



# Engineering Our Future



**Stanford** | **ENGINEERING**  
Chemical Engineering

# Engineering **Our Future**

Dear Chemical Engineering Alumni,

I do not have to tell you that Stanford Chemical Engineering is built on a foundation of excellence—you have personally contributed to that success. In keeping with that tradition, today's faculty and students are directing their efforts toward solving some of the most profound technical challenges of our time—environmental sustainability, clean energy and human health.

We are preparing to move into our new home with a number of new faculty exploring novel research areas. Our future is exciting, but also expensive. Excellence and innovation usually are. To thrive during this new chapter we have officially launched the *Engineering Our Future* fund and are asking for your support. Although we are a small alumni community, I am confident that together we can have a significant and lasting impact.

Therefore, I hope you will accept my invitation to do two things. First, invest in the department during this pivotal time. Now, more than ever, your giving will provide the flexible funding that the faculty, students and I need to seize opportunities and meet the needs for curriculum innovation, path-breaking research, and enhancements to student life. Secondly, I invite you to explore for yourself all that Stanford Chemical Engineering is today. We would welcome your engagement.

Thank you for considering a gift to the *Engineering Our Future* fund.

Sincerely,



Eric Shaqfeh  
Chair, Department of Chemical Engineering  
PhD, 1986 Stanford Chemical Engineering

“Although we are a small alumni community, I am confident that together we can have a significant and lasting impact.”

**Eric Shaqfeh**



*Eric Shaqfeh and his research team*

## At the Heart of the Neighborhood

**WE MOVE THE SUMMER OF 2014 INTO OUR NEW HOME**, the fourth and final building of the Science and Engineering Quad (SEQ). Our new home places the department at the heart of the engineering campus and only steps from the medical school. We will share this state-of-the-art facility with the university's bioengineering department.



*The new cutting edge facility — outlined in red — completes Stanford's Science & Engineering Quad.*

This new facility provides the essential foundation for the department as it tackles engineering's greatest challenges.

Located in the SEQ, the new building will be part of the neighborhood that houses a community of some 1,700 faculty, staff and students. It will provide critically needed space for innovators in multiple disciplines to join together to make the world a better place.

With nearly 60,000 square feet of space in 34 labs, the new building benefits a whole network of faculty and students. It is equipped with cutting-edge infrastructure that includes:

- Teaching Center – a suite of labs that will provide hands-on educational experiences that shape the minds of those who will change the world.
- Conference Center – the latest technological breakthroughs and research directions will be discussed, debated and displayed in this hub of activity.
- Social Center – faculty and students will gather here to recharge, share stories and reach for the next “big idea.”

## Research Initiatives and Impacts

**LIFE. ENERGY. ENVIRONMENT.** These engineering priorities are unmatched in scale and importance to ensuring quality of life on the planet. At the heart of all three is chemical engineering.

The challenges of a new century have produced a shift in focus for chemical engineers from efficient manufacturing of chemicals to exploring the key energy, environmental and biological questions of the day. As a leader in the field our department has organized itself around three new themes of research and education: the chemistry of life, the chemistry of energy and the chemistry of the environment.



PHOTO CREDIT: JOHN TODD

*The Jaramillo research team*

While Chemistry is the foundation of what we do, engineering powers the innovation that moves us forward.

Research around the new themes involves:

- **Envisioning** a future in which plants are a platform for producing sustainable biofuels, green chemical synthesis and medicines.
- **Designing** and synthesizing hydrogels that could one day serve as a substitute for the human cornea.
- **Building** nano-structures, thousands of times thinner than a sheet of paper, to reduce the cost and improve the efficiency of solar cells.
- **Harnessing** the machinery of cells to engineer proteins to give doctors the ability to grow new tissues for patients.
- **Using** DNA as an effective template for controlled growth of electronic materials — turning carbon-based material from a curiosity into a serious contender to succeed silicon.
- **Driving** down health care costs and improving patient outcomes by inventing tools that greatly enhance the odds of success during very expensive human clinical trials for drug discovery.
- **Creating** the first synthetic material that is both sensitive to touch and capable of healing itself — leading to smarter prosthetics and personal electronics that repair themselves.

## As Part of the ChemE Community, Give Others the Life-Changing Experience That Shaped You

**TO POSITION THE DEPARTMENT TO THRIVE** we seek to raise \$500,000 over the next three years. The “Engineering Our Future” fund will be used to directly support the people and programs in areas of critical growth.

Most immediately your support will be used for:

- Outfitting new teaching labs
- Building out our new research partnership with SLAC National Accelerator Laboratory
- Starting up teaching and research programs for the newly hired faculty
- Offering more graduate student fellowship support

### **DOUBLE THE IMPACT OF YOUR GIFT**

The generous commitment of a few alumni and friends to match gifts made during the next three years to the *Engineering our Future* fund will leverage the impact of your giving.



*Curt Frank gives hands-on instruction in the lab.*

“We can each make a difference with our gift and the support will be of immediate use. In reconnecting with the department, I am flooded with memories and the sense that just as when I was a student, chemical engineering is again poised to be a major force — and in a way I would love to be a student here again!”

**Ricardo Levy**  
BS '66, PHD '73

## How to Participate

### WE ARE DEEPLY GRATEFUL FOR YOUR SUPPORT

Unrestricted gifts through the *Engineering Our Future* fund provide the opportunity for all alumni and friends to have a powerful and immediate impact on shaping the student experience, creating new ideas and path-breaking research, and enabling the unparalleled quality of the education that we offer.

### LEVERAGE YOUR GIFT THROUGH MATCHING

- Matching will apply to your gifts made over the next three years. Make a stretch gift pledged over time.
- Increase the impact of your giving through your corporate matching program. Request a match of your contribution to Stanford.

### HOW TO BE A LEADER

- Encourage your fellow alumni to take part, emphasizing the power of the collective impact of your financial contributions.
- We are proud to provide special acknowledgment and thanks to lead donors at the following giving levels\*:

*Leadership Circle:* Gifts annually of \$1,000 and above

*Durand Circle:* Gifts annually of \$10,000 or more

*\*Alumni who have graduated within the past 10 years are eligible for leadership recognition with gifts of \$500 and \$5,000 respectively.*

Lead donors will receive distinct recognition in the school's donor rolls, special mailings and invitations to events.

### ADDITIONAL WAYS TO GIVE

Larger gifts for targeted purposes can be made through endowed funds or planned gifts such as trusts, retirement plans and life income gifts.



We welcome your interest in the *Engineering our Future* fund  
For more information on how to take part please contact:  
**Suzanne Morze**, Associate Director, Annual Giving  
T 650.724.4895 [smorze@stanford.edu](mailto:smorze@stanford.edu)

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