



Building the Future of Undergraduate Research

BILL AND LINDA FROST PLEDGE \$20 MILLION FOR NEW UNDERGRADUATE RESEARCH FACILITIES

Bill Frost (B.S., Biochemistry, 1972) didn't coin the term "find a need and fill it," but he has lived by this model all his professional life. In Cal Poly's College of Science and Mathematics, he saw the need for enhancing student-faculty research and envisioned the development of one of the best undergraduate research programs in the country.

Frost and his wife, Linda, have committed almost \$29 million in gifts and pledges to fulfill this vision, including \$20 million for undergraduate research facilities in a new interdisciplinary building.

THE VALUE OF AN IDEA

Bill Frost came to Cal Poly in winter quarter 1970 as a transfer student, but not a typical one. He brought with him a potential \$30,000 grant provided by a Los Angeles-based company to conduct research on a novel process for wastewater treatment.

"The father of my best friend was the superintendent at a local wastewater treatment plant. He introduced me to the

president of the company, who wanted to establish a small research station at the plant," Frost said. Unfortunately, the city pulled out of their involvement in the project, leaving the company with no place to conduct their research.

"When asked by the company if I had any ideas — and always mindful of where my next meal would come from — I told them I was transferring to Cal Poly, which might be a good fit for the project because of its strong polytechnic reputation," Frost said. "When I arrived at Cal Poly, I presented the idea to my advisor, Dr. Glenn Wight. With his support, the university approved the project, and the research station became operational."



Photo credit: Frank Huang

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“While the grant helped support my college education, I also learned two important concepts during my time at Cal Poly. First was the notion that I could sell an idea! Second, I learned how to solve problems, which involved navigating through

all the ambiguities created in the process of research, sorting out the data, and piecing it back together like a puzzle. These two concepts have stayed with me ever since, and they are an integral part of my success,” Frost said. “My experiences at Cal Poly gave me the confidence to define and solve problems as well as actually develop and implement solutions.”

“After leaving Cal Poly, I entered industry, and soon thereafter, I formed my own business, where I put these concepts to work and went about ‘finding needs to fill.’”

THE VALUE OF UNDERGRADUATE RESEARCH

Bill and Linda Frost want to give current and future students that same experience of discovery that Bill had. Their transformational gift recognizes the impact that undergraduate research can make.

Engaging in real-world research with faculty mentors presents students with questions no one has answered

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yet. Finding the solution takes curiosity, imagination, critical thinking, innovation and sometimes interdisciplinary approaches and entrepreneurship. This hands-on, Learn by Doing approach encourages both independent thinking and collaboration.

Students take this experience out of the research lab into the professional world while still at Cal Poly. They share their ideas, solutions and results in campus seminars and student research conferences. Many have the opportunity to present at regional, national and international conferences alongside professional scientists and mathematicians. With their faculty mentors, students also co-author peer-reviewed papers that appear in academic journals.

SUPPORTING UNDERGRADUATE RESEARCH

A decade ago, Bill Frost and Dean Phil Bailey began discussing what a transformational gift centered on undergraduate research might look like. "It had to be substantial because Bill always thinks big," Bailey said.

This time was no exception. Frost saw that, with the right resources, Cal Poly could have one of the best undergraduate science and mathematics research programs in the country. To develop this program, Frost and Bailey started

with two areas of need: scholarships and research stipends.

"We want to attract the best students, and that means offering them an incentive to come to Cal Poly," Frost said. Providing as much as \$20,000 per year for four years, the scholarships allow the recipients to focus on their education and pursue undergraduate research.

The Frost Scholars and other science and mathematics students are encouraged to pursue student-faculty research, sometimes as early as their freshman year. Frost and Bailey decided to first concentrate on increasing research opportunities during the summer months.

The Frosts donate \$200,000 to student stipends every summer. The college matches those funds twice over. With these resources and additional funds from faculty grants, more than 200 students receive \$2,500 research stipends each year.

"Summer is an excellent time for students to do research because they can make it a full-time experience every day. The stipends make this financially possible for them," said Bailey.

Over the last four years, the Frosts have given \$7.4 million in scholarships and stipends, and Bill Frost is already looking toward the future.

"We also hope to establish some stipends for undergraduate research during the year," he said.

A HOME FOR UNDERGRADUATE RESEARCHERS

The top undergraduate research program that Frost envisions would provide a high level of research activity year-round, but currently, when classes are in session, most of the college's facilities are used for coursework and labs.

To address this need for space, the Frosts pledged \$20 million toward construction of science and mathematics undergraduate research facilities, a pledge that equaled the largest the university had ever received. A new interdisciplinary

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building at the center of campus will include 15,000 square feet of laboratory space containing computational tools for mathematics and statistics, instrumentation for physics, and wet labs for chemistry and molecular biology. The Colleges of Agriculture, Food and Environmental Sciences and Liberal Arts are also designing facilities for this 64,000-square-foot building.

"We're not just building a building. We're creating a space where students can learn the most important lessons of their time at Cal Poly — that what they'll do as scientists or doctors or statisticians is discover and learn. Undergraduate research is about encountering a question whose answer is unknown and figuring out how to solve it," Frost said.

"We can't teach students anything more important than that," Bailey said.

NOW IS THE TIME TO JOIN US IN SUPPORTING UNDERGRADUATE RESEARCH

The college needs another \$5 million to construct the science and mathematics facilities where students will become innovators, entrepreneurs and leaders. Your contribution will help build walls and furnish labs, but more importantly, it will give students the confidence to find new and innovative solutions.

Your gift will make a difference, regardless of the size. Final planning for the building will begin in February 2017, and the funds raised at that time will determine the full scope of the research facilities.

"Linda and I hope our donation will inspire others to see the importance and the urgency of this program and give whatever they can. We know we can't do it alone," Frost said.

The college's undergraduate researchers need dedicated space to enhance their Learn by Doing experiences. They need you.

We hope you'll join the Frosts and those listed below in providing a home for what will be one of the nation's top undergraduate research programs at a place you can always call home — Cal Poly.

Many alumni, parents, current and retired faculty and staff, and organizations have already pledged their support for the new undergraduate research building. Please consider joining those listed below in building a home for undergraduate science and mathematics researchers at Cal Poly. Gifts of all sizes make a difference. Gifts of \$5,000 and above will be recognized on the building's donor wall.*

John P. and Susan L. Andersen

John and Christine Anderson

Kay Antúnez de Mayolo

Philip S. and Christina A. Bailey

Diana B. and John D. Barnhart

Glen R. and Linda D. Barton

James and Neta Bear

John E. and Karen J. Beaton

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Kim, Scott, and Sierra Durham

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Michael and Francesca Fairbrother

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RoseAnne Fischer

Claudia C. Florsheim

Katherine E. and Joshua D. Freier

William L. and Linda J. Frost

John W. and Alison A. Goers

Ann M. Gross

David and Gina Hafemeister

James Hare and Betsy McCullough

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Margaret Hartman and Robert Zahary

Ken and Jeanne Hoffman

Myron and Susan Hood

Julie Hopper and Mike Israel and Family

Ruth E. Huehn

Clyde S. and Kimi M. Ikeda

Donald and Diane Jackson

Randall and Sally Knight

Paul Koski

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Nadine and Oscar Siguenza

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Andy and Bobbi Ungerer

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Diane M. and Richard A. Webb

Matthew W. Webb

Dan and Toni Weeks

Andrew J. and Jacqueline T. Willrodt

May T. Yong

Thomas A. and Karen C. Zanardi

*Includes gifts as of October 21, 2016.