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Dear Friends of Botany and Plant Pathology,

We’re back! It has been quite some time since we produced the last issue of Posies and Pathogens, the newsletter for the Department of Botany and Plant Pathology, and a lot has happened during that time. I became Department Head in April of 2018, and feel very privileged to follow in the footsteps of Lynda Ciuffetti and to serve the faculty, staff, students, and alumni of BPP. BPP remains an outstanding group of people dedicated to a mission of research, teaching, and Extension, and I am excited to share with you some of the major achievements over the past few years.

Whether you can believe it or not, Cordley Hall is being remodeled. I am sure many of you remember good old Cordley, and while it has served us well over the years, it was in desperate need of some TLC. This effort was led by none other than Blaine Baker, and I cannot imagine having gone through this process without him. The department was located off-site for two years as the west half of Cordley was being renovated, and we moved back in June of 2022. Yes, this occurred during the pandemic, but everyone handled it well, resulting in a truly unique experience we will always remember. The east half of Cordley is currently under renovation and is scheduled to be completed by May of 2024.

In addition to a newly renovated building, the department has a lot of new faces. Like many academic units at OSU and across the country, we are experiencing the crest of the Baby Boom retirement wave, but fortunately we have been able to hire some new and outstanding faculty and staff.

While I miss my colleagues that I “grew up with”, it is also exciting to welcome and interact with new colleagues who bring fresh ideas and energy to the department. This is true for the Corvallis campus as well as the Branch Experiment Stations.

I am very happy to share with you that our academic programs are thriving. With more than 300 students, the Botany undergraduate major is a large as it has ever been. This is due to both growth in our on-campus program and initiating an online offering of our major through OSU Ecampus. We also started a new undergraduate major in Biological Data Sciences that provides students with the latest skill set in computational biology. Our graduate program continues to prosper with students from across Oregon, the US and the World pursuing MS and PhD degrees in areas such as plant health, ecology and evolution, and plant development and function. The results are alumni who go on to succeed in academia, government agencies, and private industry.

In this issue of Posies and Pathogens, we will give you a brief glimpse of recent department activities, none of which would have been possible without you. Thanks for all your past and continuing support, and please know that you are always welcome to visit us in “New Cordley” and to attend any of our department functions. The annual Fall Picnic is scheduled for September 28th, and we would be thrilled to have you there. Make sure we have your latest email and/or mailing address.

Cheers,

Joey Spatafora
Department Head
A Brief History of Cordley Hall

Cordley Hall was originally built in 1956 with a major addition added in 1965. The current footprint is approximately 236,000 sq ft. It is named after Arthur Burton Cordley, an entomologist and plant pathologist who became Dean of the School of Agriculture in 1908 and led the formation of BPP in 1909. Over the years Cordley Hall has housed the departments of BPP, Zoology, Entomology, Microbiology, and Horticulture. Today it houses the Department of Botany and Plant Pathology and Department of Integrative Biology.

How many days and nights did you spend in Cordley Hall? I am betting that if you are reading this article, the answer is a lot! The dark hallways. Leaky roof. Bursting pipes. Windows that wouldn’t open. Windows that wouldn’t close. No AC. Power outages. Well, we are happy to say that Cordley Hall has been fully renovated. This is the largest renovation in OSU history in terms of square footage and expense, currently forecast to cost $172 million at completion. The building was completely gutted, leaving only load bearing walls, posts, and beams, and rebuilt with new electrical, plumbing, lighting, and HVAC. The project was led by OSU Project Manager Dustin Sievers; the architectural firm was Hennebery Eddy Architects; and the demolition and construction were performed by Andersen Construction. The work on the west half of the building was performed from September 2020 to June 2022. During that time the department was located off campus at the Coast Range Building (CRB) located about 2 miles from campus on Research Way, just off Philomath Blvd. This building was the former home of Siga Technologies and purchased by OSU to be used as surge space for units as buildings are being renovated. BPP was the first test case for this process.
Our time at CRB was obviously marked by the pandemic and following university and state public health regulations. All-n-all it worked quite well, and we maintained operations during the entire time. We moved back to Cordley in June of 2022 and our building mates, Dept of Integrative Biology, moved out to CRB for demolition and renovation of the east side of Cordley, which is scheduled to be completed in May of 2024.

The department is now mostly housed in the west half of Cordley, but approximately 20% of our space will be in the east side. The main office is located on the southside of the building on the second floor, along with the herbarium, plant clinic, and Extension and Outreach room. Two teaching labs are located on the first floor and two more will be located on the second floor, on the east side of the building. All research laboratories and most faculty, student and research offices are located on the third and fourth floors. Several of the lab spaces are shared laboratories providing unique opportunities for collaborations and student and postdoc training. Two lounges are located on the south side of the third and fourth floors and provide spaces for people to meet, have coffee, and eat lunch together.

We are very fortunate to be able to work in a newly renovated Cordley and are thankful for the support from the college, the university, and the state of Oregon. A special shout out to Blaine Baker who really led the department through the process, and to Associate Dean Joyce Loper who provided essential college guidance and support. Cordley is now an up-to-date research facility that allows BPP to continue to excel in research, teaching and Extension, and it provides a strong recruiting tool for students and faculty, alike. We would love to show you the new building, so please feel free to contact the department for a visit and tour. You won’t recognize the New Cordley.
Undergraduate Students

By Marc Curtis

Promoting Growth
We are honored and proud of our hard-working, problem-solving, diverse, creative and nature loving Botany students. The Botany program has consistently grown over the past five years, both at the Corvallis campus and on Ecampus. This academic year (Summer 2022-Spring 2023), there were 97 on-campus students and 294 Ecampus students, and a total of 40 students graduated with a B.S. in Botany. Eight are receiving Botany as a second degree (post baccalaureate) and 32 are receiving Botany as their first degree. Seventeen graduates are from Ecampus and 23 from the Corvallis campus. Of the 40 graduates, 23 are graduating with distinction: 12 Summa Cum Laude (GPA 3.85 to 4.0), 5 Magna Cum Laude (GPA 3.7 to 3.84) and 6 Cum Laude (GPA 3.5 to 3.69).

