

Biology Department Presents:

The Beaker

September 2018

[Newsletter](#)[Contents](#)[Chair's
Corner](#)[Professor in
the Spotlight](#)[Biology
Research](#)[Biology
Without
Borders](#)[Join the
Club!](#)[Engage](#)[Biology
Alumni:
Where Are
They Now?](#)[Upcoming
Events](#)

Chair's Corner

Are you curious? Do you wonder about how the natural world around you and in you works? Then your choice to be a biology major was a good one. Welcome back to all of our biology students and a special welcome to our new freshmen/transfer majors. We are excited that you have joined our Department and want to help you get acquainted with what opportunities we have available to you as you spend your time here on the Bluff.

The *Beaker* is just one avenue by which you can learn about what is happening on campus that is pertinent to biology majors, and hopefully, will motivate you to get involved. This year, Shannon Leffler is helping out with writing for and co-editing the *Beaker*. If you have any questions or ideas for articles in future *Beaker* issues, please contact her at leffler21@up.edu. We usually have four *Beaker* issues during the academic year, two each semester. Please keep an eye out for them and give us feedback. I will email you a copy when an issue is ready, and you can also access the current issue (or archived issues) on the Biology website <https://up.campuslabs.com/engage/organization/bio>. We also have some past issues posted in the new display case on the first floor of Swindells Hall in the main stairwell, please check them out.

A few of the highlights in this issue are meant to familiarize you with our faculty who are conducting research and how you can get involved. We also have some information about other research opportunities off campus but near-by such as the Murdock Undergraduate Collaborative Research Program at OHSU. There are a few suggestions regarding what clubs you might be interested in joining and some postings about upcoming events. Finally, something that I am sure you are all interested in, which is what you can do with your biology degree once you graduate. In each issue we will feature an article on a biology alum to help you see how diverse your career options are as a biology major. Enjoy your time here at UP and please get to know your biology faculty, we are here because of you, and for you.

-Dr. Ahern-Rindell

Professor in the Spotlight

By Shannon Leffler

Dr. Weilhoefer has been teaching at the University of Portland for seven years. Most students will have Dr. Weilhoefer at least once over their four years at UP, whether it be for Evolution and Ecology, Wetlands Ecology, or Freshwater Ecology. This year, Dr. Weilhoefer is teaching two sections of the Introduction to Evolution and Ecology Lab and one section of the lecture. She enjoys teaching this course because of how broad and overarching the subject matter is, and

how applicable it is to everyday life.

Dr. Weilhoefer attended Connecticut College where she double majored in Botany and Environmental Science. After graduation, she completed her master's degree in Marine Biology at the University of Texas at Austin, and then went on to get her PhD in Environmental Studies and Ecology at Portland State University. Before coming to the University of Portland, Dr. Weilhoefer taught at a school in Chicago. She was eventually drawn to Oregon due to her research on coastal

wetlands—research she had been working on since graduate school. Dr. Weihoefer landed at the University of Portland because of an opening for an aquatic ecologist. At UP, she fell in love with the small class sizes, especially the small labs, where she could get to know her students personally. She encourages all students, especially freshmen, to get to know their professors, and let them get to know you. Relax a little, be open to new subjects, visit office hours, and let professors know who you are and what you are interested in.

Many students come into college worried about what their major should be, and what they should do with their life. Dr. Weihoefer didn't come into college knowing she wanted to study costal ecology but fell in love with the outdoors when she participated in research on a lake. It gave her the ability to study and conduct science, without being

confined to a desk or lab. She likes to attend concerts, and spend time outdoors hiking and camping. Dr. Weihoefer looks forward to continuing her research and getting to know students and helping them as they embark on their journey through college and life, finding their passion just as she once did.



Biology Research

To find out information about professors, what their scholarship entails, and what they are looking for in potential student research collaborators, take a look at the information below. This information can also be found on posters located in the first floor hallway of Swindells.

Systems Biology

Laurie Dizney

Dr. Dizney's research examines trophic levels to identify ecological factors associated with successful riparian habitat restoration

Students conducting this research:

- Are involved in all aspects of research, including trappings, collections, identification and quantification, laboratory analysis, and poster presentations at conferences
- Should have a strong work ethic and a desire to learn
- Can participate in research in the summer for stipend, with some opportunities available during the school year for credit
- Spend 3-6 hrs/wk during the school year and 40 hrs/wk in the summer

Fun fact: Dr. Dizney has caught and handled over 10,000 small mammals!



