

What's New with BB

(July 1st, 2022 through September 30th, 2022)

Dear BB Community,

Welcome to a new academic year! Among many changes taking place this year, I am especially excited to welcome Jayathi Murthy to serve as the first woman president in OSU history. She is deeply committed to advancing access to public education, increasing the number of students we graduate, and takes pride in promoting our research and scholarship. Our new interim dean of the College of Science, Vrushali Bokil, is also a woman of color, an advocate for diversity, and a strong champion for research and student success. I am so proud to be a professor at OSU, where in a research I university we can still compete for federal money with the most elite and exclusive universities, while striving to define our success by who we include rather than who we exclude, and nurture our students and faculty to international recognition.



While we are all back to in-person teaching, research, and advising, it is still important to remember that COVID-19 is still around, and that future pandemics are inevitable and imminent. New infectious diseases have regularly emerged throughout recent decades, and climate change is enhancing the pace of such events. It is important that we reflect on, and not forget the lessons we learned from COVID and help support policies that rightfully prioritize the needs of disabled and vulnerable communities.

A major goal for me this year is to identify and develop talent in our midst and promote and build leadership skills. Building the knowledge, skills, and abilities of others so that everybody can succeed and achieve their potential is essential for a strong department that thrives to become a place that attracts, nurture, and retain the highest talent.

With war raging on in Ukraine and around the world, the death toll rising from hurricane Ian, record flooding in Pakistan, the return of Polio — I believe that never in human history has there been a greater need for scientific knowledge. From research on viral infections and diseases, taking care of our planet, educating the public on the value of science, to mentoring new leaders who will be better stewards of the planet we have left them, what we are doing is incredibly important. Our work, whether in teaching, research, or outreach will impact and shape the outcomes for generations to come.

Highlights of Summer 22

Funded Grants

David Hendrix's R01 with **Maria Franco** on "Integrative Transcriptomics" that combines secondary structure and protein-coding potential will be funded.

Maria Franco received \$150,000 over a three-year commitment from a private donor.

A SciRisIII proposal "Accelerating neuroactive microbial compounds discovery with gut-brain chip technology" will be funded for \$125,000 as a collaboration between the Biochemistry & Biophysics (**Kenton Hokanson**), Biomedical Sciences (Kathy Magnusson & Pat Chappell), Microbiology (Maude David) and the company NeuroBiome.

Maria Franco received the **Hartmann Faculty Scholar**, a \$10K/year over 3 years (plus 2) to go toward advancing excellence in Biochemistry & Biophysics in research, teaching, and service.

Grant Proposals Submitted

Maria Franco submitted a proposal titled "Understanding the Role of Peroxynitrite Signaling and Developing Therapeutic Intervention for Autism Spectrum Disorder" to the Autism Research Institute

Alysia Mortimer submitted a proposal titled "Neuronal Mechanisms of Copper Transport and Toxicity" to the NIH.

Phil McFadden, Victor Hsu, and Kate Shay applied to be CoSCIES fellows this year to align the General Biochemistry series (BB450/550 and BB451/551) and develop measurable criteria for improving student success.

Professional Service

Elisar Barbar served on an NIH **ZRG1 F04B-S(20) meeting scheduled July 14-15**

Elisar Barbar served on an NIH **ZRG1 BCMB-U (02) meeting July 28th**
Special Emphasis Panel/Scientific Review Group

Maria Franco was elected to leadership position within the Society for Redox and Medicine (SfRBM) **VP Membership**

Publications

From the *Cooley* group

Kapitonova AA, Tugaeva KV, Varfolomeeva LA, Boyko KM, **Cooley RB**, Sluchanko NN. Structural basis for the recognition by 14-3-3 proteins of a conditional binding site within the oligomerization domain of human nucleophosmin. *Biochem Biophys Res Commun.* 2022 Oct 30;627:176-183.

From the *Freitag* group

Ramírez-Cota R, Espino-Vazquez AN, Rodriguez-Vega TC, Macias-Díaz RE, Callejas-Negrete OA, **Freitag M**, Fischer R, Roberson RW, Mouriño-Pérez RR. The cytoplasmic microtubule array in *Neurospora crassa* depends on microtubule-organizing centers at spindle pole bodies and microtubule +end-dependent pseudo-MTOCs at septa. *Fungal Genet Biol.* 2022 Sep;162:103729. doi: 10.1016/j.fgb.2022.103729. Epub 2022 Aug 6. PMID: 35944835.

