**Education**

Oregon State University, expected graduation in 2023

**PhD Candidate in Microbiology**, ABD. Advisor: Dr. Frederick Colwell

Oregon State University, 2014-2018

**B.Sc. in Microbiology**, minor in Chemistry

**Research Experience**

Graduate Research Assistant in **Colwell Lab in College of Earth, Ocean, and Atmospheric Sciences**, Oregon State University; September 16, 2018-present

* Responsible for conducting independent research investigating the role of metal-dependent anaerobic oxidation of methane in high-latitude, glaciated wetlands

Visiting Researcher to **W.M. Keck Collaboratory for Plasma Spectrometr**y, Oregon State University; February 14-28, 2022

* Hydrofluoric acid sediment digestions with CEM MARS-6 and subsequent ICP-OES

Visiting Researcher to University of Texas, **Pressure Core Center at the Jackson School of Geosciences**; July 31, 2019-August 2, 2019

* Assisted in the partitioning of pressurized cores using a mini-PCATS

Visiting Researcher **to Reese Lab in Texas A&M-Corpus Christi**; August 2, 2019-August 5, 2019

* Conducted extremely low biomass nucleic acid extractions in a clean lab

Visiting Researcher to **Chesapeake Biological Laboratory**; December 2, 2018-December 9, 2018

* Extracted aqueous samples from OsmoSamplers and analyzed methane and stable water isotopes using Gas Chromatography and Ion Chromatography

Bioscience Research Technician for Entomological Horticulture at Oregon State University; March 23, 2018-September 16, 2018

* Technician assisting with Grapevine Red Blotch Virus research

OWRI Undergraduate Student Scholar in Entomological Horticulture at Oregon State University; May 16, 2016-April 1, 2018

* Conducted independent research on the vectored transmission of Grapevine Red Blotch Virus
* Assisted in morphotype characterization of *D. suzukii*

Undergraduate Research Assistant in Botany and Plant Pathology at Oregon State University; February 1, 2016-April 3, 2017

* Assisted in the characterization of *R. fascians* mechanisms of virulence

**Authorship in Publications**

Borton, M., Collins, S., Graham, E., Garayburu-Caruso, V., Goldman, A., de Melo, M., Renteria, L., Stegen, J., **WHONDRS Crowdsourced Consortium**. In Press. It takes a village: using a crowdsourced approach to investigate organic matter composition in global rivers through the lens of ecological theory. *Frontiers in Water, 4*. Doi: 10.3389/frwa.2022.870453

**Buser‐Young, J. Z.,** Peck, E. K., Chace, P., Lapham, L. L., Vizza, C., and Colwell, F. S. (2022). Biogeochemical Dynamics of a Glaciated High‐Latitude Wetland. *JGR Biogeosciences* 127. doi: [10.1029/2021JG006584](https://doi.org/10.1029/2021JG006584).

**Buser-Young, J.,** Lapham, L., Thurber, A. R., Williams, K. H., & Colwell, F. (2021). Hidden processes during seasonal isolation of a high-altitude watershed. *Frontiers in Earth Science*, *9*. <https://doi.org/10.3389/feart.2021.666819>

Dalton, D., **Buser-Young, J.,** Nizich, S., Levin, A., Walton, V., Hilton, R., Brewer, L. (2021) Testing and tracking the spread of grapevine red blotch virus in Oregon vineyards. *OSU EM 9306*.

Dalton, D. T., Hilton, R. J., Kaiser, C., Daane, K. M., Sudarshana, M. R., Vo, J**., et al.** (2019). Spatial Associations of Vines Infected With Grapevine Red Blotch Virus in Oregon Vineyards. *Plant Disease*, *103*(7), 1507–1514. <https://doi.org/10.1094/PDIS-08-18-1306-RE>

Rendon, D., Walton, V., Tait, G., **Buser, J.,** Souza, I. L., Wallingford, A., et al. (2019). Interactions among morphotype, nutrition, and temperature impact fitness of an invasive fly. *Ecology and Evolution*, *9*(5), 2615–2628. <https://doi.org/10.1002/ece3.4928>

Rendon, D., **Buser, J.,** Tait, G., Lee, J. C., & Walton, V. M. (2018). Survival and Fecundity Parameters of Two Drosophila suzukii (Diptera: Drosophilidae) Morphs on Variable Diet Under Suboptimal Temperatures. *Journal of Insect Science*, *18*(8). <https://doi.org/10.1093/jisesa/iey113>

Fuller, S. L., Savory, E. A., Weisberg, A. J., **Buser, J. Z.,** Gordon, M. I., Putnam, M. L., & Chang, J. H. (2017). Isothermal Amplification and Lateral-Flow Assay for Detecting Crown-Gall-Causing Agrobacterium spp. *Phytopathology®*, *107*(9), 1062–1068. <https://doi.org/10.1094/PHYTO-04-17-0144-R>

**Presentations**

American Geophysical Union Presentations

* **Jessica Buser-Young**, Rowan Nelson, Frederick Colwell. 2021.
* **Jessica Buser-Young**, Erin Peck, Peter Chace, Laura Lapham, Frederick Colwell. 2020.
* **Jessica Buser**, Erin Peck, Sydney Fox-Middleton, Samantha Dawson, Laura Lapham, Carmella Vizza, Frederick Colwell. 2019.
* **Jessica Buser**, Laura Lapham, Frederick Colwell, Andrew Thurber, Kenneth Williams. 2019.

