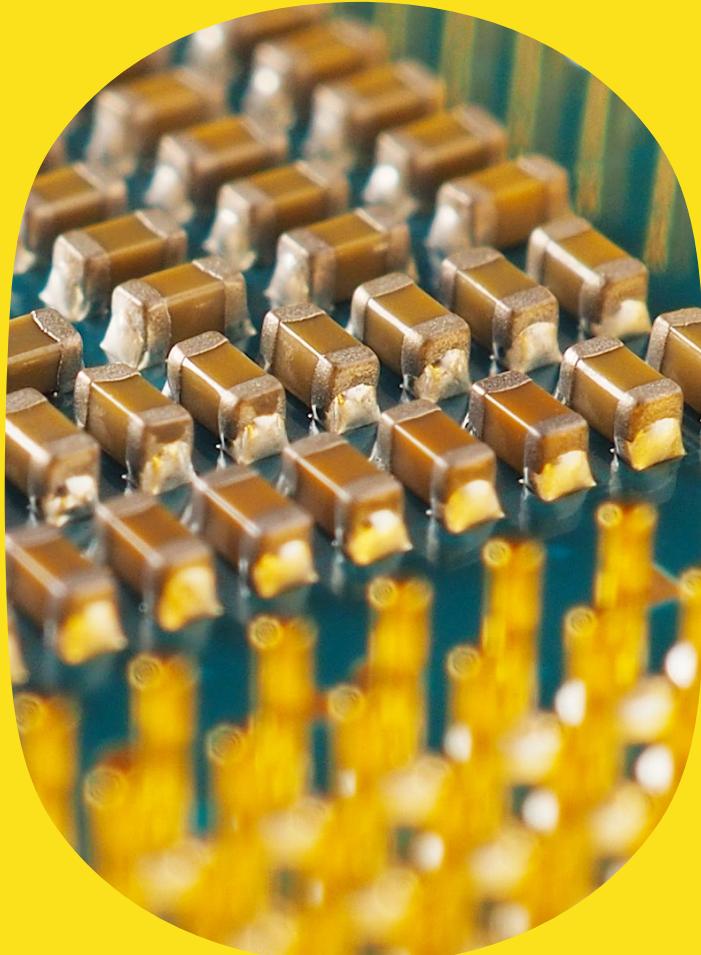


Phil and Penny Knight
Campus for Accelerating Scientific Impact



**Bioengineering
PhD Program**

Joint Bioengineering PhD Program

A partnership between University of Oregon and Oregon State University

 bioengineering.uoregon.edu

Program Overview

The joint OSU-UO PhD program combines an immersive curriculum, impactful research, and targeted professional development to advance science, society, and your career.

Students may choose an advisor or co-advisors from the bioengineering faculty at either UO or OSU.

Join a PhD program that offers:

- Outstanding research opportunities focused on societal impact.
- A program and faculty focused on accelerating your success.
- Access to courses and research resources at both campuses—facilities, collaborations, coursework, training workshops, and student groups.
- Facilities, resources and training for innovation and entrepreneurship.
- World-class research tools and facilities to fuel your research.
- A new campus designed with collaboration in mind.

Curriculum

Joint program students create academic plans that accelerate their success. Students select courses from an expansive set of interdisciplinary offerings across the University of Oregon and Oregon State University.

Core Course Requirements: BIOE 511 (OSU) or 611 (UO): Cellular and Molecular Bioengineering (3 credits), BIOE 512 (OSU) or 612 (UO): Modeling of Physiological Systems (4 credits), BIOE 614 (UO): Innovation and Entrepreneurship (3 credits), and BIOE 513 (OSU): Drug and Medical Device Regulation (2 credits).

Elective Course Requirements: Students must complete a minimum of 15 elective credits, typically achieved by completing four elective courses.