From the *Gombart* group

Su Y, Sharma NS, John JV, Ganguli-Indra G, Indra AK, **Gombart AF**, Xie J. Engineered Exosomes Containing Cathelicidin/LL-37 Exhibit Multiple Biological Functions. *Adv Healthc Mater.* 2022 Aug 5:e2200849. doi: 10.1002/adhm.202200849. Epub ahead of print. PMID: 35930707.

From the *Hendrix* group

Song Y, Yang J, Law AD, **Hendrix DA**, Kretschmar D, Robinson M, Giebultowicz JM. Age-dependent effects of blue light exposure on lifespan, neurodegeneration, and mitochondria physiology in *Drosophila melanogaster*. *NPJ Aging.* 2022 Jul 27;8(1):11. doi: 10.1038/s41514-022-00092-z. PMID: 35927421; PMCID: PMC9329351.

Yang J, Song Y, Law AD, Rogan CJ, Shimoda K, Djukovic D, Anderson JC, Kretschmar D, **Hendrix DA**, Giebultowicz JM. Chronic blue light leads to accelerated aging in *Drosophila* by impairing energy metabolism and neurotransmitter levels. *Front Aging.* 2022 Aug 31;3:983373.

From the *Mortimer N.* Group

Sultana S, Crompton ME, Meurer K, Jankiewicz O, Morales GH, Johnson C, Horbach E, Hoffmann KP, Kr P, Shah R, Anderson GM, **Mortimer NT**, Schmitz JE, Hadjifrangiskou M, Foti A, Dahl JU. Redox-Mediated Inactivation of the Transcriptional Repressor RcrR is Responsible for Uropathogenic *Escherichia coli*'s Increased Resistance to Reactive Chlorine Species. *mBio.* 2022 Sep 8:e0192622.

From the *Siegel* Group

Acevedo J, **Siegel JA**. Neurobiological, behavioral, and cognitive effects of ketamine in adolescents: A review of human and pre-clinical research. *Behav Brain Res.* 2022 Oct 28;435:114049. doi: 10.1016/j.bbr.2022.114049. Epub 2022 Aug 8. PMID: 35952776.

Faculty Talks

Elisar Barbar gave a talk at Novo Nordisk Foundation Symposium, Rethinking transcription Factors, titled *Protein disorder in transcription factors and gene silencing regulation* Copenhagen, Denmark, Aug 23-27, 2022

Juan Vanegas gave a talk titled *Direct calculation of micro and macroscopic elastic properties of membranes from MD simulations*, on June 22nd at the Biological Membranes and Membrane Proteins: Challenges for Theory and Experiment meeting held in Santa Fe, NM and organized by Greg Voth at the University of Chicago.

Afua Nyarko gave a talk at the University of Illinois, Chicago, Sep 20th, 2022

Welcome New Faculty:

Dr. Jessica Siegel, Associate Dean of Academic and Student Affairs

Jessica moved from Minneapolis MN and started full time at OSU in June 2022 as the Associate Dean of Academic and Student Affairs in the College of Science and Associate Professor in the Department of Biochemistry and Biophysics. Previously Jessica was an Assistant Professor at Sewanee: The University of the South and an Associate Professor and Director of the First Year Experience at the University of St. Thomas, two undergraduate liberal arts schools. Jessica's research is undergraduate-led and focused on educating and training undergraduate students. Her work examines the behavioral and neurobiological effects of methamphetamine and ketamine in a mouse model.



Dr. Alysia Mortimer, Associate Professor

My research focuses on understanding how we age and how aging leads to diseases like Parkinson's disease, Charcot-Marie-Tooth disease, and muscular dystrophy. I'm particularly interested in how genes interact with each other during aging and how these genes interact with environmental factors like pesticides and heavy metals to promote diseases of aging. I use the fruit fly *Drosophila melanogaster* to study this question because flies are remarkably like us and have many of the same symptoms of aging and disease as we do.



Dr. Nathan Mortimer, Associate Professor

Our research is focused on understanding signal transduction pathways, which enable cells to respond to stimuli through changes to the cells' physiological or biochemical state. These signaling pathways play important roles in organismal development, tissue growth and homeostasis, neurological function, and the immune response to pathogen infection. Signal transduction pathways are tightly regulated, with cells employing both positive and negative regulators which act to fine tune the duration and strength of the signaling event. Deregulated cell signaling is linked to defects in cell function and ultimately contributes to the pathogenesis of many diseases.



