

# TECHNIQUES

A publication of  
Caltech's Office of Gift Planning

SPRING 2024



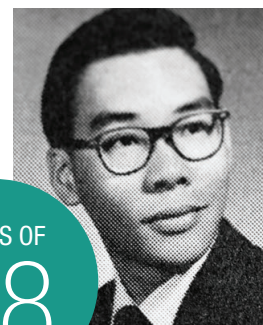
Above, from left: Pamela MacLean with her father, Norman MacLean (BS '60, MS '61); Professor Aaron Ames; Jean Zaik with Rahul Chawlani (Class of 2024).

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## RECOGNIZE THIS ALUMNUS?

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CLASS OF  
'68

Caltech

## From Devotees to Donors

Valerie and Jeffrey “Jeff” Engle are passionate about science’s ability to evoke wonder and fuel progress.

Valerie is a retired certified public accountant, not a scientist. Yet she believes that scientists and engineers hold the key to creating a better future. She has followed news about Caltech researchers’ efforts to collect solar power in space and wirelessly transmit it to Earth. The scope and ambition of the project, she says, are what the world needs to combat climate change.

Jeff, a retired optometrist, fell in love with science when he was 13 years old and immersed himself in astrophysics, including string theory, black holes, and dark matter. Today, he marvels at

how powerful telescopes in space and on land are helping scientists unravel mysteries of the universe.

“In the last 100 years, we went from thinking that only one galaxy existed to discovering other planets in other galaxies—even dating the age of the universe,” Jeff says. “Isn’t that amazing? How could anyone not be interested in science?”

To pay tribute to the institution at the forefront of so many discoveries, the Engles endowed the Sleep & Engle Scholarship, which also honors Valerie’s family name, in 2020. In addition, they have included Caltech in their estate plans. Their bequest will contribute additional funds to the scholarship endowment and create a legacy that will help even more undergraduates.

### MILES APART, BUT THE VISION IS THE SAME

Just as remarkable as the Engles’ generosity is their faith in Caltech. The Engles are not alumni. They live near the forests of Northern Idaho and have never even visited Caltech’s campus. (The closest they have been to Pasadena was a road trip to Santa Barbara a few years ago.)

But they do not have to live nearby to appreciate Caltech’s outsized impact on science and society.

“By all standards, Caltech punches way above its weight,” Valerie says.

The decision to use their gift to establish a scholarship grew out of their personal experience. Both Valerie and Jeff graduated from college with student loan debt. Valerie



*Jeff and Valerie Engle*

## Torchbearers Legacy Society

lessened her financial burden by cleaning pipettes and mouse cages in Cornell University's science laboratories while studying accounting at Ithaca College. Jeff relied on scholarships from the University of Houston.

"The scholarships really made a difference, and I always remembered that generosity," Jeff says.

### FROM ONE SCHOLARSHIP STUDENT TO ANOTHER

Ensuring that talented young minds can study at Caltech regardless of their families' income is one of the Institute's highest priorities. Currently, more than half of Caltech undergraduates receive financial aid. To meet students' financial needs and eliminate institutional student loans, Caltech has launched the Initiative for Caltech Students, a fundraising campaign that seeks to raise \$250 million to enhance the student experience, including \$100 million for undergraduate scholarships.

The Engles are thrilled that their gift is already making a difference.

"It's so cool to hear about the research from the students we're helping," Valerie says. "In the next 30 to 40 years, one of these students might become a Nobel laureate. You never know."

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**"By all standards,  
Caltech punches way  
above its weight."**

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Membership in the Torchbearers Legacy Society is extended to those who have provided for Caltech in their wills or living trusts, designated Caltech as a beneficiary of their life insurance or retirement accounts, or completed deferred gifts for the benefit of the Institute.

In recent months, the following people have joined the Torchbearers:

Garland (BS '92) and Bruce Dughi

Jay Frogel (PhD '71) and Susana Deustua  
Ron and Shirley Hsieh

David (BS '74) and Suzie Larwood

Dan Rader (BS '78) and Rebecca Lee

Alfred Wu (MS '74)

### ESTATE GIFTS

The generosity and foresight of alumni and friends are crucial to Caltech's success. Below are just a few of the many individuals who have recently supported Caltech through estate gifts.

**G. Laurie Hatch** (PhD '67) provided unrestricted support to the Institute.

**Richard Okada** (MS '55) contributed to the Graduate Fellowship Fund.

**Charles T. Molloy** (BS '67, PhD '85) provided unrestricted support to the Institute.

**Robert Coyer** (MS '62) provided unrestricted support to the Institute.

**Rita Lance** supported scholarships in theoretical physics.

## A Scholarship Offer That Changed Everything

When Ron and Shirley Hsieh suggested that their younger son, Scott, take the SAT at the same time as his older, college-bound brother, they intended it to be a simple exercise in test taking. They had no idea how it would affect the trajectory of Scott's life.