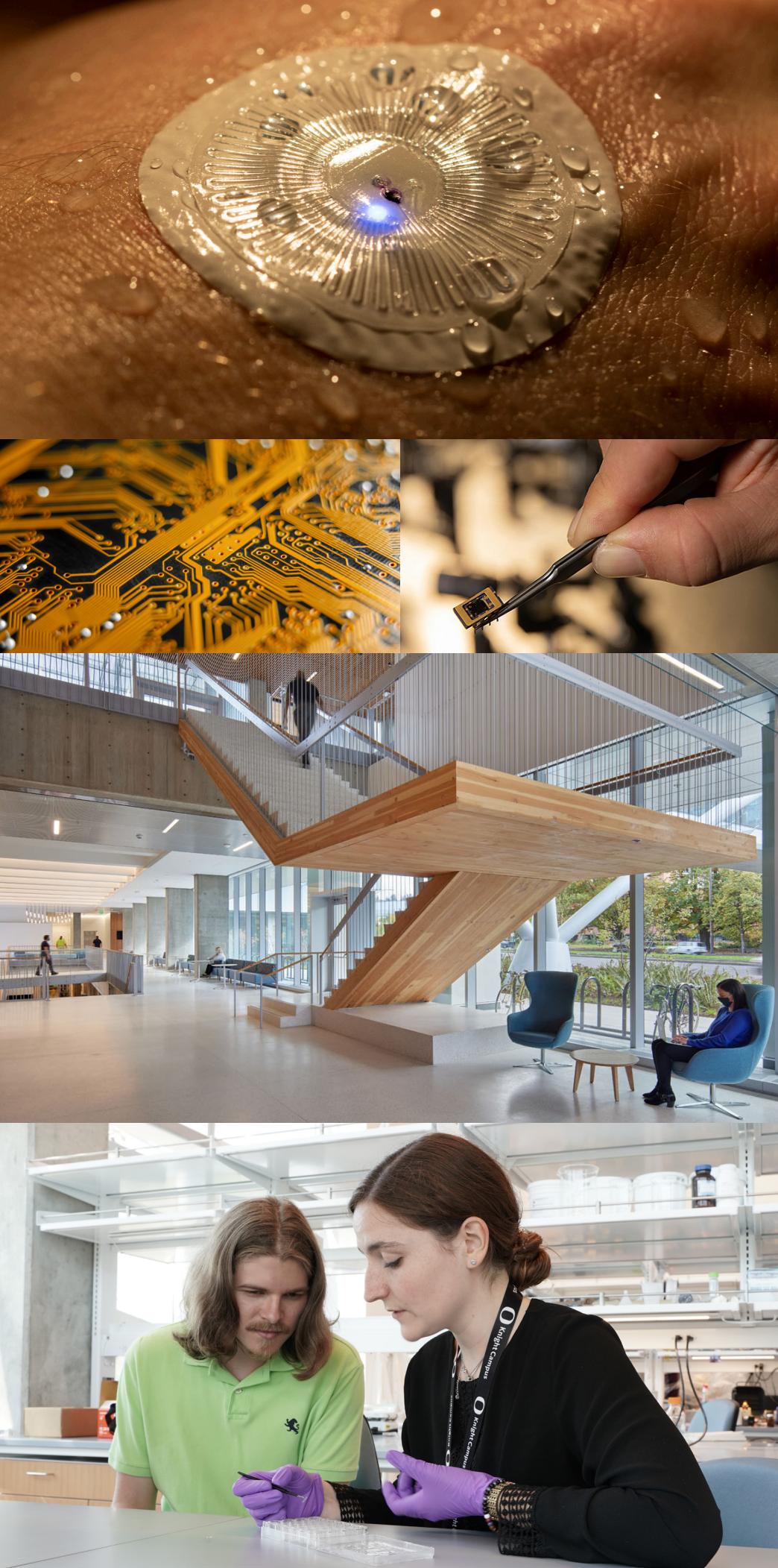
Applicant Background

Competitive applicants have previous experience in academic or industry research, or project-based coursework experience; strong math and quantitative skills; and upper division undergraduate coursework in multi-variate calculus, differential equations, biology, and general chemistry. Prior experience in bioengineering is not necessary, but is advantageous. Please note that these are recommendations; we are happy to answer questions about your competitiveness for this program as all students bring different experiences.

For questions regarding our Joint Graduate Bioengineering Program or the application process, please contact bioengineering@uoregon.edu.



Opposite page, from top to bottom: Wearable sweat patch designed with flexible properties, tiny neural sensor, inside view of the west lobby of the Knight Campus, bioengineering students Will Skinner and Kelly O'Neill inside the Dalton Lab.



**TALENT FROM
ABROAD**

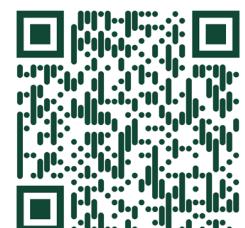


KELLY O'NEILL
PHD BIOENGINEERING CANDIDATE

Kelly earned an Integrated Masters in Bioengineering from the University of Porto, Portugal in 2019. A year later she joined the first cohort of bioengineering students at the Knight Campus. Her research focus is biofabrication. She is a member of the Dalton Lab.