In the venom biochemistry and molecular biology lab, we use the *Drosophila*-parasitoid wasp system. In this system, parasitoids transfer venom proteins into their *Drosophila* hosts during infection in order to manipulate host signaling. We find that venom proteins target conserved signal transduction pathways, and so by characterizing the molecular interactions between host and parasite, we hope to better understand pathway regulation and identify novel signaling regulators among parasitoid venoms.

Dr. Juan Vanegas, Associate Professor

Professor Vanegas' research interests include understanding the function of mechanosensitive proteins such as ion channels, mechanical properties of lipid membranes and other biomolecules, and lipid protein interactions. His lab uses and develops many high-performance computing tools including molecular dynamics simulations, density functional theory, and continuum mechanics to understand structure-functional relationships across many biological length and timescales.



More info about the new faculty is here:

<https://science.oregonstate.edu/impact/2022/09/meet-the-8-new-faculty-members-bringing-their-expertise-to-the-college-of-science>



The College of Science is excited to welcome eight new faculty members this fall. They bring diverse expertise in gravitational wave astronomy, applied topology, cancer treatment, age-dependent diseases and more. As researchers and teachers, they will help the College produce a high-quality science education that is equitable, accessible and inclusive of all learners while advancing scientific

Welcome Incoming Graduate Students

Get to Know the First Year Grads



My name is Michael, and I'm from Connecticut. I'm interested in protein structure engineering, and I enjoy hiking, playing soccer, and playing with my dog.



Idris Mukhtar



My name is Jacob, and I'm from Arizona. I'm interested in evolutionary biology and applying it to biochemistry and computer science. I'm an artist at heart, and I love to draw. I enjoy hiking and music.



Hi! I'm Sarah, and I'm from Colorado. I'm interested in cancer cell biology and epigenetics. I enjoy reading and playing the cello.

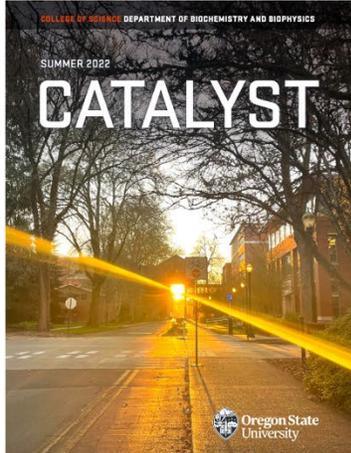


My name is Patrick and I grew up in CA. I've taught English to children in Beijing, worked in the Biotech industry in Kansas City, and recently finished my Masters degree at California State University Long Beach. I've enjoyed rowing since college as a Gaucho, but have joined crossfit boxes, rock climbing gyms, yoga, and pole dancing studios when I can't make it out to the water. I'm a flexible biochemist who has first authored published work in wet lab protein chemistry and computational molecular dynamics.



I'm Kristen, and I'm from Virginia. I'm interested in structural biology, and I enjoy hiking, playing with my dogs, and reading.

The BB 2022 Newsletter: The digital version of the 2022 Catalyst is on our website: <https://biochem.oregonstate.edu/sites/biochem.oregonstate.edu/files/20220913%20BB%20Newsletter.pdf>
Some highlights are below



On the cover — David Hendrix took a photo of what he calls “BeaverHenge.” During this event, the sunset is visible in the skybridge connecting the ALS Building and Cordley Hall. It can be seen around the spring and fall equinox, which coincides with the beginning of spring and fall terms

Keeping the department running

Tony Reyes, business manager for the BB department, was one of the recipients of this year’s Gladys Valley Award, which recognizes outstanding job performance and dedication by a staff person to their department and to the College of Science, joining the biochemistry department over two years ago. Reyes is particularly appreciative for his willingness to go above and beyond the scope of his job responsibilities to ensure the office runs smoothly despite numerous trying circumstances. “I cannot think of anyone else who worked harder and delivered better than Tony did, and of no one else who is more deserving,” said Phil Barbat.

All in the (ferlin) family
Celia Johnson received a 2022 College of Science Science Research and Innovation Seed Individual Investigator, or SciRI 4, award for a project to uncover new connections between the ferlin family of genes and disease. In the first study of its kind, Johnson will focus on ferlin gene Fer1L4, which has been linked to ovarian failure and neural tube development deficiencies. Johnson’s previous research has uncovered key components of osteoferrin gene therapy, making one step closer to receiving hearing for the congenitally deaf.

