Chair’s Corner

As another academic year comes to a close, we want to use this issue of the Beaker in part, to recognize some of the accomplishments of the biology graduating seniors. You will see some of the contributions the biology majors made to our Founders’ Day of celebration with ~25 students participating in oral and poster presentations throughout the day. We highlight these collaborative research efforts between our majors and faculty because it is through these experiential learning opportunities that our students become biologists and participate fully in the scientific process. These interactions between our faculty and students create life-changing and permanent bonds that best prepare our grads for their future career paths. We not only honor these students who make the additional effort to benefit from these endeavors but, we wish to acknowledge the work of our faculty who make these meaningful and relevant experiences possible. Our graduating seniors were also honored at the beginning of Founders’ Day during the Senior Awards Breakfast with some of the top institutional and college accolades as well as Biology’s own Outstanding Achievement Awards that the biology faculty bestow on our seniors. Congratulations to the Biology class of 2019, we are very proud of you and inspired by you. We know that you will go on to make important contributions by helping to solve biological issues facing our world as scientists, and that you will also go on to serve your fellow human beings as educated, caring global citizens and lifetime learners.

We also highlight in this issue of the Biology Newsletter, our newest majors to the biology department. In order to help our freshmen, get connected early on with our faculty and one another, we sponsored a few activities for them this year. Among these were an evening registration help session, guess the faculty baby contest, and a competition within the 2022 Freshmen Class to design their own logo. We also feature a faculty member who will be on sabbatical next year, an alum who is now a Genetic Counselor, and a TA who loves helping her peers. We think this issue of the Beaker will have something for everyone and should be an enjoyable read as we finish out the semester and look forward to a well-deserved summer hiatus.

-Dr. Ahern-Rindell

Professor in the Spotlight

By: Shannon Leffler

After almost seven years of teaching at the University of Portland, Dr. Weilhoefer will be going on sabbatical next academic year. Over her year long sabbatical, Dr. Weilhoefer will spend some time travelling around Asia and conducting research in a couple of different places. In the fall, she will be exploring molecular techniques to identify harmful algae and the toxins they produce in freshwater ecosystems in Japan. She will be working at Kyoto University conducting her research at Lake Biwa, the largest freshwater lake in Japan. In the
spring, she will be working at the Hatfield Marine Science Center in Newport, Oregon continuing her research on the effects of climate change on coastal wetlands. She will be expanding her research to Washington and California to examine the regional impacts of climate change on these ecosystems as well.

Dr. Weilhoefer is excited to expand her current research project, start a new one, and think about a new course she would like to teach at UP. She hopes to learn about cutting-edge molecular techniques so that she can then apply them to her research. When Dr. Weilhoefer returns to UP, it is her goal to create a class on Global Change Biology where her research on algal blooms and climate change would be very pertinent, and she can share her new findings with the UP community.

CAS Alumni/Student Mixer

On February 21st, over 100 undergraduate students from the College of Arts and Sciences gathered to talk, network, and gain advice from over 20 of UP’s successful alumni.
**Advising Event**
On March 22nd, seniors and faculty from the Biology Department gathered to help answer any questions underclassmen had about the upcoming Fall registration process. Pizza, drinks, and cookies were served to help accommodate individuals’ busy schedules on a Sunday at dinner time.

**West Regional Honors Conference**
Nora Hendricks presented research findings she conducted at OHSU during the Western Regional Honors Conference at Montana State University. This is the first time a group of UP students in the Honors Program travelled together to present at such an event.

**Biology Department Class of 2022 Logo Contest Winner**
Congratulations to Katherine Klassen for creating the winning logo for Biology majors who graduate in May 2022. Each year the biology freshmen class will compete to design their own class logo. Logo stickers will be distributed in the Intro Bio courses.