Katie O'Reilly

Dr. O'Reilly's projects include breeding behavior of Purple Martins, effects of temperature on Tree Swallows' reproductive success, and Corticosterone levels in feathers of Spotted Owls that are in competition with Barn Owls

Students conducting this research:

- Will conduct field work for the Purple Martin and Tree Swallow research, and lab work for the feather research
- Should have completed Vertebrate Biology or Ornithology Lab and Lecture, and have lab experience and attention to detail
- Can participate in spring and summer for field research, and summer research for the feather project, all for 493 credit

Fun fact: Dr. O'Reilly often finds surprises on river campus, like new damage being done by beavers on the trees where she has nest boxes!



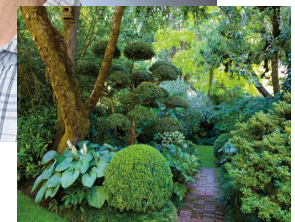
David Taylor

Dr. Taylor's research projects explore plant reproductive biology, or ethnobotany of the Portland Vietnamese community.

Students conducting this research:

- Perform field-work in all conditions, maintain detailed records and conduct interviews at crop markets
- Should have completed BIO 341 and 371, are detail oriented, work well in teams and independently, and provide their own transportation
- Can participate in research in the fall and spring, for 493 credit
- Typically commit 6 hrs/wk

Fun Fact: Dr. Taylor loves to dance East Coast



Christine Weilhoefer

Dr. Weilhoefer's research focuses on the effects of climate change on coastal ecosystem function

Students conducting this research:

- Combine field and laboratory study, and learn a variety of ecological research techniques
- Should have completed Wetlands, Freshwater, or Ecology lab
- Can participate in research beginning in the summer for stipend, continued into the fall and spring for 493 credit
- Typically commit 40+ hours during the summer

Fun Fact: Dr. Weilhoefer is passionate about sustainable fashion and the NY Rangers!



Organismal Biology

Terry Favero

Dr. Favero researches sport science and the physiology of exercise

Students conducting this research:

- Learn basic research and inquiry techniques
- Should have completed Anatomy and Physiology 1 and 2
- Can participate in special projects as the need arises

Fun fact: Dr. Favero taught Dr. Van Hoomissen when she was an undergraduate at UP



Laura Dyer

Dr. Dyer is interested in how the coronary arteries remodel once they connect to the aorta, and how innervation of the heart is impacted by fetal alcohol exposure

Students conducting this research:

- Learn to monitor fertilized eggs and embryos, and collect cardiac tissue
- Should have completed a year of Introductory Biology Lecture and Lab, and be comfortable with General Chemistry
- Can participate in research year-round
- Spend 6 hrs/wk during the school year for class credit, and 30-40 hrs/wk in the summer for stipend

Fun fact: Dr. Dyer performed in a vocal ensemble at Carnegie Hall during grad school



Jacquie Van Hoomissen

Dr. Van Hoomissen researches physical activity and public health, with an interest in educational outreach and research in human biology courses, focusing on culturally-sensitive teaching, inclusive pedagogy, and active learning.

Students conducting this research:

- Learn about how to complete a literature review, how to gather human participant data, complete data analysis, and write a manuscript.
- Should have completed introductory biology and Anatomy and Physiology 1 and 2.
- Can participate in research on a case by case basis.

Fun fact: Dr. Van Hoomissen graduated from UP in 1997 with a BS in Biology. Her first teaching experience was an anatomy TA for Dr. Favero in 1995, the year she returned from UP's year-long Salzburg program.



Tara Prestholdt

Dr. Prestholdt is interested in marine and terrestrial invertebrates. Her research spans many aspects of ecology, ethology, and evolution, including sexual selection, autotomy and regeneration, polarized camouflage, climate change, and plastic pollution

Students conducting this research:

- Will be exposed to primary literature, field collection methods, data analysis, and practice in scientific writing and presentation skills.
- Should have completed Animal Behavior, Marine Biology with lab and/or Entomology with lab
- Can participate in research on a case by case basis.
- Spend time in both the lab and field, so those afraid of the mud and rain need not apply.