Catalyzing the development of Alzheimer’s

As part of the SciRI program, the College of Science offers other donor-funded awards to bolster research and innovation. The Disease Mechanism and Prevention Fund (DMPP) supports research into the mechanisms, diagnosis, treatment and prevention of human disease by College of Science faculty. These funds are provided by a generous gift from David and Donna Gould. **Adrian Gombart** was one of

this year’s DMPP awardees. Gombart’s DMPP project, “The role of the cathelicidin antimicrobial peptide in the development of Alzheimer’s disease,” continues work from a previous DMPP award, studying the potential use of an antimicrobial peptide called cathelicidin to curtail the development of Alzheimer’s. Vitamin D and other nutrients regulate expression of the peptide. Gombart’s project could lead to further development of effective, preventative therapies or treatments of Alzheimer’s disease.

Building a love of biochemistry through new teaching approaches

Associate Professor **Phil McFadden** received the 2022 Blended Learning Innovations in Pedagogy (BLIP) initiative award of \$K to help redesign BB450, General Biochemistry. The BLIP program was launched jointly through OSU’s Center for Teaching and Learning, Academic Technologies, Empower and the Office of Academic Affairs with the goal of improving learner success in large enrollment courses. BB450 is a large introductory course that mixes online and in-person instruction. McFadden is working to align traditional classroom lectures, online engagement, and assessment and teaching innovations developed during the COVID-19 pandemic to address online student learning needs.

Catalyzing the development of Alzheimer’s

As part of the SciRI program, the College of Science offers other donor-funded awards to bolster research and innovation. The Disease Mechanism and Prevention Fund (DMPP) supports research into the mechanisms, diagnosis, treatment and prevention of human disease by College of Science faculty. These funds are provided by a generous gift from David and Donna Gould. **Adrian Gombart** was one of



Characterizing the structure of Coronavirus
David Hendrix received a three-year \$25K award from the U.S. Department of Agriculture National Institute of Food and Agriculture to create a database that further explores the diverse functions responsible for the variability in viruses, fluors and production of Coronavirus. In 2021, Hendrix and collaborators became the first to successfully sequence the full genome with “top level” sequence technology. Unusually large – similar in size to the human genome – and complex to work with, this research revealed an overlap between “hemp and top gene members.”

How an collaboration with OSU faculty from
North Carolina, Oklahoma and the USDA, Hendrix hopes the program will also assist other researchers in better understanding the genetic differences that lead to diverse traits and help combat the invasive plant species. Currently, developing new strains of crops and being able to identify and remove “off” genes. The final goal is to help identify many of the genetic differences. “We will help develop disease resistance of crops and herbs that will meet the needs of emerging markets with an increasingly sophisticated genetic diversity and genomic,” said Hendrix.

From the labs

Showing neurodegenerative diseases
Maria Franco and her research team discovered a new class of potential drug targets for people suffering from Parkinson’s disease. The research was published in *Neurodegeneration* in 2022. The research was led by Franco, with co-authors including Phil Barbat, and other 1000s from Park’s team.

With medical conditions involving inflammation
In the neurodegenerative diseases, classical cells produce pro-inflammatory mediators. Franco said, “We had never found that mediator of acute inflammation by pro-inflammatory cells in the state of these neurons. The cells that carry signals from the brain to the muscles to coordinate movement.” Franco said, “Now we know that the mediator of Acute inflammation is not just in the brain, but in the muscles as well.” The research was published in *Neurobiology* in February 2022.

New Promotions!!

- Jessica Siegel
- Nathan Mortimer
- Alysia Vrailas-Mortimer
- Juan Vanegas

In the news and successful collaborations

Teaching and Learning News:

Kate Shay and Jessica Siegel have been accepted into the Center for Teaching and Learning’s Fall ‘22 Resilient Teaching Faculty Learning Community. Workshops will explore ed tech, blended learning, and resilient teaching.

Kari van Zee will be part of the Fall 2022 cohort of the Career Champions Program who will be working to learn and develop tangible ways to incorporate career connection into the classroom.

Maria Franco and Dave Hendrix are Valley Fellows focusing on biohealth sciences, funded by the Wayne & Gladys Valley Foundation who will participate in the upcoming Research Impacts and Advancement Academy (RIAA).