Registered Botany Majors

Lichen Explorations
Graduate Davis Yokana says about the botany degree, “In three years of study, the architecture of botanical life has been explained to me. This was a profound experience that has altered the way I look at the world.” Davis chose Botany because he wanted to, and still wants to “understand the world in which I live.” A couple obstacles, which Davis overcame, was the significant time the course work demands and, for getting the most out of the botany fieldwork, Davis traveled outside of his home urban area. Botany courses do encourage adventure. Davis entered the program without a particular career goal in mind, but was motivated by his curiosity. Coming out of the program, further knowledge of plant ecology is now his goal. Davis says his “most memorable project was a lichen collection and identification”, a project that required students to retrieve and identify diverse lichens, and was exciting because “One discovers many species that are not visible in the landscape unless one specifically looks.”

Camas Conservation
Graduate Jennie Green says “Going back to school as an adult was the most challenging thing I've ever done and the best decision I ever made.” Jennie started her degree with the goal of pursuing a career as a field botanist working for plant conservation. Although Jennie “wasn’t sure what I would gain with an online program”, she discovered that botany coursework included outdoor study of plants and local ecosystems where she “gained the experience I would need for my future career interests.”

Jennie also developed new interests in plant physiology, science writing (“as long as I get to write about plants!”), lichenology, and GIS, to name a few. Jennie’s office is now at Camas Meadows Natural Area Preserve in Central Washington where she works with the Department of Natural Resources and the University of Washington to help with the conservation of Wenatchee Mountains checker-mallow (Sidalcea oregana var. calva).

Getting ready for work installing soil moisture probes at rare plant habitat microsites in Camas Meadows Natural Area Preserve. Photo: Jennie Green

Usnea longissima in McDonald Dunn forest in 2022. The specimen is about 6 feet across. Photo: Davis Yokana
Botany Online
Graduate Alyssa Brook says “Going to college and getting my bachelor’s degree” was a goal since high school, but her journey “wasn’t a straight shot. It was more like going on a hike and venturing off the main trail.” At the age of 38, Alyssa found herself going back to school to pursue a career in natural science and starting at a local community college, diving right into chemistry and biology. Alyssa explored online bachelor programs at Oregon schools and found the botany program at OSU: “I knew right away that this was the perfect fit for me. I’m passionate about the natural world and the beautiful plants that grow in it.” For Alyssa’s Botany option, she chose courses that aligned with her career goal to work in forest management and biodiversity conservation. Alyssa also was a Teaching Assistant for two different professors and “found a passion for helping others in their education and coursework.” Alyssa says “My educational journey in this program was amazing. I thoroughly enjoyed the coursework and hands-on learning.” However, pursuing the degree was a challenging time. Alyssa had to balance school with being a mom, and says “with effective time management, the support of my family and the little notes of encouragement my kids would leave me, I was able to achieve my goals.” Now that school is over, Alyssa plans to enjoy summer with her kids and in the fall, she will embark on her next journey.

Alyssa Brook and her son and daughter (future botanists?). Photo: Alyssa Brook

Bioinformatics for Plants
Graduate Max Poland says “I am extremely grateful to have had the opportunity to get my degree in Botany at OSU.” Max chose the degree because of his interest in plants and their genetics, which goes well with his annual tradition of growing strawberries, as well as kale, cucumbers, tomatoes, peas and more. “I hope to enjoy this hobby for the rest of my life.” Among Max’s favorite courses were Plant Breeding, Lab Techniques in Plant Biology, and Plant Systematics. One of Max’s favorite experiences was serving as a curatorial assistant for Dr. Liston in the herbarium and he says “one of my specimens from my fieldwork is in that herbarium. I’m proud to have contributed.” In the fall, Max starts a master’s degree at the University of Missouri - Kansas City, in Cellular and Molecular Biology with a focus in Bioinformatics. He says “I will be able to use all my knowledge and experience from OSU to further my education.”

Tropical Forester
Graduate Daniel Kennedy, from a very young age, knew he wanted to be a scientist. At first, he was fixated on herpetology, then paleontology, and then in high school, developed his interest in plants. Daniel says, about deciding on a career path and general plan for afterwards, that “I’ve had a lot of guidance from professors and other faculty members who have given me the necessary tools to seek the sort of position I want.” Daniel says “I’ve had so many memorable experiences at OSU that have led me to my current place in life. It’s hard to nail down just one!” Daniel found Plant Systematics and Flora of the PNW with Dr. Aaron Liston and Dr. James Mickley to be very formative classes that provided the foundational knowledge of his plant identification skills. Daniel also worked in the Herbarium with Dr. Liston and Dr. Mickley and learned how to curate specimens and manage a collection. Daniel also valued Plant Ecology and Advanced Plant Ecology with Dr. Andy Jones, courses that taught him practical ecological data collection and monitoring skills, and how to think critically of broader questions in plant ecology. Although, not having a strong career goal in mind when he started at OSU, Daniel says “My career goal is much more focused now, though admittedly still a bit loose.” Daniel is currently in a second field season as a botanist, with Dr. James Johnston, for OSU in the Malheur National Forest, and waiting to hear back from the Forest Service about a full time Botanist position. Eventually, Daniel would like to pursue higher education in the field of taxonomic research and/or tropical ecology.
Undergraduate research has become a common experience in BPP. It empowers our students to advance outside of the classroom and prepares them for the next steps after their degree. During the past academic year, student from Botany and other majors engaged in research activities mentored by various BPP faculty and affiliated faculty. These experiences ranged from fieldwork to laboratory experiments to computational biology.