**Jessica Buser**, Laura Lapham, Frederick Colwell, Andrew Thurber, Kenneth Williams. 2019. DOE Environmental System Science PI Meeting, Potomac, MD.

**Jessica Buser**, Laura Lapham, Frederick Colwell, Andrew Thurber, Kenneth Williams. 2019. Microbiome Mixer, Portland, OR.

**Jessica Buser**, Daniel Dalton, Vaughn Walton. 2017. OWRI Grape Day, Corvallis, OR.

**Jessica Buser**, Daniel Dalton, Vaughn Walton. 2017. OSU Summer Undergraduate Research Symposium, Corvallis, OR.

**Accomplishments**

* Professional Development Award; February 2022
* Scholarly Presentation Award; December 2021
* Middlekauf Outstanding Graduate Teaching Assistant Award; May 2021
* Scholarly Presentation Award; December 2020
* Graduate School Travel Award; December 2019
* Middlekauf Outstanding Graduate Teaching Assistant Award; May 2019
* National Science Foundation Graduate Research Fellowship Program, Honorable Mention; April 2018
* Helen Alford Hays Women in Microbiology Scholarship; 2017
* Diversity Achievement Scholarship; 2014, 2015, 2016, 2017, 2018

**Mentoring Experience**

**Samantha Dawson**, Microbiology, URSA Engage 2018-2019 (dawssama@oregonstate.edu)

* Project: Community characterization of a high-latitude, glaciated wetland

**Sydney Fox-Middleton**, Engineering Physics and Biology, REU 2019 (sfoxmiddleton@scu.edu)

* Project: “Microbial Martians: How Earth’s microbial communities can tell us about extraterrestrial ones”

**Gabriel Dreyer**, Biochemistry and Molecular Biology, Lab Volunteer 2020 (dreyerg@oregonstate.edu)

* Project: DNA extraction of East Scotia Ridge E2 hydrothermal vent site

**Owen Markley**, Computer Science, Lab Volunteer 2020 (markleyo@oregonstate.edu)

* Project: Bioinformatics of genes associated with thiamine deficiency complex in salmon

**Chloe Cornejo**, Biology, REU 2021 (chloe.cornejo@gmail.com)

* Project: “Characterization of microfauna along a geochemical gradient at the East Scotia Ridge E2 hydrothermal vent site”

**Rowan Nelson** SURE Program 2021-present (nelsorow@oregonstate.edu)

* Project: “Linking glacial mass loss to methane cycling in high-latitude wetlands”

**Sofia Guglielmi** Lab Volunteer 2022 (gugliels@oregonstate.edu)

* Project: Community characterization of PNW river water columns

**Teaching Experience**

Instructor for Oregon State University

* Biology 22x Series; 2020-present
* Introductory Microbiology (MB 230); 2018-present

Ecampus Instructor for Oregon State University

* Allied Health Microbiology (BHS/MB 255); 2021, 2022

Graduate Teaching Assistant

* Department of Microbiology; 2018-present
	+ Immunology (MB 416/516)
	+ Capstone (MB 499)
	+ Introduction to Microbiology (MB 303)

Undergraduate Teaching Assistant

* Department of Botany and Plant Pathology; 2017
* Department of Microbiology; 2017
* Department of Horticulture; 2017

**Outreach and Service**

**Co-Producer of the AGU’s Podcast, “Third Pod from the Sun”;** April 2022-present

* Interviewer and content coordinator for Geobites’s section

**Collaborator on** **WHONDRS Campaign**; June 2021-present

* Coauthor on analysis of FTICR-MS

**Panelist for Environment Oregon** **“Trouble in the Air” Webinar**; October 7, 2021

* Shared current science on climate change and answered questions

**Invited Speaker at OSPIRG Climate Action Campaign**; August 25, 2021

* Provided testimonial to Rep. Peter DeFazio

**Guest Presenter at Hatfield Marine Science Center**; January 2021

* Shared my personal research to the Newport community

**Contributing Writer to Geobites**; November 2020-present

* Interpret and communicate cutting-edge research to the wider community

**Committee Member CEOAS Promotion and Tenure**; September 2020-January 2021

* Served as graduate student representative

**Hatfield Marine Science Center Volunteer**; July 2019-present

* Responsible for maintaining and sharing creatures within the touch pools

**Team Leader for the Geomicro Group**; January 2018-present

* Curate, organize, and present weekly meetings

**Microbiology Graduate Student Association President**; June 2019-September 2020

* Responsible for the MGSA

**da Vinci Days Festival Geomicro Group Representative**; 2018, 2019

* Led outreach activity of extracting DNA from strawberries

**Guest Speaker at Jefferson Elementary**; May 2017

* Introduced microbiological concepts and directed a group activity

**Guest Speaker at Independence Elementary**; April 2017

* Introduced microbiological concepts and directed a group activity

**SPARK Outreach Speaker at Central Linn Elementary**; March 2017

* Led a 5th grade class to understand bacterial plasmids

**Fieldwork Experience**

Cordova, AK; August 2019

* Sediment push cores and WHONDRS samples assisted by the USFS Chugach District

Netarts Bay, OR; July 2018

* Collected eight, 1-meter cores of bay sediment

Yamhill, Keizer, Peoria, and Jefferson, OR; 2016-2018

* Visited farms and vineyards (approximately once a week) for insect and plant tissue collection