Grad Specific News:

Our first year incoming class



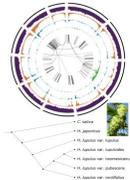
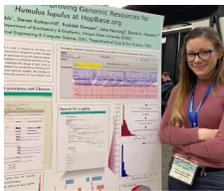
Back row: Patrick Allen
Front Row, Left to Right: Michael Youkhateh, Kristen Snitchler, Sarah Louie, Jacob K NotPictured Idris Mukhtar

Nick Bretz is a transfer student from Illinois State University working under the direction of Dr. Nathan Mortimer. His project is currently focused on determining how venom vesicles derived from one of our parasitoid wasp species are trafficked and targeted towards host immune cells of *Drosophila melanogaster*. He is a musician and enjoys playing guitar (either in his bedroom or on a stage), and enjoys hiking and cooking.



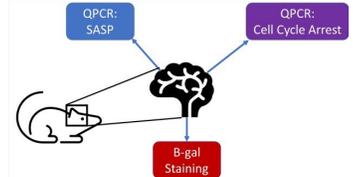
Congratulations Dr. Lillian Padgitt-Cobb!

*Towards Resolving Functional and Evolutionary Mysteries of the Large and Heterozygous Genome of Hop (*Humulus lupulus*) and the Cannabaceae Family Using Genomic Data Science*



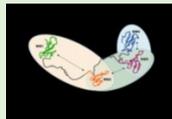
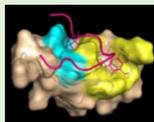
Congratulations Dr. Ruben Riordan!

The Role of Cellular Senescence in the Development of Alzheimer's Disease



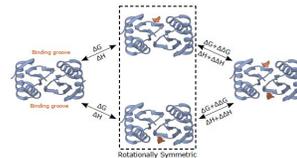
Congratulations, Dr. Amber Vogel!

Strength In Numbers: How Multivalent WW-PPXY Interactions Regulate Cell Signaling



Congratulations, Dr. Aidan Estelle!

Specificity, Allosteric, and Multivalency in Binding to the Hub Protein LC8



BMB Undergrad Giulia Wood in College of Science Feature Story

What do the OSU Biochemistry and Biophysics Department and World Krill Day have in common?

Our own undergrad BMB major Giulia Wood!!!

World Krill Day was August 11th and the College of Science released this feature story:

<https://science.oregonstate.edu/impact/2022/08/this-undergraduate-is-krilling-it>



Nathan Waugh successfully defended their master's thesis. Congratulations, Nathan!



Dr. Rosalyn Fey



Dr. Amber Vogel
Post-Doc in U of Utah



Dr. Riley Bednar

Dr. Heather Mason-Forsythe
NSF Office of the Assistant Director



Dr. Kayla Jara
Program Coordinator
GCE4All Center

Dr. Elise Van Fossen
Postdoc at PNNL



2021-2022
PhDs



Dr. Aayushi Manchanda

Dr. Ruben Riordan



Dr. Shauna Otto
Post-Doc in Sharona
Gordon's Lab at UW

Dr. Aidan Estelle



Dr. Lillian Padgitt-Cobb



Dr. Kasie Baker
Malvern



Summer Fun at the Corvallis Fall Festival with Church Ladies!! Could not be more proud that the star of the show is our own **Hannah Stuwe**, lead singer and saxophone player!



**From the GSA
Summer camp:**

This past summer, BB grad students **Melinda, Monica, Sanjay, Rachel, and Jesse** hosted the annual biochemistry summer camp for middle schoolers. The camp was a 1-week event that was packed full of fun biochemistry activities. This year was special because it was the first year back to an in-person summer camp since 2019. There were 18 camp attendees, which is one of the largest groups the biochemistry camp has seen yet! Each day of the camp had a different theme that was designed to teach

the students biochemistry fundamentals at various levels ranging from DNA/RNA all the way to whole organisms. Students had fun spending time in a real biochemistry laboratory extracting DNA from strawberries, learning about enzymes through a catalase experiment, finding and growing microbes and many other exciting activities. This year, the camp leaders even designed a new activity to teach students about antibodies and how COVID rapid tests work. Overall, the 2022 Biochemistry summer camp was a huge success and is bound to be even better next year!

GSA Retreat:

The graduate students started off the school year through a community building graduate retreat-day hosted at a local residence. This is the first graduate student-only portion of the department retreat since 2019. The retreat was a huge success where graduate students were able to converse, share their science, and build back the community that was taken away during the SARS CoV-2 restrictions. This event was only made possible by instrumental graduate students, the support of the Department and the office staff. A huge thanks to graduate students **Rachel, Tilo, Felisha, Sanjay, Jesse, and Alex** for their efforts in planning and Kim in the office for her help with logistics!