- **Gwendolyn Michna** (Botany) and **Michelle Bang** (Mathematics) - maize pollen biology. (Mentor: John Fowler)
- **Kathleen Theresa Phillips** (Botany) - lichenology (Mentor: Bruce McCune)
- **Alyssa Birmingham** (Botany) and **Nya Bussard** (Botany) - drought stress in rice. (Mentor - Pankaj Jaiswal)
- **Joie Beasley-Bennett** (Botany), **Elizabeth Hooks** (Botany), **Riley Callahan** (Biochemistry & Molecular Biology), **Jenna Rosenau** (Biochemistry & Biophysics), **Annette Tongsak** (Computer Science) - Plant Reactome project. (Mentor: Sushma Naithani)
- **Birgitta Woods** (Microbiology) - foliar endophytic fungi. (Mentor - Posy Busby)
- **Joshua Wingfield** (Botany) - mycology. (Mentors: Jared LeBoldus and Jessie Uehling)
- **Jessica Tuson** (Botany) - Oregon Flora project. (Mentor - Linda Hardison)
- **Zane Walker** (Botany) - paleobotany. (Mentors: Ruth Stockey and Gar Rothwell)
- **Jordan Gates** (Botany) - wood decay fungi. (Mentor: Gerald Presley, Department of Wood Science)
- **Keller Roderick** (Botany) - toxicity of Aluminum Salts to known fungal plant pathogens. (Mentor: Virginia Stockwell)
- **Mckenna Platt** (Botany) - plant pathogenic nematodes. (Mentor: Dr. Inga Zasada)
- **Skyler Har** (Biological Data Sciences) - genomics of the basidiomycete truffle, Rhizopogon (Mentor: Joey Spathafora)
- **Jewell Jung** (Microbiology) and **Andra Schiffer** (Biological Data Sciences) - genomics of the plant pathogenic Agrobacterium (Mentor: Alexandra Weisberg)
- **Coranna Akdemirbey** (Biochemistry & Molecular Biology) - transcription factor DNA binding interactions in roots and shoots of Arabidopsis (Mentor: Molly Megraw)
- **Daniel Bacher** (Biochemistry & Molecular Biology), **Melody Lamascus** (Biochemistry & Molecular Biology), **Jennifer McGee** (Biochemistry & Molecular Biology) - plant-microbe interactions. (Jeff Anderson)
- **Wyatt Hines** (Botany) and **Chance Fredrickson** (Botany) - pathogens of turfgrass, rye grass and barley. (Hannah Rivedal)
Recent Graduates share their plans

An Avenue for Growth
The Biological Data Sciences (BDS) Bachelor of Science program was developed in response to needs to train life science students in data sciences. The BDS curriculum has biological sciences as its core, but with more and stronger integration of bio-computing, statistics, and mathematics than most traditional programs. BDS has three options, Genomics (GEN), Ecological and Environmental Informatics (EEI) and Computational Biology (CB). BDS officially started in the spring term of 2020, and it is during this term that its first two students, Sophie Bauer and Skyler Har, transferred in. BDS has had nearly 50 students collectively in its major and minor programs.

Together for the Future
Developing a new program presented the opportunity to give students a deeper learning experience with new courses integrated via shared concepts that build from one another. At the heart of curriculum development were several early career faculty members who brought a high level of enthusiasm and a shared vision. Dr. Rebecca Hutchinson (2015; EECS and FWCS), Dr. Maude David; (2018; Pharm and MB), Dr. Jessie Uehling (2019; BPP), Dr. Timothy Warren (2020; Hort) and Dr. Samuel Leiboff (2020; BPP) helped design and teach courses that are core to BDS or its options. In 2023, Dr. Tim Warren was awarded a R.M. Wade Award for Excellence in Teaching by the College of Agricultural Sciences because of his outstanding and transformational teaching in two BDS courses.

Proven Success
BDS requires its students to complete an experiential learning experience, such as research, internship, teaching, or study abroad that involves biological data sciences. The experiences of students have been remarkable. Many have participated in multiple years of research and the types of research have been extraordinarily diverse. Students have done mathematical modeling, machine learning, genome analyses, analysis of public health data, genome-wide association studies, and computational pipeline development, to name a few. They have attended and presented their work at conferences and meetings. Honors College and BDS student, Daniel Hickey, is first author on a paper that analyzes changes in behavior on a social media platform; it will be published in the Proceedings of the International AAAI Conference on Web and Social Media (ICWSM). Recently Daniel’s research has been covered in WIRED and LA Times articles. Another BDS student has assisted with in-class teaching of Python programming.

By June of 2023, four undergraduate students will have graduated with a Bachelor of Science degree in BDS. The two graduating at the end of the 2022-23 academic year are Honors College students, Jaclyn Vu and Skyler Har. Jaclyn will start her Master of Science program at Columbia University, where she will continue research in Data Sciences. Skyler will start his PhD program at the University of Michigan, where he will be studying the aquatic plastic microbiome. Congratulations to these graduates as well as Sophie Bauer and Riely White, graduates of the 2021-22 academic year.
2018


Dylan Blankenship, M.S., “Tackifier Type and Concentration have Varying Impacts on Growth of Dryland Mosses” (Bruce McCune, David Pyke).


