (2022, July).

Attended *EPI 101* webinar series presented by faculty members of the National Cancer Institute at the National Institutes of Health (2022, July).

Attended *Graduate & Professional School Preparation* webinar series presented by Sharon Milgram, PhD, and other faculty members of the Office of Intramural Training and Education at the National Institutes of Health (2022, June-July).

Completed *Becoming a Resilient Scientist* webinar series presented by Sharon Milgram, PhD from the Office of Intramural Training and Education at the National Institutes of Health (2022, June).

Completed *Laboratory of Translational Genetics (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, June-July).

Attended *Goodbye, p-value: Practical Bayesian Statistics to Replace Frequentist Statistics* webinar presented by Sean Koebley, PhD as a part of the How-to Talks by Postdocs series hosted by the Health Science Library at Virginia Commonwealth University (2021, October).

Attended *#AcademicTwitter – Leveraging Twitter to Build Networks and for All Things Research* webinar presented by Arnethea Sutton, Ph.D. as a part of the How-to Talks by Postdocs series hosted by the Health Science Library at Virginia Commonwealth University (2021, October).

Certified in Collaborative Institutional Training Initiative (CITI) program training in Biomedical course in the Basic/Refresher Course Human Subjects Research curriculum (2021, Sept).

Attended webinar on *Fuma, LD Hub* presented by Alexander Hatoum, PhD and Ray Walters, PhD as a part of the Short Course on the Genetics of Addiction hosted by the Jackson Laboratory (2021, April).

Attended *GWAS Fundamentals* webinar presented by Sandra Sanchez-Roige, PhD as a part of the Short Course on the Genetics of Addiction hosted by the Jackson Laboratory (2021, April).

Attended *How Do We Study Human Genetics of Addiction: Heritability, Twin Studies, Phenotype and Development?* webinar presented by Danielle Dick, PhD as a part of the Short Course on the Genetics of Addiction hosted by the Jackson Laboratory (2021, April).

Participated in a 14-Day Writing Challenge hosted by the National Center for Faculty Development and Diversity (2021, March).

Attended *Become a User: A brief tour of R* webinar presented by Gregory Farage, PhD and Saunak Sen, PhD hosted by the NIDA Center of Excellence in Omics, System Genetics, and the Addictome (2021, March).

Genbank submission of Bacillus phage Phireball Accession number MN038176.1. Co-author responsible for annotating gene products 67-99 (2019, July).

Attended VCU I-LEAD Connect Conference (2018, October).

## LINKS

OSF: [osf.io/kqaen](https://osf.io/kqaen)

LinkedIn: [linkedin.com/in/rowankohara](https://linkedin.com/in/rowankohara)

Lab Website: [pop-gem-lab.com](https://pop-gem-lab.com)

GitHub: [github.com/rowankohara](https://github.com/rowankohara)