GSA Travel award recipient:

Jun Yang was the recipient of the Spring/Summer 2022 GSA travel award. Jun was able to share his excellent research at the 63rd Annual Drosophila Research Conference in San Diego California. His poster focused on his blue light research, where his data showed that daily exposure of fruit flies to 12-h of blue light per day or constant blue light accelerated their aging process and shortened their lifespan. His research using RNA-seq and LC-MS, to study blue light effects on the transcriptome and metabolism, suggested that blue light impairs energy metabolism and interferes with brain function in flies. We are excited that Jun was able to share his research with a broader audience at the Conference!

GSA Officers

<p>President</p>  <p>Brittany</p>	<p>Outreach Chair</p>  <p>Melinda</p>	<p>DEJI Chair</p>  <p>Sanjay</p>	<p>Vice President</p>  <p>Rachel</p>
<p>Party Czar</p>  <p>Jesse</p>	<p>Seminar Chairs</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Reginald</p> </div> <div style="text-align: center;">  <p>Monica</p> </div> </div>		<p>Media Chair</p>  <p>Moriah</p>
			<p>Secretary Michael</p> <p>Year Reps 1: Nick 2: Reginald 3: Monica 4: Tilo 5+: Jesse</p>

The graduate student handbook is updated and it is on the website <https://biochem.oregonstate.edu/content/graduate-student-handbook>

Alumni News:

Sara Coddling, a PhD graduate from the Johnson lab and current postdoctoral researcher at U. Maryland Medical School was awarded a NIH K99 Pathway to Independence Award starting September 2022. Congratulations Sara!

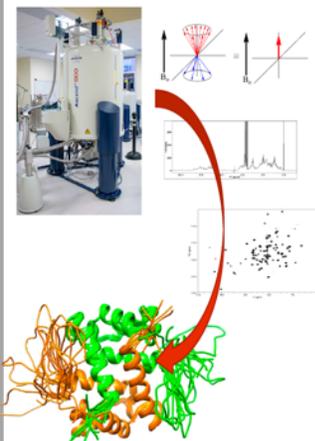
Grad Classes 22-23

BB699 PART 1: THEORY OF NMR SPECTROSCOPY

Fall 2022, Term 5A (09-21 to 10-28), CRN 20506
Tue, Thurs 8:00am -9:50am

BB699 PART 2: APPLICATIONS OF NMR SPECTROSCOPY TO PROTEINS

Fall 2022, Term 5B (10-31 to 12-02), CRN 20507
Tue, Thurs 8:00am -9:50am



Course Overview:

Part 1: Theory of NMR Spectroscopy. This course is intended to provide students with a working knowledge of the theory of modern pulsed NMR and the basis for many common pulsed NMR experiments. Example concepts covered include pulse excitation, Fourier transformation, signal processing, product operator formalism, and relaxation. This part is appropriate for all students who have an interest in improving their understanding of the theory of NMR spectroscopy.

Part 2: Applications of NMR Spectroscopy to Proteins. This course is intended to provide students with an introduction to the application of NMR spectroscopy to proteins. The course will focus on protein structure determination by NMR, protein dynamics analysis, and methods to probe protein interactions using NMR spectroscopy. This part is appropriate for students who are interested in protein NMR spectroscopy.

Students who are interested in Part 2 should register for both parts. Students only interested in Part 1 should only register for Part 1. These courses are graduate level courses, but interested undergrads should contact Dr. Reardon if interested in enrolling.

INSTRUCTORS:

Dr. Patrick Reardon (Patrick.reardon@oregonstate.edu)
Dr. Elisar Barbar (Elisar.barbar@oregonstate.edu)



Classes for Winter and Spring are Protein Evolution and Cellular Biophysics

Structural Biology Journal Club; Fridays 9 am, BB Library

September 23- Jesse
September 30- Sanjay
October 7- Tilo
October 14- Moriah
October 21- Brittany
October 28- Sarah
November 4- Patrick
November 11- Douglas
November 18- Hannah
~~November 25~~-(no meeting, Happy Thanksgiving)
December 2- Cat
December 9? (finals week, no planned meeting)

Third year grad students talks: 3rd year talks! 3 PM

10/7 – Kyle Nguyen
11/2 – Alex Eddins
11/30 – Tilottama Chatterjee
12/14 – Rachel Franklin

Undergrad Tribute:

Mackenzie Wilson

Jun 24, 2022

We received devastating news that Mackenzie L. Wilson, 19, passed away June 24, 2022, at the Mountain Home Air Force Base in Idaho.