Angie Mestas, M.S., “Environmental Factors Affecting Phytophthora Root Rot of Rhododendron” (Jerry Weiland, Carolyn Scagel).

Hannah Rivedal, Ph.D., “Diagnosis and Etiology of a Soilborne Disease Complex of Winter Squash (*Cucurbita maxima*) in the Willamette Valley, OR” (Ken Johnson).

Kai Tao, Ph.D., “Investigating Protein-lipid-membrane Interactions in Plant Cells using Bimolecular Fluorescence Complementation” (Brett Tyler)*

2019

Ricardo Miranda-Gonzalez, Ph.D., “Lichen Studies of Tropical Dry Forest: A Systematic and Ecological Approach” (Bruce McCune).

Elisa Di Meglio, M.S., “Decadal Changes in Lichen and Vegetation Communities in Relation to Metal Deposition and Climate in Northern Alaska” (Bruce McCune).


Shankar Shakya, Ph.D., “Phylogeography and Evolution of Effector Genes in Phytophthora Species” (Nik Grunwald).

Noor Al-Bader, Ph.D., “Comparative Transcriptomics in Stress-Induced Rice” (Pankaj Jaiswal)*

Outstanding Achievement

We are happy to say that the BPP Graduate Program remains a core element of our department and is as strong as ever, producing the next generation of researchers and educators. One of the new additions to BPP graduate programming is the annual Graduate Student Research Celebration. This is a conference-format symposium in which first year M.S. students and second year Ph.D. students present their thesis proposal seminars. This is held in the OSU Memorial Union and is followed by a department social and poster session. This past year was our fifth annual production of the event, and the student talks were outstanding.

It is always so exciting to see the breadth of research being done in the department and how integral graduate students are to our departmental culture and mission. The event is typically held the first Friday in May and it is open to the public. So watch for announcements and feel free to attend.

BPP averages a graduate student body of 40-45 students per year, roughly 1/3 M.S. students and 2/3 Ph.D students. And over the past five years, we have graduated a total of 50 graduate students including 26 M.S. and 24 Ph.D. Here is a list of graduating students, degrees, thesis/dissertation titles, and advisors from Summer 2018 – Summer 2023.

(*degree in Molecular & Cellular Biology advised by BPP Faculty)
2020

Ed Barge, Ph.D., “Structure and Function of Foliar Fungal Communities of *Populus trichocarpa* Across its Native Range, Pacific Northwest, USA” (Posy Busby)

Max Combest, M.S., “A Putative PAMP-Induced Peptide Family Member is Associated with Symptom Severity to the Necrotic Strain NTN of Potato Virus Y in Potato” (Aymeric Goyer)

Kristen Finch, Ph.D., “Genomic Resources for Phylogenetics, Species Delimitation, and Geographic Localization of Neotropical Tree Species *Cedrela odorata L.* (Meliaceae)” (Andy Jones)

Melinda Guzman, M.S., “Identification of Viruses Associated with Raspberry Leaf Curl Disease” (Bob Martin)

Jessie Brazil, M.S., “Diversity and Impact of Soft Rot Pathogens of Potato in the Columbia Basin” (Ken Frost)

Evan Perkins, M.S., “Differential Effects of First Year Wheat Genotype on the Suppression of Take-All Disease and the Establishment of Suppressive Microbial Agents in the Rhizosphere” (Chris Mundt)

Lauri Reinhold, Ph.D., “Identification and Occurrence of Sweet Cherry (*Prunus avium*) Virus and Virus-Like Diseases in Various Regions and Orchards of Oregon” (Jay Pscheidt)

Cedar Warman, Ph.D., “Seeing Genes: Multiscale Phenotyping Reveals Gene Functions in Maize Pollen” (John Fowler)

Zachary Foster, Ph.D., “Development of Computational, Visualization, and Molecular Tools for Fungal and Oomycete Community Ecology” (Nik Grunwald)*

2021

Matthew Brown, Ph.D., “Photoacclimation in Marine Phytoplankton Under Various Light and Nutrient Regimes and the Resulting Effect on Photosynthetic Electron Flow and Chlorophyll Fluorescence Transients” (Mike Behrenfeld)

Kayla Delventhal, M.S., “Scratching the Surface of the Potato Geocaulosphere: Characterizing the Microbiome of Seed Tuber Tare Soil and its Impact on the Rhizosphere Microbiome” (Ken Frost, Posy Busby)

Lilah Gonen, M.S., “Community Ecology of Foliar Fungi and Oomycetes of *Pseudotsuga menziesii* on the Pacific Northwest Coast” (Andy Jones, Jared LeBoldus)

Cameron Ross, M.S. non-thesis (David Gent)

Taylor Bates, M.S., “Science Takes Flight: Detection of Black Leg on Turnip Gray Mold on Hemp” (Cindy Ocamb)

Catie Wram, Ph.D., “Insights into Novel Non-Fumigant Nematicides: Physiological and Cellular Responses of *Meloidogyne Incognita* and Other Plant-Parasitic Nematodes” (Inga Zasada)

Russel Gould, M.S. non-thesis (Molly Megraw)

Chelsea Newbold, M.S., “Is Resistance Futile: Examining Fitness Costs Associated with QoI Resistance in *E. necator*” (Walt Mahaffee)

George Kral, Ph.D., “Landscape Genomics and Climatic Responses of Willamette Valley Alders” (Aaron Liston)

Megan O’Malley, Ph.D., “Role of GacSA two-component system and bacterial surface attachment in *Pseudomonas syringae* virulence” (Jeff Anderson)