Fun fact: In 2017 she rode her motorcycle 13,000 miles from Portland to Patagonia to see penguins.



Sub-Organismal Biology

Amelia Ahern-Rindell

Dr. Ahern-Rindell's research focuses on a GM1 Gangliosidosis Variant in a Sheep Model and Y-Chromosome STR Analysis using Ancient DNA

Student conducting this research:

- Are full collaborators involved in every step of the research process
- Should have completed Intro Biology series, Human Genetics and Genetics Lab
- Can participate in research in the fall and spring, potentially in the summer, as well
- Start with 1 credit hour (3 hrs/wk) then increase as work permits

Fun fact: Dr. Ahern-Rindell participated in undergraduate research at the University of Illinois, Champagne-Urbana



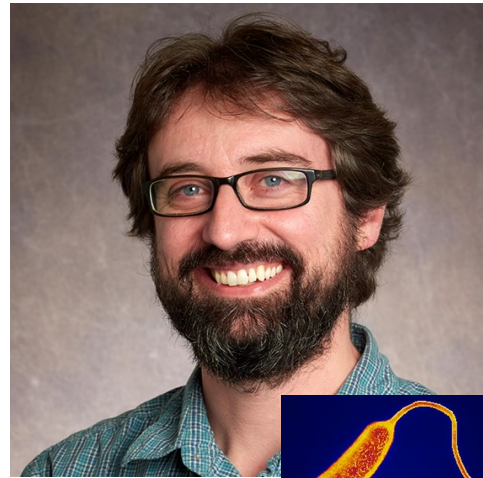
Ryan Kenton

Dr. Kenton's research involves the systems that both power iron uptake and expel antibiotics in the bacterial human pathogen *Vibrio vulnificus*

Students conducting this research:

- Learn to safely work with human pathogens and create genetic mutations
- Should have completed Microbiology Lecture and Lab, and General Chemistry
- Can participate in research beginning in the summer, and can continue through the school year
- Spend 3-6 hrs/wk during the year and 35-40 hrs/wk during the summer

Fun fact: Dr. Kenton has danced in the last four UP Hawaii Club Luaus!



Susan Murray

Dr. Murray's research focuses on cellular signals regarding human T cell activation

Students conducting this research:

- Receive education regarding proper sterile lab techniques involving human peripheral blood mononuclear cells
- Should have completed Immunology Lecture; completion of Immunology Lab is preferred, as well
- Can participate in research in the summer; occasionally works with students during the school year
- Spend 40 hrs/wk in the summer and 4-12 hrs/wk during the school year

Fun fact: Lymphocytes carry different DNA from all the other cells in your body



David Wynne

Dr. Wynne's research focuses on understanding how chromosomes end up in the right place when cells divide

Students conducting this research:

- Learn basic genetics, molecular biology, and cell biology techniques
- Should have taken courses at the cell and molecular level, especially Genetics and Cell and Molecular Biology are useful
- Can participate in research in the spring, summer, and fall terms
- Spend 3-9 hrs/wk during the year and 40 hrs/wk during the summer

Fun fact: Each student feeds and cares for thousands of animals (microscopic worms!)



Biology Without Borders

By Shannon Leffler

Every year hundreds of students from the University of Portland fly off to places around the world to partake in Studies Abroad. Students can choose from a wide variety of countries located across the globe, and decide on programs that vary in length, from six weeks in the summer to an entire academic year. The Study Abroad Program gives students a chance to explore, embrace, and grow in a new culture, all while continuing their education and taking classes that will contribute to their degree.

Although Biology majors have a full, four-year course load, this doesn't prohibit many from studying abroad. The three most popular destinations for Biology majors are:

*Six weeks in the summer, a semester, or a yearlong program in Salzburg, Austria, although most Biology majors opt for the six-week program. In Salzburg, Austria, students get to experience a lively, centrally located European country, known for its music, art, and vibrant lifestyle. This coming summer an Anatomy and Physiology course will be offered during the second session in Salzburg by Dr. Van Hoomissen.

*A semester long program in Fermantle, Australia, which is one of UP's most popular programs. Students studying in Australia can choose from an array of classes offered at the University of Notre Dame Australia.