She was born to Jessica Swan and grew up in Eagle River, Alaska. Mackenzie was involved at Eagle River High School's JROTC program before graduating in 2020 and continuing her educational pursuit at Oregon State University. There, she studied biochemistry as well as being involved in their ROTC program; AFROTC Detachment 685 "The Flying Beavs"

In high school, Mackenzie was awarded JROTC National Award "Daughters of the American Colonists" for being in the top 25% of her class and demonstrating community involvement; she was also given the AFROTC "Becker Excellence Award". Mackenzie was an inquisitive, creative, adventurous, empathetic, ambitious, and compassionate young woman. She enjoyed scuba diving, hiking, running skiing, martial arts, animals, science, art, and community service.

Upcoming Events:

New Webinar

On behalf of the **GCE4All Research Center**, we'd like to invite you to register for our monthly International Genetic Code Expansion Webinar!

The International GCE Webinar is a **free** monthly webinar series, open to all, featuring talks focused on cutting-edge applications of GCE technologies as well as advances in the GCE field. It is organized by the Oregon State University [GCE4All Research Center](#) and hosted by Rick Cooley and John Lueck. The webinar is meant to be of value to both developers and users of GCE, as well as anyone interested in learning more about it.



International Genetic Code Expansion Webinar

Every 3rd Thursday, October - June

October GCE Webinar Speakers

<p style="text-align: center;">"A Journey from In Vitro Misacylated tRNAs to Yeast Synthetic Biology"</p> <p style="text-align: center;">Virginia Cornish, PhD Columbia University</p> 	<p style="text-align: center;">"PermaPhos: Revealing New Functions of Phosphorylated Proteins"</p> <p style="text-align: center;">Rick Cooley, PhD Oregon State University</p> 
---	--

Thursday, October 20th, 2022
7:00 a.m. PT (2:00 p.m. GMT)

REGISTER HERE

This is a free monthly webinar series, open to all, featuring talks on cutting-edge applications of GCE technologies as well as advances in the GCE field. It is meant to be of value to both developers and users of GCE, as well as anyone interested in learning more about it. The webinar is organized by the Oregon State University GCE4All Research Center and hosted by Rick Cooley and John Lueck. Please join us online for these third Thursday explorations of genetic code expansion technologies!

Visit gce4all.oregonstate.edu/tools-and-training/webinar to register and for more information

Fall 2022 New-to-NIH Workshop, Application Deadline Monday, October 3

The 4-week workshop series will run through Fall 2022 and will include four meetings as well as moderate (~1 hour per week) outside writing and editing. This workshop series on NIH is intended to introduce the agency mission, funding opportunities, and proposal mechanisms to those new to NIH; provide hands-on feedback on proposal summaries and planning with NIH-experience PIs; and, provide team-based learning and connections to NIH researchers across the university.

October 6, 2022 in Corvallis, Oregon for the **2022 Oregon Bioengineering Symposium**.

Early registration ends September 26. Register here: <https://blogs.oregonstate.edu/bioengineering/>

Thursday, October 6, from 4 - 5:30 p.m The College of Science Strategic plan launch and reception, will reflect on achievements and look together toward the future with the launch of our new five-year strategic plan, entitled "Extending the Reach and Impact of Science." **[RSVP today](#)**. **Drinks and light hors d'oeuvres will be served following the presentations.**

Friday, October 7, 3 pm, Kyle Nguyen will present his 3rd year talk, LPSC 402
The role of nitrated Hsp90 in glioblastoma multiforme pathophysiology.

Wednesday, October 19, 3 pm, Dr. Sarah Clark, OHSU in person seminar, 3 pm, ALS4001

Friday, October 21st, College of Science Young Alumni awardee **Dr. Tari Tan**, seminar 3-4 pm

Tuesday, November 8, 4:00-5:30 PM, LINC 228

Honors College/College of Science Faculty Research Showcase

I hope you'll consider presenting (just 3-5 minutes) on your research or assigning a graduate student to present in your stead. The objective is to educate students about the range of research in our college, and while you are not obligated to sign on as a thesis mentor for Honors students, the expectation is that you'd

be willing to at least talk to interested students after the presentations. If you're in need of hardworking undergrads for your lab, this Showcase is a way to recruit them!