Valerie Fraser, Ph.D., “Investigating Transcriptional Control of Specialized Gene Expression in Plants” (Molly Megraw)*
2022

**Hazel Daniels**, Ph.D., “Insights into the pathology and epidemiology of *Phytophthora ramorum*, causal agent of sudden oak death” (Jared LeBoldus)

**Adrienne Kovasi**, M.S., “Lichen Biomonitoring from Valley to Alpine in Central and Southern California” (Bruce McCune)

**Jiang (Scott) Liu**, Ph.D., “Host and Pathogen Genetics in the Sharp Eyespot Disease of Wheat” (Chris Mundt)

**Ian Trautman**, M.S., “Fungal Secondary Metabolism of *Basidiobolus meristosporus*: a Novel Natural Product Reservoir” (Joey Spatafora)

**Dustin Gannon**, Ph.D., “Plant-Pollinator Interactions in a Changing World: Cryptic Specialization, Pollinator Movement, and Landscape Genetics of Pollinator-Dependent Plants” (Andy Jones)

**Ishika Kumbhakar**, M.S., “Spatiotemporal Assessment of Crop Histories in the Pacific Northwest” (Ken Frost)

**Rachel Baschieri**, M.S. non-thesis (Sam Leiboff)

**Alexander Bippus**, Ph.D., “Permineralized Mesozoic Moss Gametophytes and their Implications for Bryophyte Evolution” (Gar Rothwell, Ruth Stockey)

**Sabrina Heitmann**, M.S., “Environmental context mediates the relationship between leaf traits and the foliar fungal microbiome” (Posy Busby)

**Ryan Lenz**, Ph.D., “A G-type lectin receptor-like kinase associated with Septoria canker resistance and susceptibility described using multi-omics and biotechnology” (Jared LeBoldus)

**Michelle Soule**, M.S., “Development of Quantitative PCR Assays to Aid in Root-knot Nematode (*Meloidogyne* spp.) Diagnostics and Resistance Breeding Efforts in the Pacific Northwest” (Inga Zasada)


2023

**Kate Baldino**, M.S., “The Ecology and Epidemiology of *Xanthomonas hortorum pv. carotae* in Central Oregon Carrot Seed Production Systems” (Jeremiah Dung)

**Adam Carson**, M.S., “Epidemic Dynamics of Sudden Oak Death in the Forests of Oregon” (Jared LeBoldus)

**Shawn McMurtrey**, M.S., “Silviculture Impacts and Population Genomics of *Coniferiporia sulphurascens*, the Causal Agent of Laminated Root Rot” (Jared LeBoldus)

**Zachary Bright**, M.S., “Toward a flexible and accurate approach to null network sampling” (Molly Megraw)

**Nicholas Cauldron**, Ph.D., “Attack of the Clones: Inferring patterns in Phytophthora emergence using genomic approaches” (Nik Grunwald)

**Gabriel Sacher**, Ph.D., “Diseases of Rhododendron and Boxwood: Survey and Virulence of Phytophthora Root Rot and Management of Boxwood Blight with Systemic Fungicides” (Jay Pscheidt)


**George Kral dissertation** - Observed localities of three western US alder species within subgenus *Gymnothyrsus*
Amy Honan is an Ecampus Instructor/Advisor and joined BPP in 2022. She received a B.A. from Western State College (2002), an M.S. from San Francisco State University (2006), and a Ph.D. from the University of Washington (2021). Amy’s research background is in taxonomy of mushroom-forming basidiomycetes. She teaches BOT341 Plant Ecology, BOT461 Mycology, and BOT462 Fungal Ecology via Ecampus and advises students in the Botany Ecampus program.

Samuel Lieboff is an Assistant Professor and joined BPP in May of 2020. He received a B.S. from the University of California, Berkeley (2010), a Ph.D. from Cornell University (2017), and did a postdoc at the University of California, Berkeley (2017-2020). Sam’s research uses genomics, genetics, and imaging to identify the genetic determinants and dynamic events required for organ development in maize, sorghum, and other agricultural grasses. He teaches BI311 Genetics and BDS411 Case Studies in Biological Data Sciences.

Jessica Lodwick is an Instructor and joined BPP in 2021. She received a B.A. from Miami University, Ohio (2002), an M.A. (2004) and a Ph.D. (2014) from Stoney Brook University. Jessica’s research background is in primate behavioral ecology. She teaches BI204 Introductory Biology I, BI205 Introductory Biology II, and BI206 Introductory Biology III in Ecampus and BI301 Human Impacts on Ecosystems on campus.

James Mickley is an Instructor/Professor of Practice and joined BPP in August of 2020. He received an B.A. from Kalamazoo College (2008), an M.A. from Stoney Brook University (2010), and his Ph.D. from the University of Connecticut (2017). James is curator of the plant collection of the OSU Herbarium does research in plant taxonomy and the development and use of plant biodiversity databases. He teaches BOT313 Plant Structure, BOT325 Intersection of Plants and Humanity, and BOT425/525 Flora of the Pacific Northwest.

Jessie Uehling is an Assistant Professor and joined BPP in January of 2020. She received her B.S. (2010) and M.S. (2012) from Humboldt State University, her Ph.D. from Duke University (2017), and did a postdoc at the University of California, Berkeley (2017-2019). Jessie’s areas of research include mycology and fungal genomics with an emphasis on fungal-bacterial interactions and bacterial endohyphal symbionts of filamentous fungi. She teaches BOT461/561 Mycology and BDS477/577 Population Genomics, and also curates the fungal collection associated with the OSU Herbarium.