**BIOE STUDENTS
AT THE KNIGHT
CAMPUS**

Scan the QR code below to learn more about our Knight Campus bioengineering future innovators, their backgrounds, research interests, and labs:





Research Areas

Conduct innovative research in a collaborative and diverse environment

 bioengineering.uoregon.edu/research

Bioengineering students at the Knight Campus have access to 12 independent faculty-led labs, ranging in focus from 3D printing and laser microfabrication to gene therapy, tissue regeneration, and polymer chemistry.

Biomaterials: Functional Materials for Life

We work at the interface of materials chemistry and biomedical engineering. We determine what is missing from the engineer's toolbox and design new functional materials, 3-D structures, tools and devices that address key challenges in the clinic.

Medical Sensors and Devices

We push the envelope of implantable and wearable medical sensors and devices to change the ways we study and treat diseases and injuries, by tapping advances in areas such as materials, data science, device architecture, and wireless technologies.

Protein Engineering and Synthetic Biology

We develop new methods to build molecular biological parts (proteins, peptides, and nucleic acids) and systems with novel properties and predictable behaviors by understanding how sequence information leads to various properties at the molecular and systems level.

Neural Engineering

We develop novel implantable interfaces to the brain and peripheral nervous system to advance fundamental science and improve human lives through therapeutic neuromodulation.

Biomedical Artificial Intelligence

We develop models of complex biological systems using carefully curated datasets and the latest advances in machine learning. These AI systems are trained to make automated, repeatable, data-driven decisions, which ultimately leads to better patient outcomes.

Regenerative Rehabilitation and Human Performance

We develop and integrate engineered technologies to measure, model, regenerate and enhance the performance of tissue systems. The overall goal of this focus area is to improve human performance throughout all aspects of life, from young to old, healthy to injured and novice to elite.

Learn more about our faculty-led labs at bioengineering.uoregon.edu/research-groups



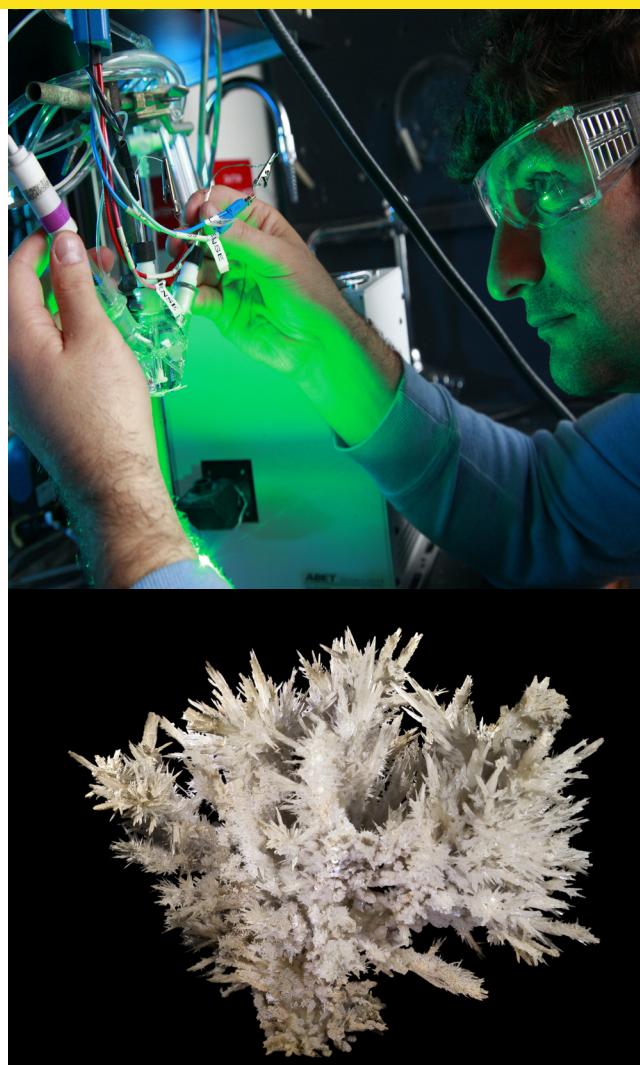
State of the Art **EVERYTHING**

The Knight Campus and the University of Oregon have a vast array of facilities located adjacent to research labs to support your applied and basic research. The expert staff is dedicated to supporting your research and innovation efforts. You have hands-on access to one of the most comprehensive collections of research and fabrication facilities anywhere.

