Rowan Orlijan-Rhyne

personal email
work email
GitHub
staff profile

Employment

Aug 2025 -	**Research assistant, Max Planck Institute for Meteorology** Processing and analysis of data from Barbados Cloud Observatory (BCO) Physically motivated wrangling of meteorological observations into analysis-ready, cloud-optimized datasets

Education

Sep. 2021 - May 2025	**Swarthmore College**, B.A., Physics, Phi Beta Kappa Minors: Applied Mathematics and Global Studies Involvement: NCAA DIII Cross-Country and Track and Field Captain Studied in French language at Sorbonne Sciences and Paris Cité University (Fall 2023) Studied in Italian language at Sapienza University (Spring 2024)

Research Experience

January 2025 - July 2025 (Part-time)	**Research Assistant, Department of Physics, Swarthmore College**, *with Dr. Amy Graves* Graph Neural Network (GNN) modeling of soft matter systems from Large-scale Atomic/Molecular Massively Parallel Simulator (LAMMPS) data Successfully used the model for regression tasks such as displacement at various MD time steps, refining architecture and hyperparameters as needed [*Computational essay repo*]
May 2024 - Aug 2024 (Full-time)	**Research Assistant, Climate Modeling Alliance (CliMA), California Institute of Technology**, *for Dr. Tapio Schneider, under Dr. Anna Jaruga*
June 2023 - Aug 2023 (Full-time)	Implemented ice-phase microphysics parameterizations in licensed, open-source Julia library, CloudMicrophysics.jl. Applied physical reasoning, optimized performance for global circulation model, and reproduced behavior demonstrated in peer-reviewed literature, using 1-dimensional kinematic framework. *Poster presentation* [poster]: March 2025, APS Global Physics Summit, Anaheim, CA
June 2022 - Aug 2022 (Full-time)	**NSF REU: Washington State University's Lab for Atmospheric Research (LAR) Air Quality, Atmospheric Chemistry, and Climate Change: Measurements and Modeling in the Pacific Northwest**, *for Dr. Fabio Scarpare, with Dr. Shelley Pressley* Modeled impact of agricultural practices on soil hydrology for Brazilian sugar cane cultivation. Calibrated and validated in-house model (CropSyst) with aboveground biomass, soil water content, and leaf area index observations, using R. [poster]

Teaching Experience

Spring 2025	Electricity, Magnetism, and Optics with Biomedical Applications **TA**
	Electricity, Magnetism, and Optics with Biomedical Applications **Tutor**
	Linear Algebra **Tutor**
Fall 2024	Motion, Force, and Energy with Biomedical Applications **TA**
Spring 2023	Thermodynamics, Statistical Mechanics, and Special Relativity **Grader**
Fall 2022	Optics and Quantum Mechanics **Grader**
Spring 2022	Single Variable Calculus II **Tutor**
Summer 2020	**Founder and director** of online physics camp for youth

Honors

2025-	Phi Beta Kappa Academic Honors Society Member
2024	Virtual Delegate, United Nations Climate Change Conference 29 (COP29)
2021 - 2025	Kiwanis Club of Claremont Stan Larson Scholar
	Sigma Xi Academic Honors Society Member
2021	International Baccalaureate Diploma, *40 pts*

Personal

Programming Languages	Python, Julia, Matlab, Arduino, R
Data/ML Technologies	Pandas, Xarray, Zarray, PyTorch, Tensorflow, SciKit
Citizenship	United States
Languages	English, Italian, French
Interests	Trail running, cycling, cooking