Alexandra Weisburg is an Assistant Professor and joined BPP in 2022. She received her B.S. (2009) and Ph.D. (2014) from Virginia Tech University and was a Postdoc at Oregon State University (2015-2022). Alex’s research is in the evolution and ecology of bacterial pathogens of plants with an emphasis on the evolutionary genomics of pathogenicity and symbiosis of plant-associated bacteria in the genera Agrobacterium and Rhizobium. Alex teaches BI445 Evolution and BOT555 Evolutionary Dynamics of Plant Pathogens.
Our alumni go on to do impactful work around the world. Here is a brief snapshot of three of the latest alumni of BPP.

Sarah Lowder
Sarah graduated in Dec 2022 with her Ph.D. in BPP and was advised by Walt Mahaffee. In March 2023, she started as an Assistant Professor of Horticulture and the Extension Viticulturist for bunch and muscadine grapes with the University of Georgia. While she now focuses less on the pathology, she still gets to work with even more grape diseases - one could joke that Georgia grapes are affected by “all” of the grape pests and diseases. While still very new to her current role, she has a great team of people to work with in Georgia with an enthusiastic and innovative grower group, Extension agent team, and College of Ag colleagues. It almost makes up for moving away from the wonderful people in BPP, the USDA, and the rest of Oregon! If any of y’all want to come visit, she’d be happy to show you around!

Javier Tabima
Javier graduated in 2017 with his Ph.D. in BPP and was advised by Nik Grunwald. He is currently an Assistant Professor of Genomics at the Biology Dept. of Clark University in Worcester, Massachusetts. Clark was the first all-graduate school in the country, and one of the oldest research liberal arts universities in the US (founded in 1887). Javier’s research group is currently focused in studying the diversity and evolution of fungi associated with animal groups, mostly in amphibians, using comparative genomics and population genetics. He teaches several courses that are focused on computational biology such as Quantitative Methods for Biology, Bioinformatics, and Genomics, as well as advanced evolutionary biology topics such as Speciation and Population Genetics.

Catie Wram
Catie graduated in May of 2022 with her Ph.D. in BPP and was advised by Inga Zasada. She joined Dr. Will Rutter’s Lab at the USDA-ARS US Vegetable Lab in Charleston, South Carolina, where she is a Postdoctoral Researcher. Her research projects focus mainly on the new invasive Guava Root-Knot Nematode and aiding the sweet potato breeding program in developing resistant lines. She also works on characterizing the genomics of Southern Root-Knot nematode strains that break resistance genes found in various pepper cultivars. She has been keeping busy exploring the swampy forests with her dog and enjoying the excellent restaurants in Charleston. However, she says the east coast beaches have nothing on the gorgeous Oregon coast!
**Dan Arp**

Dan joined the faculty of BPP in 1990 as tenured Associate Professor and was promoted to Professor in 1992. He served as Director of the Molecular and Cellular Biology Program from 1993-2000, Department Head of BPP from 2004-2008, Dean of the OSU Honors College from 2008-2012, and Dean of the College of Agricultural Sciences (CAS) and Director of the Agricultural Experiment Station from 2012-2018. He retired from OSU in August of 2018.

Dan's research group is internationally known for its work in genomics of environmentally relevant microorganisms; biochemistry, physiology, and molecular biology of nitrification; biochemistry and molecular biology of butane utilization by bacteria; gas-utilizing metalloenzymes; bioremediation, especially as it pertains to the enzymology and physiology associated with metabolism of chlorinated solvents. In addition to research, Dan taught numerous courses over the years including Research Ethics, Plant Physiology, Plant Biochemistry, and Structure and Function of Eukaryotic Cells.

Dan's research and teaching accomplishments are reflected in the numerous awards he received. Examples include the Savery Outstanding Young Faculty, Earl Price Excellence in Research, Fellow of the American Academy of Microbiology, Gilfillan Award for Scholarship, L.L. Stewart Professor of Gene Research, and OSU University Distinguished Professor.

Dan was also an exceptional leader and administrator. He led BPP through a period of modernization as it entered the genomic age. As Dean of OSU's Honors College, he worked to enhance the learning experience of Oregon's top young scholars. During his tenure as Dean of CAS, the college grew in enrollment, scholarships, and research funding, further strengthening its importance to OSU's standing as a top-tier land-grant university.

Dan thanks for all that you have done for BPP, CAS, and OSU, and for serving as a mentor to many.

**Lynda Ciuffetti**

Lynda joined the faculty of BPP in 1990 as a Research Assistant Professor, became a tenure-track Assistant Professor in 1995 and was promoted to Associate Professor in 1999 and Professor in 2004. In 2008, she began her position as Head of the Department of Botany and Plant Pathology at OSU and retired from OSU in January 2018.

Lynda is an internationally known authority in the field of molecular host-pathogen interactions and is a regular at the Fungal Genetics Conference. Her research group did pioneering work on *Pyrenophora tritici-repentis*, which causes tan spot, a serious disease of wheat worldwide. Her passion for science, her infectious enthusiasm for research, and the excellence of her research group are legendary at OSU. She also taught large undergraduate courses in biology or botany each year and became known as one of the most engaging and inspiring teachers on campus.

Lynda's also served on the Oregon State Board of Higher Education, and within OSU she served as president of the Faculty Senate, chair of the Graduate Council, and was a member of the President's Cabinet. She also served on grant panels for federal funding agencies, on the Scientific Program Board of the American Phytopathological Society, and Associate Editor of Molecular Plant-Microbe Interactions.

For all her outstanding work, Lynda received many university awards recognizing her accomplishments including the OSU Alumni Association Distinguished Professor Award, the F.E. Price/ARF Excellence in Research Award, Fellow of American Phytopathological Society, Fellow of American Association for the Advancement of Science, and the OSU Beaver Champion Award, to name a few.