The Knight Campus was specifically designed to encourage a team-based, interactive approach to research and dramatically reduce the time it takes for discoveries to enter the market. The end result is rapid innovations that improve lives as new procedures, medical devices or treatments. Bioengineering students have access to multiple state-of-the-art labs and cutting-edge tools, including:

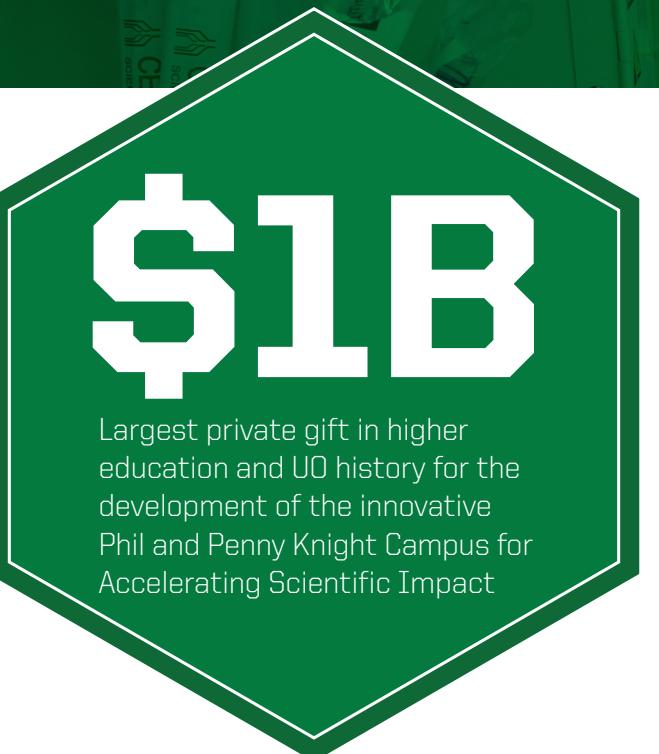
- Rapid prototyping and 3D printing
- Small molecule characterization, including NMR facilities
- Polymer characterization
- High-resolution electron microscopy and microanalysis
- Non-destructive X-ray based 2D and 3D imaging
- Focused ion beam microscopy
- Class 1,000 cleanroom
- Surface analysis
- X-ray analysis

Learn more at bioengineering.uoregon.edu/facilities



Accelerate YOUR CAREER

Our commitment to all students in the program is to jumpstart and accelerate your research and career preparation. We provide key strategies and tools to catalyze your professional growth as an independent applied scientist or engineer. We aim to help you maximize your success during your graduate training and prepare you for the next stages of your career.