**Guess That Baby Professor**
Congratulations to Selene Andrade-Bernal for winning the first “guess that baby professor” contest featuring Dr. Kyle Flann. Our second winner, who guessed this little girl pictured below is Dr. Laura Dyer, is Georgia Paulk. Check for the next photo at the beginning of Fall semester in the glass display case located in the stairway of Swindells Hall main entrance.
Founders’ Day Senior Awards Breakfast

The Senior Awards Breakfast took place on the morning of Founders’ Day. Every academic unit presented their graduating seniors with awards specific to their discipline. The Biology Department routinely gives out four awards that are determined by the faculty. Plaques are engraved with the names of recipients who received each award and are kept in the Biology display case on the first floor of Swindells Hall. Below are photos of these award recipients receiving their certificates and monetary awards for their achievements:

The 2019 Biology Award Recipients

Sophia L. Boyd receiving the Blondel Carleton Award in Biology for Overall Achievement

Jacey N. Wreggelsworth receiving the Becky Houck Teaching, Mentoring, and Service Award
Erin E. Faloon receiving the Marlene Moore Academic Achievement Award

Jessica R. Karr receiving the Michael Snow Achievement in Undergraduate Research Award

In addition, two biology graduating seniors also received prestigious awards during the breakfast ceremony:

Rachel Aber for the University-wide Outstanding Undergraduate Research Award to a graduate of the Class of 2019

Celena C. Lyon for the Susan Baillet Award for Outstanding Neuroscience Minor to a graduating senior
Founders’ Day Presentations

On Tuesday, April 9th, research students from UP gathered to give poster and oral presentations on their findings.

The Effects of Habitat Quality on Small Mammal Health
By: Shreya Kumar, Sophia Boyd, and Jessica Karr
Faculty Mentor: Dr. Dizney

Exploiting the Benefits of CRISPR Technology: Generation and Analysis of a Novel Mutation that Allows Precise Control of a Cell Division Regulator
By: Katherine Brown
Faculty Mentor: Dr. Wynne

For the Love of Hymenoptera: Lab and Fieldwork with Portland’s Native Bees
By: Riley O’Rourke
Faculty Mentor: Dr. Prestholdt
Below-ground Implications of Ecological Restoration  
By: Jessica Karr  
Faculty Mentor: Dr. Dizney

A Comparison of American Crow Social Interactions with Human Feeders in Oregon and Connecticut  
By: Asch McDonnell  
Faculty Mentor: Dr. O’Reilly

Effects of Upland Vegetation Type on Wetland Soil Nitrogen Concentration  
By: Annie Coyle  
Faculty Mentor: Dr. Weilhoefer
Comparison of Nest Box Temperatures of Tree Swallows on the Franz River Campus
By: Evan Schatz
Faculty Mentor: Dr. O’Reilly

Y-Haplotype Analysis of Ancient Human Remains
By: Matthew Schumann
Faculty Mentor: Dr. Ahern-Rindell

Factors that Contribute to Injuries in Female Collegiate Distance Runners
By: Allegra VanderWilde
Faculty Mentor: Dr. Favero
Effects of Habitat Quality on the Health of Small Mammals

By: Shreya Kumar

Faculty Mentor: Dr. Dizney

Using a New Knockdown Technique to Determine When an Essential Cell Cycle Regulatory Protein Functions in the C. Elegans Germline

By: Matthew Ward and Adria Bowles

Faculty Mentor: Dr. Wynne

From Farm to Landfill: A Sustainability Audit of a Local Grocery Store

By: Maya Hurst and Even Suemori

Faculty Mentor: Dr. Prestholdt
Cultivation and Chemical Analysis of Agriculture Crops
By: Elena Lazarus
Faculty Mentor: Dr. Weilhoefer

Examining the Effect of Maternal Obesity on Vitamin D Metabolism in the Placenta
By: Nora Hendricks
Faculty Mentor: Dr. Murray

Microplastics in Coastal Oregon
Macroinvertebrates
By: Emma Steffen
Faculty Mentor: Dr. Weilhoefer
Shear Stress Levels During Remodeling of the Coronary Arteries
By: Allegra VanderWilde and Cole Malibiran
Faculty Mentor: Dr. Dyer

Effects of Early Alcohol Exposure on Neural Development in the Chick Heart
By: Erin Faloon
Faculty Mentor: Dr. Dyer

Defining the Role of Two Newly Identified Proteins in the Vibrio Vulnificus TonB2 System
By: Brianne Zbylicki, Mario Manzo, and Elysse Phillips
Faculty Mentor: Dr. Kenton
Biology Alumni: Where Are They Now?