Lynda thanks for all that you did for BPP and leading us to a better and brighter future.

**Russ Ingham**

Russ has been a member of the Dept. of Botany and Plant Pathology since July 1985. With over 36 years of service to the department, university, and community, Russ retired in December 2021. Russ is a nematologist through and through, and helped many understand the biology, ecology, pathology, and management of nematodes in potato, onion, and other field crops. He has numerous publications over the years; given countless presentations and workshops to the public sector; and developed essential management information for growers.

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Emeritus Professors

The Botany and Plant Pathology department has 30 faculty as Emeritus. In retirement these colleagues continue to positively impact the department and its faculty and students with their accumulated knowledge and experience.

Joyce Loper

Joyce joined the faculty of BPP in 1988 as an Assistant Professor (Courtesy) and was promoted to Associate Professor (Courtesy) in 1992 and to Professor (Courtesy) in 1997. She was a Research Plant Pathology with USDA, ARS, Horticultural Crops Research Laboratory in Corvallis and served as Research Leader from 2000-2004. Joyce became Associate Dean in the College of Agricultural Sciences, OSU in 2016 and retired in August of 2021.

Joyce’s research program was focused on genomics of plant-associated bacteria, microbial ecology, biological control of plant disease, and secondary metabolism. She trained several graduate students in BPP and mentored numerous undergraduates and postdocs, providing opportunities, and advancing the careers of numerous women in science. Joyce also maintained collaborations with several OSU and BPP researchers and helped strengthen the ties between BPP and the USDA.

Ken Johnson

Ken joined the faculty of BPP in 1988 as an Assistant Professor and was promoted to Associate Professor in 1993 and to Professor in 1999. His affiliation with the department goes back further, however, as he obtained his M.S. degree in BPP with Mary Powelson. Ken retired from BPP in August of 2022.

Ken is the epitome of a plant pathologist. He is best known for his work on disease management of Fire Blight and bacterial diseases of pear and apples, and Eastern Filbert Blight of hazelnut trees, but he has worked on numerous systems from squash to carrot seed to sweet cherry. He taught BOT350/550 Plant Pathology for many years and gave guest lectures in other graduate level plant pathology courses. Ken also trained numerous graduate students, who have gone on to careers in plant pathology, and he served on countless graduate committees.

Ken’s excellence in teaching, research and outreach has been recognized by numerous university and national awards including the CAS Briskey Award for Faculty Excellence, Oldfield/Jackman Team Award, Savery Outstanding Young Faculty Member, R.M. Wade Award for Excellence in Teaching, Fellow of the American Phytopathological Society, and Washington State Horticultural Association Silver Pear Award.

Ken served on just about every departmental committee there is from Promotion and Tenure to Curriculum. But don’t overlook his chairing of the Social Committee where he ensured numerous successful fall picnics and cooked a lot of chicken. Finally, this column would not be complete without mentioning his cribbage prowess, as many a lunch were spent playing cribbage and laughing in the lunchroom.

Thanks for all your contributions and making BPP a better department.

Russ also supervised the Nematode Testing Service under the OSU Plant Disease Clinic and contributed sections on nematodes and nematode control to the Pacific Northwest Disease Control Handbook.

In addition to his Extension activities, Russ taught undergraduate and graduate courses in nematology and plant pathology, and served on numerous committees in the department, college, and university levels. He has also been a long-standing member of the American Phytopathological Society and is a national leader in the Society of Nematologists, where he served in leadership roles including Treasurer, Vice-President, and President.

In recognition of Russ’ impact to Oregon agriculture, he was awarded the 2022 Honorary Life Membership Award by the Potato Association of America (PAA). This is the highest award bestowed upon an individual by the PAA and acknowledges Russ’ career long contributions to the potato industry.

We congratulate Russ on a great career and thank him for all his service over the years.
Joyce was also a very active member of the American Phytopathological Society, where she served on several committees and as Secretary-treasurer of the APS Pacific Division.

As Associate Dean, Joyce played a pivotal role of helping guide the college during leadership transitions, and she was instrumental in guiding BPP through the planning phase of the Cordley remodel.

Joyce's outstanding career is exemplified by the numerous national awards including Fellow of the American Phytopathological Society (APS), APS Outstanding Volunteer, Fellow of Oxford University, E.C. Stakman Award (University of Minnesota), USDA-ARS Distinguished Senior Scientist of the Year (2014), and the USDA-ARS Hall of Fame (2016).

Joyce thanks for all your collegiality and support, and for helping maintain and grows the ties between OSU and USDA.

Peter McEvoy

Peter joined the faculty of the Department of Entomology in 1977 as an Assistant Professor and was promoted to Associate Professor in 1985 and to Professor in 1995. He joined BPP in 2003 with the close of the Department of Entomology and retired from OSU in March of 2018.

Peter's research was in the ecology and evolution of plant-insect interactions and in the theory and practice of biological pest control. Research by his group of undergraduates, graduate students and postdocs emphasized ecological modeling and the use of insect biological control agents of invasive plants species, such as purple loosestrife and tansy ragwort. As an entomologist, Peter provided a bridge between entomology and botany and plant pathology, highlighting the importance of understanding ecological connections between plant and insects. As a theorist, Peter advanced the use of mathematical modeling to test ecological theory on the range expansion of insects and invading plant species.

While in Entomology, Peter taught Insect Ecology and Ecological Methods, and then taught Plant Ecology when he joined BPP. He was also active in the Environmental Sciences Graduate Program and taught in Environmental Analysis.