*A semester long program in Galway, Ireland, where students enroll in Biology courses offered at the University. Here, students travel around Ireland, visiting Northern Ireland, Dublin, the Aran Islands, even spending a couple of days with a Gaelic-speaking family.

Many students will tell you that studying abroad was one of their favorite things about their time at the University of Portland. Applications for studying abroad the following summer or year were released during the first week of Fall semester, with a deadline of October 15th. So, if you have any questions, please be sure to visit the Study Abroad Office located in Buckley Center 114 or contact studiesabroad@up.edu.

Join the Club!

By Shannon Leffler

Joining a club at the University of Portland is a great way to get involved and meet new people with the same interests. UP has over a hundred clubs, with several biology related or biology specific ones.

*The Tri-Beta Club is UP's Honor Society for Biology majors. The Tri-Beta Club recognizes and promotes scholarly achievements, and connects students in the field of Biology.

* The general Biology Club aims to promote research and interest in the field of Biology

*There are currently two established pre-health clubs—Pre-Med and Pre-Dental. These clubs are designed to provide opportunities, education, and communication for students interested in pre-health careers.

*The Undergraduate Research Club is a great place to find out about research opportunities on and off campus, as well as learn from other students who have conducted research.

*The STEM Outreach Activities and Resources Club works to spread awareness and promote STEM programs within the University and local community.

It is never too late to join a club! If interested, contact the club's president, whose information can be found on the UP Portal under **Engage**.

Engage

Check out the Biology Department's Engage Site for more exciting news and events.

<https://up.campuslabs.com/engage/organization/bio>



UP - Engage

Biology Alumni: Where Are They Now?

Every year about a hundred students graduate from the University of Portland with a Biology Degree. Many students go off to Medical School, Dental School, or PT School, but there are a plethora of unique jobs and opportunities for Biology Majors. Check out the essay below to discover how Mackenzie Reed, a UP Biology grad ('08), found her passion "communicating science." Also, be sure to check out the amazing video Mackenzie created featuring Dr. A.R.!

<https://www.youtube.com/watch?v=j6U54yL4Jg0&feature=youtu.be>

Stay Curious!

By Mackenzie Reed

My name is Mackenzie Reed and I attended the University of Portland from 2004-2008. I majored in Biology, with the original intention of going to medical school. At UP, I took Biology, Physiology, Anatomy, Microbiology, Embryology, Immunology, Human Genome Seminar, and I was a Biology workshop leader for two years. In the summer before my junior year, I stepped out of my "science comfort zone" and participated in a Tropical Ecology study abroad program in Samoa and Hawaii. While immersed in these unique tropical environments, I fell in love with ecology and realized there was a whole world of science I had yet to explore. When I returned to the UP campus, I broadened my scientific horizons and took courses in Marine Biology, Animal Behavior, and Conservation Biology. My senior year, I stepped even farther out of my comfort zone and took an internship as a digital photographer at The Oregon Zoo. At this point, I realized I wanted to share my enthusiasm for scientific inquiry with others and teach and share it in such a way that would inspire people. I wanted to "communicate" science. One day, during an Immunology lab, I overheard another student talk about a science and filmmaking graduate program at Montana State University. I researched this program and instantly knew the Science and Natural History Filmmaking school was where I wanted to go next.

Biology Alumni: Stay Curious Continued...

Immediately following my graduation from UP in 2008, I enrolled in the Master's program at MSU.

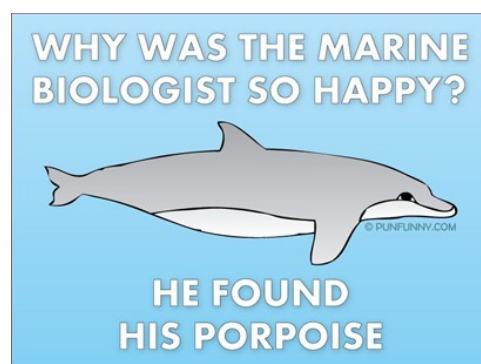
Through this Master's program, I ultimately learned to communicate science to a broad audience by bridging the gap between scientists and the general public through the medium of film. While at MSU, I worked on a variety of science filmmaking projects. Some of my favorite films from this period include a National Science Foundation (NSF)-funded project focused on Brucellosis infection in wild elk and a film I created for MSU'S Molecular Biosciences Graduate Program. In addition, I was a video intern at the NSF headquarters in Washington, D.C. Upon completing my Masters of Fine Arts in the Science and Natural Filmmaking program, I was pleased to discover how well the medium of video lent itself to science communication.