My name is Caitlin Mauer and I am currently a genetic counselor in Dallas, Texas. I graduated from UP in 2010 with a BS in Biology and a minor in Philosophy. I entered UP with a pre-med focus; for years I had wanted to be a doctor and work with patients. However, when Organic Chemistry rolled around sophomore year, I started second-guessing that decision! I began searching for alternative biology careers, and found genetic counseling in Dr. Ahern-Rindell’s Human Genetics course. As part of the curriculum, Dr. Ahern-Rindell invited a genetic counselor from OHSU to talk to us about how she used human genetics in a clinical setting on a day-to-day basis while working with patients. I was instantly intrigued! Dr. Ahern-Rindell then helped me set up an internship in the pediatric genetic counseling clinic at OHSU my senior year, and my love for the field was confirmed!

As a genetic counselor, I am trained to assess a patient’s risk to inherit a particular genetic condition, coordinate testing for that condition, and help patients emotionally cope and medically manage their genetic diagnosis. I currently work in a Cancer Genetics Clinic, so I help patients determine if they are at risk for a certain type of cancer, and if so, what tests we can do to either detect it early or prevent it all together. While we can’t change our genes (yet!), it’s extremely rewarding to be able to help patients change their health based on their genetic information.

To become a genetic counselor, you must complete a two-year master’s program and then pass a board certifying exam. The master’s program consists of learning the nitty-gritty, hard-core genetics science, but also how to communicate genetic information to patients and help them cope with their (or their child’s) diagnosis. We are trained very broadly – in prenatal, pediatric, oncology, cardiac, neuro, and psych genetics – which makes it both easy to specialize in a particular area or jump between specialties.

As genetic counseling becomes more common, the application process for getting into graduate school will become much more competitive! Most schools now require some shadowing experience, as well as some experience working with individuals in crisis (such as a suicide hotline or crisis text line). If genetic counseling appeals to you, I would strongly recommend working with your academic advisor to help you set up these co-curricular opportunities. You can also find genetic counselors to shadow in Portland (there are many!) by visiting the National Society of Genetic Counselor’s website, http://www.nsgc.org. In addition to the application to genetic counseling grad school, there is also an interview process that occurs. I would highly recommend using UP’s Career Center and the UP Biology department faculty to set up mock-interviews to help you prepare! I did both and they helped me feel confident and prepared when it came time for my interviews!

I loved my time at UP and I feel so grateful for the experiences I had that led me to where I am today. My biggest piece of advice for any student is to use the resources available at UP – your faculty, advisors, the biology department, the career center, and the alumni network – everyone wants to help you succeed! And in that light, should you wish to learn more about the field of genetic counseling, I’m always happy to talk more about my career! Feel free to reach out to me at: Caitlin.Mauer@utsw.edu!
Portia England is a senior biology major with a minor in chemistry who comes from Santa Rosa, California. She is a Teaching Assistant (TA) for Bio 277, the Intro to Cell and Molecular Biology Lab. Portia loves being a TA and helping students learn new and exciting things. As a TA for Bio 277, Portia primarily works with freshmen who are taking their first college biology course. She enjoys supporting and introducing them to the wonders of biology. Portia loves being a TA because she feels that it is a great way to give back to the biology department and grow relationships with some awesome faculty members. Portia believes being a TA is one of the best jobs on campus, because she gets paid to interact with students while continuing to keep her knowledge of the subject fresh. Portia is applying to medical school but will be taking a gap year to gain some work experience and hangout with her dog!