At just 15 years old, Scott earned a perfect SAT score. Although the Hsiehs didn't know how they could possibly afford to send two children to college, they decided that Scott should skip his final year of high school and apply to Caltech. The Institute responded with an acceptance letter and the offer of a full scholarship. This vital support changed everything for the family.

"It's hard to imagine what my parents and I would have done if Caltech had come back and said, 'You're admitted, but you have to pay the full fare,'" Scott says.

### PAYING IT FORWARD

Today, Ron and Shirley are better off financially than they were 20 years ago. Both of their children have completed their university educations, and the Hsiehs believe it is important to give back. "At our difficult time, Caltech helped us," Ron says. "We want to return the favor and do our share."

Shirley agrees. "If we can help relieve the anxieties of parents who are in the same situation we were in, and also help one or two students who otherwise would have trouble financially, we are happy," she says.

By directing their giving toward undergraduate scholarships, the Hsiehs are also advancing the Initiative for Caltech Students, a fundraising campaign that aims to improve every part of the student experience.



The Hsiehs decided to make their gift through a charitable gift annuity (CGA), which provides fixed payments for life in exchange for a gift of cash or securities to Caltech. The couple funded the CGA using Ron's individual retirement account. (See page 7 for more information.)

### FROM ONE FAMILY TO ANOTHER

Scott (BS '08) is grateful for the scholarship support that enabled him to receive a "top-notch" education. He's also grateful for the critical thinking skills he gained at Caltech, which trained him to "dig down to the roots of a problem and understand what is really true."

After graduating from Caltech with a double major in applied physics and in business, economics, and management, Scott obtained his MS and PhD from Stanford University. He is currently a researcher at the Mayo Clinic, where he studies advanced computerized tomography (CT) technology, with the goal of making CT scanners safer and more effective at diagnosis.

In addition to his education, Scott appreciates the relationships he built at Caltech. He met his future wife, Lydia Ng (BS '07)—another scholarship recipient—on the first weekend he visited the Institute. The couple was married at the Athenaeum in early 2020. "Campus has a lot of special memories for both of us," Scott says.

Scholarship support changed everything for Scott and his parents. Now the Hsiehs' commitment will change the future for other families.

## Torchbearers Legacy Society Appreciation Luncheon

The threat of a spring rain could not dampen the spirits of attendees at the annual Torchbearers Appreciation Luncheon on April 13. Nearly 100 Torchbearers, students, faculty, and staff came together at the Athenaeum to enjoy lunch and celebrate a community of people who care deeply about Caltech.

“Through your generosity, through your care, through your love of Caltech, you are creating the future,” said President Thomas F. Rosenbaum, holder of the Sonja and William Davidow Presidential Chair and professor of physics, who hosted the event with his wife, Katherine T. Faber, the Simon Ramo Professor of Materials Science. “Because of your investments, Caltech will continue to thrive, and the world will be a better place.”

Senior Gabi Twombly, a computer science major, thanked attendees for their dedication. “Your generosity has a profound impact on the lives of students,” she said. “It not only fosters innovation and excellence within our academic programs, but also helps cultivate a collaborative and inclusive campus environment.”

Aaron Ames, the Bren Professor of Mechanical and Civil Engineering and Control and Dynamical Systems, talked about the trepidation many people feel about artificial intelligence and robots. Ames, however, has a more sanguine outlook.

He showed a video of a paraplegic patient standing up and walking—without crutches—using only exoskeleton robotic technology. “If we handle the power of robotics responsibly, we can do good things with it,” Ames said, “and that is really the goal.”

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*From top: Charles Wheatley (BS '56) and Joan Embery with Professor Katherine T. Faber and President Thomas F. Rosenbaum; Caltech seniors Suchitra Dara, James Chen, Sean Chang, Rahul Chawlani, Gabi Twombly, and Ankita Nandi; Steve Wicklund with Ankita and Gabi.*



## Recognize This Alumnus?



If you were a member of the Caltech band or attended any of their performances in the late 1960s or early '70s, you might recognize this alumnus. A clarinetist since the age of eight, he grew up playing in school bands, including the one at his undergraduate alma mater, UC Berkeley. He continued this extracurricular activity at Caltech, even serving as student manager of the band for two of his five years at the Institute. While his primary focus was the study of mathematics, he enjoyed performing with the Caltech band.