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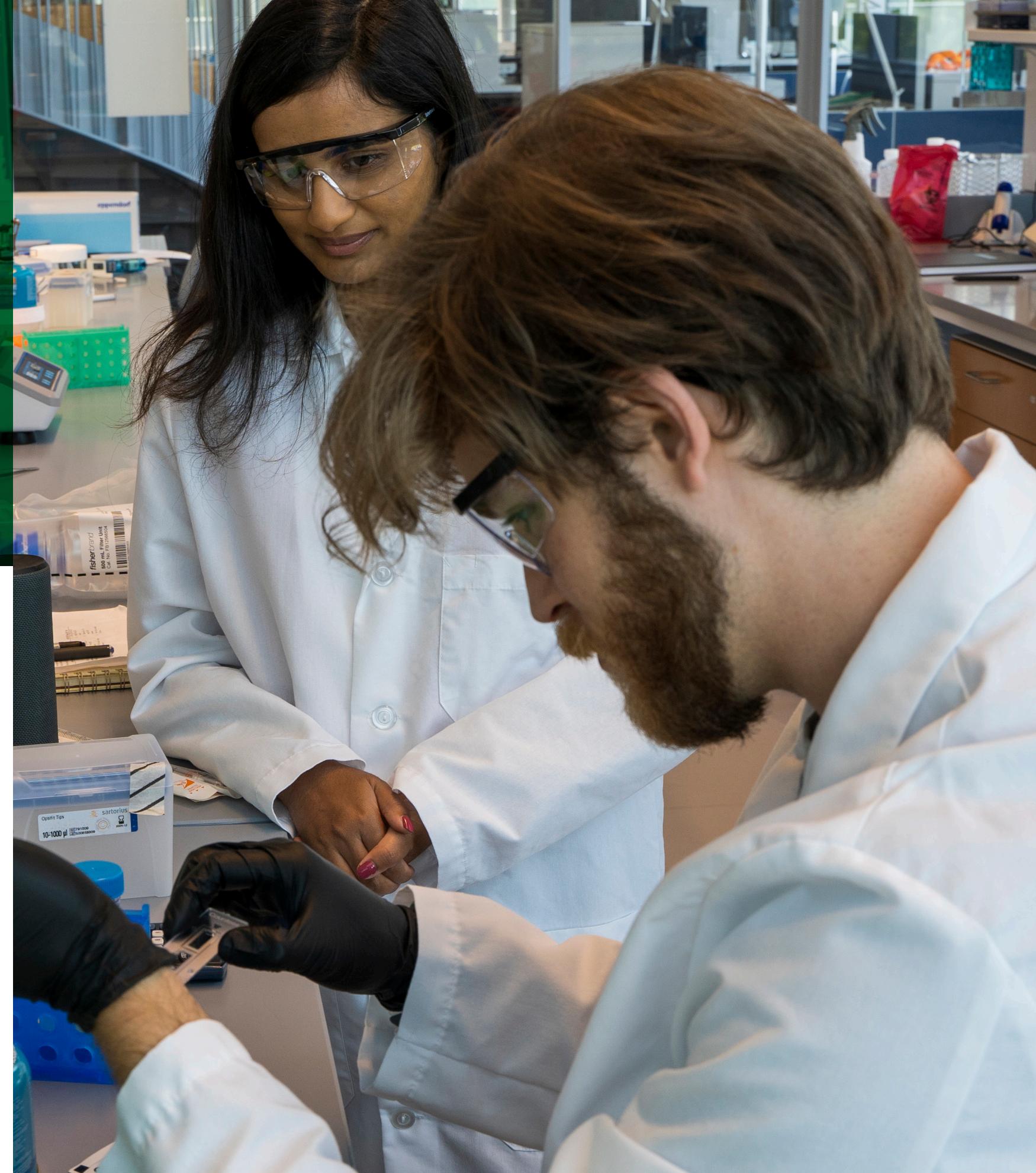
FACULTY PROVIDING
DIVERSE GRADUATE
RESEARCH OPPORTUNITIES

\$34M

EXTERNAL FUNDING TO
SUPPORT RESEARCH AND
ACADEMIC PROGRAMS

100%

PHD STUDENTS
FULLY FUNDED



Mentorship and student access are at the heart of the Knight Campus mission. Bioengineering Assistant Professor Marian Hettiaratchi is among those recognized at the UO for her teaching efforts and student mentorship. Pictured above in her lab with bioengineering student Jonathan Dorogin.

Research IMPACT

Our Faculty

Our bioengineering faculty conduct research in a number of cutting-edge areas including ocular angiogenesis, drug delivery strategies, advanced biomaterials, brain machine interfaces, tissue regeneration, protein engineering, computational biology, AI-assisted medical image diagnosis, sensors for cell manufacturing, gene synthesis, mechanobiology, and soft neural interfaces. Innovation is at the heart of our program and all research is focused on delivering societal impact.



Bala Ambati
Research Professor



Paul Dalton
Associate Professor



Felix Deku
Assistant Professor



Tim Gardner
Associate Professor



Robert Guldberg
Professor



Marian Hettiaratchi
Assistant Professor



Parisa Hosseinzadeh
Assistant Professor



Gabriella Lindberg
Associate Professor



Courosh Mehanian
Research Assoc. Professor



Keat Ghee Ong
Professor



Calin Plesa
Assistant Professor



Nick Willett
Associate Professor

Learn more about our faculty and their research at bioengineering.uoregon.edu/people



About the Knight Campus

The Phil and Penny Knight Campus for Accelerating Scientific Impact defines the University of Oregon as a hub for translational and applied research, a place where cross-disciplinary, scientific entrepreneurship pushes the frontiers of science. Made possible by a \$500 million lead gift from Penny and Phil Knight in 2016 and followed up with a second \$500 million gift in 2021, the campus operates at the intersection of science and society.

 accelerate.uoregon.edu



Learn more at bioengineering.uoregon.edu

For more information, please contact:

Allie Hardman

Knight Campus Bioengineering PhD Program
Student Recruiter and Advisor
University of Oregon
Eugene, Oregon 97403-6231
ahardman@uoregon.edu



The Knight Campus in Mixed Reality

Experience the Knight Campus in 360-degree detail through the mobile app. Download the UO Knight Campus app from the Apple App Store or Google Play.