

# Golden Opportunity

## Two UNH students win prestigious STEM scholarship

Friday, April 1, 2022



Two students from the University of New Hampshire recently received the prestigious [Barry M. Goldwater Scholarship](#), the nation's premier undergraduate award for science, math, engineering and technology (STEM) majors.

Eli Duggan '23 and Emily Pratt '23 joined the other 415 new recipients to receive the award, which covers up to \$7,500 toward the cost of tuition, fees, books and room and board. The Goldwater is the premier scholarship for sophomore and junior STEM students who plan to pursue a Ph.D. and have a career in

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research.

## Eli Duggan

Duggan, a bioengineering major with minors in philosophy and sustainable energy from Concord, New Hampshire, has been immersed in research since enrolling at UNH and plans to pursue a Ph.D. with a focus in B cell engineering or a related immune engineering field.



ELI DUGGAN '23

“Winning the Goldwater affirms that the work I've been doing is valuable and that I have the potential to truly make a difference,” says Duggan, who is also pursuing a minor in philosophy and sustainable energy. “I was excited about what being awarded the Goldwater meant for my future, and even more motivated to pursue immune engineering research.”

Duggan began his research journey in an honors bionics class and the Innovation Scholars program, a research seminar for first-year students. Duggan later participated in the [Research Experience and Apprenticeship Program \(REAP\)](#), working with assistant professor Young Jo Kim. Last summer, he conducted research at the University of Kansas through the National Science Foundation’s Research for Undergraduate Students program and was selected to the 2022 MIT Summer Research Program.

“Since I was a little kid, I've loved reading and learning as much as I can about any topic,” says Duggan, a Tyco Industry Scholarship recipient. “My interest was directed to biomedical research and engineering by my management of type 1 diabetes

since age two and my parents' cancer diagnoses during my senior year of high school.”

Duggan’s current research topic is the development of improved monoclonal antibody treatments for HIV patients. He hopes to develop a toolkit to create a novel type of "vaccine" that can prevent autoimmune diseases by promoting immune tolerance and combat infectious pathogens and cancerous cells with antibodies.

Outside of research, Duggan has served as a sustainability advocate in his residence hall and as secretary of the UNH Biomedical Engineering Society. He also co-founded the UNH Energy Club and Apropos Energy Initiative with fellow UNH students – and the group won the Audience Choice Award at the 2021 Social Venture Innovation Challenge.

## Emily Pratt

Pratt, a biochemistry, molecular and cellular biology major from Beverly, Massachusetts, arrived at UNH knowing that she wanted to do drug discovery research. In her sophomore year, she joined the lab of assistant professor Sarah Walker, whose research focuses on innovative treatment pathways for breast and ovarian cancer, and she received a [Summer Undergraduate Research Fellowship \(SURF\)](#) to begin her own research.



EMILY PRATT '23

“Dr. Walker had ovarian cancer and breast cancer cells, and she let me choose which one I wanted to work with,” says Pratt. “I

chose the triple-negative [breast cancer cells] because my aunt had been recently diagnosed with it, so I wanted to work with those cells and see what else I could learn about the disease. Triple-negative breast cancer lacks the hormone receptors that other breast cancers have so a different treatment is necessary. I'm working on repurposing drugs that target a transcription factor that is associated with chemoresistance and metastasis."

Despite the achievements and goals that made her a strong candidate for the esteemed Goldwater Scholarship, she describes hearing the news that she'd won it as "very surreal."

"When I found out I had gotten it, it was really validating and a huge confidence boost," she says. "I was always planning on applying to grad school but knowing on a national level my hard work has been recognized it makes me more confident that I can go to a top university. It opens up a lot of different opportunities."

Pratt also recently learned she'd been accepted to UNH's accelerated biochemistry master's program and will be beginning her first year of graduate school at the same time she's finishing the last year of her bachelor's degree. Her plans include a Ph.D. in pharmacology and a faculty position where she will conduct research and teach.

"Emily has grown into an excellent scientist," says Walker, who is also Pratt's advisor. "She has made excellent progress in her research that is changing the way we are thinking of tackling breast cancer treatment. I am grateful that she plans to pursue her master's in my lab, and I look forward to her great discoveries."

Outside the lab, Pratt keeps busy: she has been a peer-led team learning leader, helping a group of students in organic chemistry understand the coursework and study for exams, and is the treasurer of the UNH Chapter of Partners for World Health, a nonprofit in Portland, Maine that collects unused and expired medical supplies. When she can find the time, she participates in

an intramural soccer league and plays the flute.

She is also a student ambassador for the UNH [Hamel Center for Undergraduate Research](#) and in that capacity talks to students about the different research opportunities UNH has for undergrads.

“I just want anyone who wants to be involved in research to have that opportunity,” she says.

**For information on applying to scholarships like the Goldwater, please contact the [Office of National Fellowships](#).**

WRITTEN [Sarah Schaiier](#) | College of Life Sciences and

BY: Agriculture

COMPILED [Brooks Payette](#) | College of Engineering and Physical

BY: Sciences

PHOTOGRAPHER [Brooks Payette](#) | College of Engineering and

Physical Sciences

STEM

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