Although he graduated into a recession, his advisor secured him a temporary job in numerical mathematics and computing at Los Alamos National Laboratory. The work turned into a permanent position studying the hardware capabilities of one of the world's first supercomputers prior to its arrival at Los Alamos.

But before the machinery was delivered, he changed course and moved to Lawrence Livermore National Laboratory (LLNL).

He spent his career at LLNL, taking on a variety of roles outside his initial field of study. Over the years, he helped manage the organization's mathematical software libraries, supported the development of mathematical software, wrote control systems software, and ran simulations to support the construction of an X-ray free-electron laser.

"One of the things Caltech encourages students to do is to talk to people in other fields, to collaborate, and to make progress that way," he says.

Since his retirement in 2010, this alum has focused on growing and showing daffodils across the country—a hobby he took up in the 1980s—and honing his photography skills. In fact, he regularly contributes to the American Daffodil Society's online database of flower photographs.

His Caltech experience also encouraged him to give back, and **Kirby Fong** (MS '68, PhD '73) is a longtime supporter of the Institute. As soon as he earned his PhD, he bought his lifetime membership in the Caltech Alumni Association to make sure his connection to the Institute would stay strong. He is a member of the Caltech Fund's 1891 Society, and he recently joined the Torchbearers Legacy Society when he decided to bequeath a portion of his estate to the Friends of Instrumental Music.

Fong is still an avid clarinet player, and the relationships he established with people such as Glenn Price (now director of performing and visual arts at Caltech) and Bill Bing (former director of Caltech bands) hold a special place in his heart.

"You want to give back to the people who help you," Fong says. "I enjoyed playing in the band, and I want other people to have that same opportunity. I want to contribute to keep that going."

So, as a frequent contributor to the Friends of Instrumental Music, Fong says it just made sense to include them in his estate planning.

"If I feel that they deserve support while I'm alive, won't they still deserve it after I pass away?" Fong says.



*Kirby Fong (MS '68, PhD '73)*

# Good News from Caltech

## CALTECH TO ADMINISTER NATIONAL INVESTIGATOR AWARDS PROGRAM

With a \$400 million pledge, Ross M. Brown (BS '56, MS '57) has established the Brown Institute for Basic Sciences at Caltech and entrusted the Institute with oversight of the Brown Investigator Awards program. The program provides mid-career physicists and chemists with financial resources and freedom to carry out bold investigations that have the potential to benefit humanity.

## THE REMAINS OF AN ANCIENT PLANET LIE DEEP WITHIN EARTH

A study led by Caltech researchers suggests that two continent-sized “blobs” of unusual material near Earth’s center are remnants of an ancient planet, dubbed Theia, that violently collided with Earth billions of years ago. The study also suggests that the residual debris from this giant impact created our moon.

## HONORING THE LEGACY OF A NOBEL LAUREATE AND BELOVED MENTOR

Robert Grubbs (1942–2021), longtime Caltech professor and Nobel Prize recipient, is remembered as much for his humanity and mentorship as his game-changing research. Since his passing, some 100 former students, colleagues, business partners, and friends have joined together to honor his memory by endowing the Bob and Helen Grubbs Fellowship.

# Higher Gift Annuity Rates = More Income for You

A charitable gift annuity (CGA) provides fixed payments for life in exchange for a gift of cash or securities to Caltech. Gift annuities are easy to set up, and the payments you receive are backed by the general resources of Caltech.

CGA rates increased effective January 1, 2024, which means that now is a great time to establish a CGA. Those increased rates mean more income for you.

## SAMPLE ANNUITY RATES FOR A \$100,000 GIFT\*

AGE	ANNUITY RATE	ANNUAL ANNUITY
90	10.1%	\$10,100
85	9.1%	\$9,100
80	8.1%	\$8,100
75	7.0%	\$7,000
70	6.3%	\$6,300

## GIVING THROUGH YOUR IRA

A new law allows donors over age 70-1/2 to make a one-time contribution of up to \$53,000 from an individual retirement account (IRA) to create a charitable gift annuity.

Email the Office of Gift Planning at [giftplanning@caltech.edu](mailto:giftplanning@caltech.edu) or call (626) 395-2927 to start a conversation.

*\*This information is provided for illustrative purposes and is not intended as tax or legal advice. Rates are subject to change and are based on rates suggested by the American Council on Gift Annuities. Gift annuities are not available in all states.*



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*Techniques* is published by Caltech's Office of Gift Planning. For more information about the stories featured in this issue, or if you have questions about deferred or other planned gifts, please call or email us.

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