Peter served as an advisor to the National Research Council on invasiveness of plant related species, the Institute of Pacific Islands Forestry (USDA-FS), the Office of Technology Assessment (U.S. Congress), and to the National Audubon Society.

Peter is a member of the Society of Sigma Xi and Phi Beta Kappa, a McMaster Fellow of CSIRO Australia, and served as editor of the journal Ecological Applications.

Peter thanks for contributions to OSU and building connections between entomology and BPP.

Melodie Putnam

Melodie obtained her B.S. in Botany from OSU in 1981, joined the faculty of BPP in 1993 as the Plant Clinic Chief Plant Disease Diagnostician (rank of Instructor), and was promoted to Sr. Instructor I in 2001 and to Sr. Instructor II in 2015. She retired effective June 30, 2023.

As Chief Plant Disease Diagnostician, Melodie grew and developed the OSU Plant Clinic into what is widely recognized as one of the best in the country. With over 200 commodities, Oregon agriculture is incredibly diverse, and Melodie's mastery of plant diseases is unmatched. She has maintained and promoted a strong traditional knowledge base of pathogens and plant diseases and coupled that with state-of-the-art molecular diagnostic tools. Today, she is recognized as one of the pioneers of introducing genomic technologies to plant disease diagnosis.

Melodie worked closely with stakeholders and always put their needs first. It is not uncommon to received unsolicited and refreshing input from growers and stakeholders on the high quality of the services provided by the Plant Clinic and what an asset Melodie is to both OSU and Oregon agriculture. Melodie is also actively involved in research, grant acquisition, and has enabled many researchers at OSU to conduct important collections-based studies.

Melodie provided invaluable service to the National Plant Diagnostic Network and the Western Region National Pest Diagnostic Network, and her contributions to plant pathology are truly remarkable. They have been recognized by numerous awards, including American Phytopathological Society (APS) Fellow, Pacific Division APS Lifetime Achievement Award and Distinguished Service Award, National Plant Diagnostic Network Distinguished Service Award and the APS Excellence in Extension Award.

Melodie thanks for making BPP a national leader in Plant Disease Diagnosis and serving BPP stakeholders.
**Tom Wolpert**

Tom joined the faculty of BPP in 1989 as an Assistant Professor and was promoted to Associate Professor in 1995 and to Professor in 2002. He retired in August of 2020.

Tom’s research in plant pathology was focused on understanding the molecular interactions that occur between a plant host and its fungal parasite, and the resulting expression of either disease resistance or susceptibility. His work is internationally recognized, and he is best known for his work on the host-selective toxin Victorin and its role in eliciting programmed cell death.

Tom’s research program was based on long and continuous funding from federal granting agencies, and he trained numerous graduate students in plant-microbe interactions. He taught Plant Physiology, Molecular Host-Microbe Interactions, and Molecular Basis of Plant Pathogenicity, which was routinely cited by BPP graduate students as one of their favorite classes. He also guest lectured in numerous other classes and always provided some of the more thought-provoking questions in journal clubs and BPP seminars.

Tom served on almost every committee known to OSU, on numerous panels for NIFA, USDA, and NSF, and on the editorial boards for several journals. His professional contributions are recognized by numerous awards and accolades including Fellow of the American Phytopathological Society, RR Nelson Lecturer (Penn State University), Whetzel-Wescott-Dimock Lecturer (Cornell University), Noel T. Keen Award for Research Excellence in Molecular Plant Pathology (APS), and the F.E. Price Award for Excellence in Research (OSU).

Tom was also central to numerous departmental social events including the chicken cookouts of the BPP Fall Picnic, and he excelled in cribbage and promoting the esprit de corps of the BPP lunchroom.

Thanks for all your contributions to BPP and being a mentor to many.

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**Jeff Stone**

Jeff joined the faculty of BPP in 1987 as a Research Associate with Everett Hansen. He was then appointed as an Assistant Professor (Sr. Research) in 1993 and promoted to Associate Professor (Sr. Research) in 2001 and Professor (Sr. Research) in 2007. He retired December of 2019.

Jeff’s research was in mycology and forest pathology. His work focused on the systematics, ecology, and life history of foliar endophytes and pathogens of forest trees, and he is internationally known for his work on Rhabdocline Needle Cast and Swiss Needle Cast of Douglas-fir.

Jeff taught numerous classes including Mycology, Forest Insect and Disease Management, General Ecology, Economic Botany, and Plant Pathology. He supervised numerous graduate students in BPP, as well as several undergraduate honors theses.

Jeff is recognized as a leader in mycology and served numerous roles in the Mycological Society of America including Endowment Committee Chair, Councilor of Ecology/Pathology, Associate Editor, Managing Editor and Editor-in-Chief of Mycologia, and Treasurer. He was a regular at the annual MSA meeting and worked to ensure not only the success of the society but promoted a welcoming and inclusive environment that advanced students and early career mycologists.

For his professional contributions, Jeff was recognized as a Fellow of the Mycological Society of America and awarded the Lee Hutchins Tree Pathology Research Award (American Phytopathological Society) and the Oldfield Team Award from the College of Agriculture, OSU.

Jeff, thanks for all your contributions to BPP and introducing so many students to fungi.
POSIES & PATHOGENS

June 2023

Designer
Nathan Nolte, Public Information Assistant

Department of Botany and Plant Pathology
Joseph Spatafora, Head

On the cover — Christopher Mundt drives a tractor in the shadow of the Mt Jefferson. Plantings are done to understand the landscape of invasive cereal diseases like wheat stripe rust. Photo: Paul Severns

On the back — Tyee Winery in Corvallis. Photo: Alexandra Weisberg

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