

The Murray Slater Foundation Fund

UC Berkeley's College of Engineering is grateful to the Murray Slater Foundation and other supporters who invest in the college's mission to educate leaders, create knowledge, and serve society. With the help of the Murray Slater Foundation Fund at Berkeley Engineering, the college has delivered impactful programs expanding access to academic opportunities for historically underserved and underrepresented students.

In 2022-23, the Murray Slater Foundation Fund provided much-needed funding in two areas: summer discovery experiences for current Berkeley Engineering students and programmatic support for Girls in Engineering. We are pleased to provide this summary of the impact of your gifts.



Summer Discovery Experience

The Murray Slater Foundation Fund funded four female undergraduate students to conduct research over the summer between their junior and senior years in Professor Grace O'Connell's and Professor Massimiliano Fratoni's labs. The summer stipends helped students focus on their research projects and academic futures by removing the financial need to seek other summer employment.

All four students are now seniors: two are completing their degrees in mechanical engineering, and two are completing their bachelor's degrees in nuclear engineering.

Students made meaningful contributions to their lab groups. For example, the two nuclear engineering students partnered with a graduate student on an innovative project to create "nuclear Ashby maps." Ashby maps are graphics that combine two or more material properties and are widely used for selecting materials based on required features. For the first time, the lab group incorporated nuclear properties in these graphics to help the selection of materials for nuclear applications and, more specifically, for nuclear reactors. Once fully developed, the lab will make the tool available for any researcher.



#1

engineering program at a public university

#3

graduate engineering program

14 out of 16

undergraduate and graduate engineering degree programs are in the top 5

28%

are first-generation undergraduates



These students' experiences also helped inform the college's understanding of how to better support traditionally underrepresented students. Because paid research positions are critical engagement opportunities for female-identifying and students of color, the chances of retaining them in the field are greater if we reach them earlier in their academic careers.

This year, the college will offer summer research experiences to ten rising second-year engineering students from historically underrepresented backgrounds to encourage them to explore graduate degrees and careers in research.

We remain deeply grateful to the Murray Slater Foundation for your generous and enduring partnership. Thank you for your commitment to supporting bright and promising students on their paths to becoming our future innovators, problem solvers, and engineers.



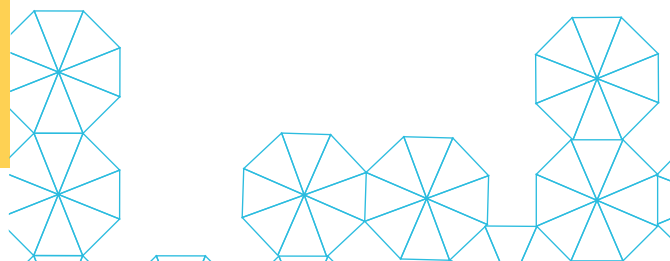
“My experience in Dr. O’Connell’s research lab allowed me to find my interest in the biomechanical space and inspired me to pursue graduate school. I am thankful to have had Ph.D. students mentor me throughout my time in the lab and guide me on how to both learn and exercise my knowledge to advance in this area of science and engineering. What keeps me drawn to this research is that we go through a recursive process of hypothesizing, experimentation, and inspiration that fuels a passion for discovery.”

— Yarah Feteil, '23
Mechanical Engineering

Our Mission: Educating Leaders, Creating Knowledge, and Serving Society

UC Berkeley’s College of Engineering is the top engineering program at a public university and consistently ranks among the top three engineering schools in the country. Guided by our mission, we empower students to become socially engaged and inclusive leaders who innovate solutions to address the world’s most pressing challenges.

UC Berkeley leads the nation in comprehensive excellence. A Berkeley degree is ranked first for providing the most value for the investment — the low cost and high-value drive upward economic mobility for graduates.





GIRLS in **ENGINEERING**

2022 End of Year Impact Summary

Girls in Engineering was excited to welcome 105 campers and 10 high school counselors-in-training back to campus this summer! It was an absolute pleasure to get to know them, watch them grow and come out of their shells, and of course, bask in the silliness of middle schoolers. Over the course of the week, we witnessed campers develop friendships, spark interests, discover new careers, and gain confidence in their abilities.

This year the Fung Institute hosted GiE in Mudd Hall located on the Pacific School of Religion campus, two blocks north of main campus. As the only group using Mudd Hall during the summer, we enjoyed the state-of-the-art building facilities while being able to ensure campers safety and security. Additionally, the adjacent outdoor space was ideal for testing our solar vehicles and enjoying picnic lunches and movement breaks. Being on campus enabled us to resume some of our cornerstone activities that help expose campers to life as a college student, including working in the various labs and makerspaces and exploring the Engineering quad for a scavenger hunt.

Engineering for a Sustainable Future

In their applications, campers listed climate change, global warming, plastic pollution, social justice, clean water, and more as challenges they would like to see engineers address. So, for this year, the curriculum focused on ways engineers are addressing these real world challenges.

Every aspect of camp intentionally modeled sustainability, inclusion and respect, and near-zero waste. Most materials for the activities were reusable, recyclable, or compostable, eliminating the use of single-use plastic. Instead, materials for the activities were lasercut and uniquely crafted for camp—the cardboard chassis for the solar car, cardboard frames for tiny houses, and wooden name tags. We modeled resourcefulness, repurposing folders into turbine blades. Meals were also sourced with sustainability in mind—produce from local farmers markets and lunch from small businesses. Reusable dishes were supplied daily by a dishwashing service.

105

middle school students
served this summer

3

weeks of summer camp

35%

students received
scholarships

4.6/5

overall rating from campers

Berkeley
Engineering

“ I had a great experience at GiE. All the activities were very well organized and I was very inspired by all the individuals attending or helping with the program. The camp provides many educational and fun hands on opportunities and team-building challenges.”

Cara, 7th grader
2022 Camper



A camper applying her hand-tool skills to make a widget as part of Hand Tool Olympics, Jacobs Hall.

▲ In the Benefit of Society

This summer’s curriculum focused on empowering campers with knowledge and skills, from making impactful choices to debunking myths to giving them practical know-how.

Hands-on activities included:

- Building and testing cardboard solar vehicles with rubber band belt drives
- Analyzing food waste of our sandwich lunch
- Using passive solar design to create energy-efficient tiny houses
- Designing and testing wind turbine blades
- Cooking up biodegradable potato starch plastic

Daily lab and makerspace tours included:

- Sampling sewage for COVID monitoring
- Learning to use basic hand tools during the “Hand tool Olympics”
- Exploring fabrication and rapid prototyping
- Testing brittleness and ductility of materials
- Wind tunnel testing of blade designs

▼ Sewage Sleuths

With the COVID-19 pandemic heavy on our minds, campers learned about SARS-CoV-2, the virus that causes COVID-19, and how one UC Berkeley lab used wastewater monitoring to estimate the spread of the virus in the community. They even got to see how samples are collected and what wastewater looks like!



Campers learning to sample sewage from a drain to monitor community COVID-19 rates.

► A Resounding Success

Campers give GiE high marks, rating the camp experience based on:

- Lessons and instruction 4.5 out of 5
- Hands-on activities 4.6 out of 5

Parents give GiE a rating of 4.9 out of 5, with one parent sharing, “This program exposed our daughter to wonderful friends/mentors, taught her about new fields in engineering and provided a great opportunity to experience a college environment.”

Thank You to Our Sponsors

Thank you to our generous sponsors for making this year’s programming possible!