COVID News:

Here are some additional resources to help you this year:

- [OSU Assist](#) provides mobile crisis response for mental health matters and other forms of distress. It can be reached via Public Safety at 541-737-3010.
- [Counseling and Psychological Services](#) offers students mental health support.
- [ASOSU SafeRide](#) is a free service providing OSU students alternative transportation services around campus and within Corvallis and the surrounding area.
- [Guardian App](#), new this year, is a free service that provides one-button emergency calling and the ability to create a Virtual Escort from your contacts.
- [Beyond Benefits Employee Assistance Program](#) provides resources for OSU employees, including mental health support.

Professional Opportunities

Media training: OSU's Office of News and Research Communications is restarting in-person media training sessions this fall. The half-day sessions are designed to build participants' understanding of the media, develop interviewing skills through mock interview sessions and increase confidence in working with journalists. The sessions are open to anyone at the university who has, or likely will, interact with journalists. If you are interested, please reach out to Sean Nealon, OSU's news editor, at sean.nealon@oregonstate.edu. Space is limited.

Announcing a New OSU Podcast: One Oregon—Many Stories, One State. In this new podcast, created and hosted by Extension and Engagement's Open Campus and Juntos Program, we share stories from around the state to broaden and deepen our understanding of what it means to be an Oregonian. From discussing rural renewable energy to sharing the history of Black pioneers to learning more about Extension and Engagement, this podcast features community leaders, activists, storytellers, and "ordinary people" accomplishing extraordinary things: oneoregonpodcast.com.

Additionally, October is **National Work and Family Month**, you can see a list of events in celebration [here](#).

Tips for accessing mental health therapy services through Beyond Benefits EAP:

- You have 3 sessions available per household member per issue as opposed to per year.
- If you call and want assistance making an appointment, ask for a confirmed appointment before leaving the call. If you would like to make the appointment and choose a therapist yourself, you can ask for a list of therapists in the EAP Network.
- EAP providers are expected to have an appointment within 5 to 7 days and return all calls to schedule within 24 hours. If this does not happen the EAP asks that you call back and they will assist you.
- If you would prefer a quicker connection to a therapist by text/chat, phone or video the EAP also offers services through BetterHelp. You just call the EAP number (1-855-327-4722) and ask to be referred to BetterHelp.

Information about accessing long-term mental health support through your health insurance carrier can be found [here](#).

Major Large Initiatives

- i. NIH center grant, **GCE4All**, was funded (Mehl, Karplus, Beckman, Cooley, van Zee). BIG CONGRATS
- ii. Application for NIH **Molecular Biophysics Training Grant**, (Barbar, 20 other mentors)
 - i. Did not get funded
 - ii. Plan on resubmission with help from Alysia and Juan
- iii. Establishing campus-wide facilities ranging from cell culture to NMR
 - i. Insect cell facility
 - ii. Fly facility
 - iii. Electrophysiology facility expansion
 - iv. XRD
 - v. Computational capabilities
 - vi. Expand existing (molecular biophysics, NMR, cell culture)
 - vii. Submission of proposals for new equipment

Improvements planning:
BB library into a smart conference room
BB website overhaul
Refresh posters in the hallways
Computer with featured articles accessible to see
Research intro videos
- iv. Undergraduate **Training Grant**, (REU, R25)
- V. Internships, Collaborative proposals, Online lab, Bridge funds,

Fall Events

Wednesday, September 21, 2022 - Start of fall term

Friday, September 23, 2022 - BB Faculty meeting, ALS 2009 (BB Library) 3-5pm

Friday, October 14, 2022 - BB Faculty meeting, ALS 2009 (BB Library) 3-5pm

Grad committee

Website

Awards

Alumni relations

Seminar

Friday, October 21, 2022– COS 2022 Alumni Awardee Tari Tan–*Alumni seminar*

Friday, November 4, 2022 - BB Department Function, ALS 2018 3-5pm

Science talk (BB faculty)

Funding talk (Bettye and Kendra)

Friday, December 2, 2022 - BB Department Function, ALS 2018, 3-5pm

Undergrad, Facilities, Mentoring, Training grants, EJI, Space

Friday, December 16, 2022 - Rotation Talks 1st Year & BB Holiday Party , 11 am to 2 pm (GSA, Kimberly, faculty volunteer)

Thank you for reading this far,

Have a great fall term! Please send me any news that you would like included in my next quarterly newsletter!

Elisar