

Scientist of the Month



Daphne Mueller

Daphne Mueller is a UAF senior majoring in biological sciences with a concentration in cell and molecular biology. She is a fifth-year BLaST Scholar, Honors College Scholar, and a first-year Climate Scholar. She is of Filipino descent and grew up in Utqiagvik, Alaska. She enjoys playing the clarinet and piano, being outdoors, and baking.

Research

Mueller started her research journey back in her home community of Utqiagvik at Iñisaġvik College under the guidance of former BLaST faculty pilot project (FPP) awardee (2015-2016) and biology associate professor Dr. Linda Nicholas-Figueroa and the Arctic microbes project. Mueller learned many lab skills such as pipetting and PCR, and gained experience training and mentoring undergraduate peers in the lab. Mueller presented her results at the American Society of Microbiology in 2019, and the One Health Conferences at UAF in 2020 and 2021. Mueller also assisted Dr. Nicholas-Figueroa on her grant report for this project. At UAF, Mueller joined former BLaST FPP awardee (2016-2018) Dr. Andrej Podlutzky and Sasha White, a former BLaST Graduate Research and Mentoring Assistant and UAF graduate student on Mueller's project "Omega-3 Intake in Alaska Native Diet and Type 2 Diabetes." Mueller co-presented with White at the One Health Conference in 2019. Mueller is currently working with former BLaST FPP awardee (2017- 2019) and associate professor Dr. Andrés López, on fish and fisheries genetics. Her current research focuses on the merganser diet, developing assays to detect environmental DNA from fish species on the Chena River in Fairbanks. Mueller presented her results on her fish project in a virtual oral presentation at the Alaska Chapter of the American Fisheries Society conference in spring 2021. This past summer, Mueller completed her capstone project, "Microbial community diversity in sediment and water from the Chena River." She presented her results of her capstone virtually at the Midnight Sun Science Symposium held in April 2022 at UAF, and in-person, at the American Biomedical Research Conference for Minority Students (ABRCMS) in November 2022.

Mentoring

Mueller shared, "I've worked with several amazing mentors throughout my time at UAF and give my thanks to Dr. Andrej Podlutzky and one of his graduate students, Sasha White, and to my current mentor Dr. Andrés López. I appreciate the freedom I have been given to work on my own research in López's lab and learned how to set up a project from start to finish. I'd also like to thank Dr. Mario Muscarella (current BLaST FPP) for his help with my capstone. I also thank Dr. Linda Nicholas-Figueroa. Without her, I don't think I would have gone into research. I'd also like to give a shout out to the undergraduates I worked with in Linda's lab. We mentored each other and learned so much together. And a final thank you to my BLaST RAMPs Emily Sousa and Theresa Vertigan! I have felt so much support from them!"



Top left: Mueller's research collected 28 water samples from the Chena River in Fairbanks, Alaska. (Photo credit D. Mueller, 2021)

Top right: BLaST Scholars (l to r): Daphne Mueller, Garrett Taylor (former Scholar), and Samantha Wade (former Scholar) at Iñisaġvik College with large petri dish samples of Arctic microbes.

(Photo credit: L. Nicholas-Figueroa, 2019)

Bottom: Mueller presented her poster at ABRCMS, November 11, 2022 in Anaheim, California. (Photo credit: L. Ekada, 2022)