After graduating, I moved back to Portland, where I held different positions for a variety of organizations. At NW Documentary, I taught science documentary filmmaking to teens through summer courses in the Redwoods State and National Park. I also worked at the Oregon Museum of Science and Industry (OMSI) in their Science Communication Fellowship program. During this time, I also produced some personal freelance projects, including the *Stay Curious* series. I knew I wanted to include one of the UP professors who inspired my science curiosity, a teacher who engaged with students and left a positive lasting impression. Of course, I immediately thought of Dr. A.R., and luckily, she agreed to be a part of the project!

Currently, I hold a position at the National Park Service as a Communication Specialist. Every day, I am engaged with science and the public. I get to work with scientists, highlight their research, and tell their stories. I continue to work on my *Stay Curious* series, but I would love to see this project expand to more science-based organizations to help communicate their message to the general public. My hope is that more and more organizations will realize the importance of science communication and outreach and create divisions and positions that focus on this vital work.

Upcoming Events

- A great opportunity for students is the Murdock Undergraduate Collaborative Research Program. This Program is targeting students who are interested in a research career. Take a look at the flier on the last page. If you are interested, contact Dr. Murray for an application and more details. Applications are due **October 26!**
- Applications for Tri-Beta will be released in January, 2019—so stay tuned if you are interested in joining the National Biological Honor Society!
- An informational meeting will be held by the Master's In Biomedical Engineering Program on **October 1st at 5pm in Shiley 123.**



Murdock Undergraduate Collaborative Research Program

The Knight Cardiovascular Institute and Knight Cancer Institute at Oregon Health & Science University (OHSU) announce an opportunity for students to participate in ongoing research projects at OHSU. The program, sponsored by the M.J. Murdock Charitable Trust is designed for students pursuing a career in biomedical research. Students who are already committed to a career in clinical practice alone are specifically discouraged from applying.



This program provides talented students from local Oregon colleges and universities with the opportunity to work in state of the art research laboratories at OHSU to answer a meaningful scientific question.

Outstanding students will be recommended to the selection committee by their institutions in the fall of their junior year. The basis for selection will include grades, letters of recommendation, and an interest in a career in biomedical research. Selected students will be notified in December and will be designated as Murdock Research Scholars. Awardees and their chosen OHSU research mentor will meet during spring term to formalize a project. Work on the project will begin in the summer of the senior year and continue part-time for the next twelve months.

Student stipends can be up to \$4,200 per twelve-month period plus a one-time housing allowance of \$300. Stipends are also available for a second summer.

Deadline for submission of applications: October 26, 2018.



For more information, please contact the representative at your school:

Concordia University:	Rici Hallstrand, Ph.D.	Biology Dept.	503-493-6259	rhallstrand@cu-portland.edu
	Wayne Tschetter, Ph.D.	Biology Dept.	503-493-6538	wtschetter@cu-portland.edu
George Fox University:	James Smart, Ph.D.	Biology Dept.	503-554-2704	jsmart@georgefox.edu
Lewis & Clark College:	Casey Jones, Ph.D.	Chemistry Dept.	503-768-7589	caseyjones@lclark.edu
	Norma Velazquez-Ulloa, Ph.D.	Biology Dept.	503-768-7509	nvelazquezulloa@lclark.edu
Linfield College:	Catherine Reinke, Ph.D.	Biology Dept.	503-883-2363	creinke@linfield.edu
Pacific University:	Lisa Sardinia, Ph.D.	Biology Dept.	503-352-2729	sardinil@pacificu.edu
University of Portland:	Susan Murray, Ph.D.	Biology Dept.	503-943-7067	murrays@up.edu
Warner Pacific College:	Elizabeth Dupriest, Ph.D.	Biology Dept.	503-517-1072	BDuPriest@warnerpacific.edu
Willamette University:	Jason Duncan, Ph.D.	Biology Dept.	503-370-6827	jduncan@willamette.edu