Jacob B.H. Bushey
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Education

2027	Ph.D.	Harvard University, Environmental Science & Engineering *(anticipated)*
2022	B.S.	University of Virginia, Environmental Sciences, with Highest Distinction
2022	B.A.	University of Virginia, Chemistry
2022	Minor	University of Virginia, Religious Studies

Professional Experience

2022	**Research Assistantship**, familiarizing myself with the methods and principles behind the MethaneAIR and MethaneSAT remote sensing platforms to lay the groundwork for my PhD research. Working with Professor Steven Wofsy.
2022	**EVSC 3060 Course Grader**, grading assignments and exams for an upper-level environmental science course, Biomechanics of Organisms
2020-2022	**Undergraduate Researcher, University of Virginia Environmental Sciences Department,** studying the mechanism of ozone damage to the photosynthetic capacity of plants with Professor Sally Pusede.
2020-2021	**EVSC 1080 Course Grader**, facilitating in-lecture activities via Zoom, creating and grading online assignments and assessments, working with Professor Jim Galloway to optimize class structure and the online learning experience. Course material focused on resource use and environmental impacts.
2021	**Research Assistant, University of Virginia Environmental Sciences Department,** conducting a literature review of the nitrogen cascade, improving methods to quantify reservoirs and flows in order to successfully regulate pollution. Working with Professor Jim Galloway.
2021	**EVSC 4870/5082 Tech Help,** setting up class meetings via Zoom and assisting with other technical aspects of distance learning. Working with Professor Jim Galloway. Course material focused on biogeochemical cycling of nitrogen.
2019-2021	**Sales Assistant, Ragged Mountain Running and Walking Shop**, assisting customers with athletic shoe selection, answering the phone, checking inventory, customer service, and completing sales.
2019	**Undergraduate Researcher, University of Virginia Environmental Sciences Department,** quantifying the impact of restored oyster reefs on wave climate at the edge of an intertidal marsh, preparing the data for presentation and publication.
2019	**Long Term Ecological Research (LTER) Research Experience for Undergraduates (REU),** spent 10 weeks conducting paid residential research program at the Virginia Coast Reserve, studying the impact of restored oyster reefs on wave climate at the edge of an intertidal marsh. Also assisted with synoptic seagrass sampling, fish sampling, and water quality sampling.

Publications & Presentations

2022	J. Bushey, M. Miles, L. Barry, M. Lerdau, X. Yang, G. Isaacman-VanWertz, S. Pusede. **A Laboratory Study Investigating Ozone Effects on Transpiration, Carbon Assimilation, and Photosynthesis by Perturbing Stomatal Diffusive Resistance.** UVA Environmental Sciences Distinguished Majors Program Thesis. https://doi.org/10.18130/qefv-5t33
2021	J. Bushey, M. Miles, L. Barry, M. Lerdau, X. Yang, G. Isaacman-VanWertz, S. Pusede. **A Laboratory Study Investigating Ozone Effects on Transpiration, Carbon Assimilation, and Photosynthesis by Perturbing Stomatal Diffusive Resistance.** Virtual oral presentation, American Geophysical Union Fall Meeting, December 2021.

2021 J. Bushey, S. Pusede, M. Lerdau, X. Yang, M. Miles, G. Isaacman-VanWertz. **Observing Ozone Effects on Transpiration, Carbon Assimilation, and Photosynthesis by Perturbing Stomatal Diffusive Resistance.** Virtual poster presentation. University of Virginia Undergraduate Research Symposium.

2020 J. Bushey, S. Pusede, M. Lerdau, X. Yang, M. Miles, G. Isaacman-VanWertz. **Observing Ozone Effects on Transpiration, Carbon Assimilation, and Photosynthesis by Perturbing Stomatal Diffusive Resistance.** Virtual poster presentation. American Geophysical Union Fall Meeting, December 2020.

2020 J. Bushey, M. Reidenbach, W. Kearney, S. Hogan. **Impact of Oyster Reefs on Wave Climate Along a Marsh Edge.** *The Oculus*.

2020 J. Bushey, M. Reidenbach, W. Kearney, S. Hogan. **The Impact of Oyster Reefs on Wave Climate Along a Marsh Edge.** Poster presentation. Ocean Sciences Meeting, February 2020, San Diego, CA.

Sponsored Grants

2021 **Harrison Undergraduate Research Award,** conducting research with Professor Sally Pusede on ozone ecosystem controls and feedbacks. Amount: $4,000 (accepted $500)

2021 **Virginia Space Grant Consortium Undergraduate Research STEM Scholarship,** conducting research with Professor Sally Pusede on ozone ecosystem controls and feedbacks. Amount: $6,500

2020 **Hart Family Award for Undergraduate Research**, presented by the UVA Environmental Sciences Department for conducting research with Professor Sally Pusede on ozone-ecosystem controls and feedbacks. Amount: $5,000.

Honors and Awards

2023 NSF GRFP Honorable Mention

2023 Stonington Endowment Graduate Fellowships of Environmental Science and Engineering

2022 Fulbright U.S. Student Program Semi-Finalist (Australia)

2022 NSF GRFP Honorable Mention

2021 Astronaut Scholarship, $15,000

2021 Goldwater Scholarship Nominee for the University of Virginia

2020 Randolph Preston Pillow Fund for Excellence, $10,000

2019 Claiborne and Martha Whitworth Memorial Scholarship, $12,500

Community Involvement

2021-2022 **Virginia Coast Reserve DEI Committee**, working to make UVA's coastal research center a more inclusive research environment and promote DEI in the community.

2020-2021 **College Science Scholars Council Outreach Committee**, promoting DEI within our organization and the Charlottesville community.

Relevant Coursework & Skills

Computational Skills: Proficient in MATLAB, Excel and R