

CURRICULUM VITAE

Sarah Youngs

Research Associate I
Applied Ocean Physics and Engineering Department
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EDUCATION:

2019 B.S. Chemistry, Minor in Environmental Studies, Denison University, GPA: 3.80, *magna cum laude*
2015 Dublin Jerome High School; Dublin, OH

PROFESSIONAL EXPERIENCE:

May 2023-present Research Associate I, Woods Hole Oceanographic Institution, AOPE Dept.
March 2022-May 2023 Research Assistant II, Woods Hole Oceanographic Institution, AOPE Dept.
Sept. 2020-March 2022 Research Assistant I, Woods Hole Oceanographic Institution, AOPE Dept.
Jan. 2020- May 2020 AmeriCorps STEM Field Educator, Teton Science Schools
June 2019-Dec. 2019 Marketing & Communications Assistant, Latrobe-Chestnut Hill Realty and Associates
June 2019-Dec. 2019 Substitute Teacher & Kindergarten Teachers Aide, Mary Evans Child Development Center
Jan. 2017-May 2019 Undergraduate Research Assistant, Denison University, Chemistry & Biochemistry Dept.
Sept. 2016-May 2019 Head Tutor – Chemistry and Biology, Denison University, Academic Programs Dept.

TRAINING, CERTIFICATIONS, LICENSES:

2020 Wilderness First Responder Training and Certificate

AWARDS:

2019 Phi Beta Kappa Honor Society
2019 Mortar Board
2017-2019 Top 50 Scholar Athlete, Denison University
2018 Ted Barclay Top Five Award, Denison University

RESEARCH INTERESTS:

My overall research interest is to better understand how human activity is impacting ocean chemistry. Specifically, I operate and experiment with novel sensors to detect and quantify oceanic microplastics and dissolved gasses to discover their impacts on both human health and our oceans. I adapt small ROVs and surface vehicles to use as platforms to test our sensors. I also broadly study plastic debris in the form of both micro and macroplastics, seeking to evaluate plastic type, weathering, breakdown, and metal accumulation in various locations around the world..

PROFESSIONAL ACTIVITIES:

WHOI:

2020-present WHOI Sustainability Task Force Committee
2020-present WHOI Committee on Diversity and Inclusion (CDI), volunteer

Outside WHOI:

2017-2019 Committee on Intercollegiate Athletics, Vice President

EDUCATIONAL OUTREACH:

2022-present Penikese Island School, Gosnold, MA; Girls in Science Camp, Classroom Teaching
2022-present Falmouth Public Schools, Falmouth, MA; Woods Hole Sea Grant, Classroom Teaching
2022-present Munger Mountain Elementary School (Virtual), Jackson, WY; Meet a Scientist
2020-present MassSTEM Hub Volunteer mentor
2020-present FabFems Volunteer mentor; career exploration support
2022, 2023 Cambridge Bay, Nunavut, Canada, Classroom Teaching to 2nd, 3rd and 7th grade classes
2022 New Heights Charter School, Brockton, MA; WHOI Broader Impacts Group, Classroom Teaching
2021 Falmouth Academy Science Fair Judge
2021 WHOI CDI Outreach Program; Woods Hole, MA, Meet a Scientist & Classroom Teaching
2020-2021 Unlearning Racism in the Geosciences (URGE)

COMMUNITY SERVICE

2020	Meals on Wheels; Columbus, OH
2019-2020	Habitat for Humanity; Columbus, OH & Jackson, WY
2019	Star House; Columbus, OH
2018-2019	A Call to College; Newark, OH
2016-2018	Big Brothers Big Sisters; Newark, OH

SUPERVISION/MENTORING AT WHOI:

2022	Declan Lane, High School Student, Falmouth Academy
2020-2021	Ellie Mattison, Guest Undergraduate Student

CRUISE & FIELD WORK PARTICIPATION:

June 2022	Measuring sea-air emissions of greenhouse gasses in a costal Arctic system using a JetYak ROV and a Blue ROV; Canadian High Arctic Research Station, Cambridge Bay, Nunavut, Canada
May 2022	Deployment of an autonomous surface vehicle (JetYak) to test a new winch and CTD system; Great Harbor, Woods Hole, MA
March 2022	Under-ice methane and carbon dioxide measurements using gas extractors and analyzers coupled to a small ROV; Whitehall Lake, Hopkinton, MA
November 2021	R/V Roger Revelle with AUV Sentry and ROV Jason; Guaymas Basin, Gulf of California, Deployment of an in-situ methane sensor and an in situ dissolved inorganic carbon (DIC) sensor for the chemical analysis of hydrothermal vent fluids, (San Diego, CA to San Diego, CA)
October 2021	Shore side testing of a newly developed microplastic sensor; Grews Pond, Falmouth, MA
May 2021	Deployment of an in-situ CO ₂ sensor; Little Sippewissett Marsh, Falmouth, MA

PRODUCTS:

2022	Preston, V., Flaspohler, G., Kapit, J., Pardis, W., Youngs, S. , Martocello, D.E., Roy, N., Girguis, P.R., Wankel, S.D., Michel, A.P. Discovering Hydrothermalism from Afar: In Situ Methane Instrumentation and Change-Point Detection for Decision-Making. <i>Frontiers in Earth Science</i> .
2022	James, B. D., de Vos, A., Aluwihare, L., Youngs, S. , Ward, C. P., Nelson, R. K., Michel, A. P., Hahn, M., Reddy, C. M. Divergent Forms of Pyroplastic: Lessons Learned from the M/V X-Press Pearl Ship Fire. <i>ACS Environmental Au</i> .
2022	Youngs, S. , Michel, A., de Vos, A., James, B., Dibenedetto, M., Reddy, C., Chemical Analysis of Nurdles from the M/V X-Press Pearl Fire: A Study of Rapid Degradation, Weathering, and Metal Accumulation, Ocean Sciences Meeting, Honolulu, HI. (Abstract).
2022	Uyeda, K., Youngs, S. , Anderson, C., Grzenda, D., Morrison, A., White, H., Michel, A., Examining the Relationship Between Weathering and the Accumulation of Metals on Macroplastic Debris Collected From Costal Environments, Ocean Sciences Meeting, Honolulu, HI. (Abstract).
2021	de Vos, A.; Aluwihare, L.; Youngs, S. ; DiBenedetto, M. H.; Ward, C. P.; Michel, A. P.; Colson, B. C.; Mazzotta, M. G.; Walsh, A. N.; Nelson, R. K.; Reddy, C. M.; James, B. D. The M/V X-Press Pearl Nurdle Spill: Contamination of Burnt Plastic and Unburnt Nurdles along Sri Lanka's Beaches. <i>ACS Environmental Au</i> .
2019	Maldonado, S., Reczek, J., Youngs, S. , Macinnes, M., Sinniah, K., Cousineau, B. Discovery of Unusually Stable Reduced Viologen via Synergistic Folding and Encapsulation. <i>J. Electrochem. Soc.</i> , 166(15).

PRESENTED TALKS:

2022

Presenter: **Youngs, S.**, Chemical Analysis of Nurdles from the M/V X-Press Pearl Fire: A Study of Rapid Degradation, Weathering, and Metal Accumulation, Poster presentation at the Ocean Sciences Meeting, Honolulu, HI.

April 2019

Presenter: Reczek, J., and **Youngs, S.** Synthesis of Organic Aromatic Dimers for Supramolecular Radical Chemistry. 2019. Poster presentation at the American Chemical Society 2019 National Meeting. Orlando, Florida.