

TECHNIQUES

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Caltech

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RECOGNIZE THIS ALUMNUS?

Spared from Korea,
he landed on Mars.



CLASS OF
'53

TECHNIQUES

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Gloria and David (PhD '70) Mog in Patagonia, Argentina

A PRESENT WITH A FUTURE MIND

Scientists have a responsibility to society to make the world a better place.

“With those words,” says David Mog (PhD '70), “Harrison Brown helped me realize that, rather than simply focusing on personal accomplishments, I could work toward making a real difference in the world.”



Harrison Brown, a professor of geochemistry at Caltech from 1951 to 1977, was a forerunner of sustainability science and an early seeker of solutions for impending problems related to population growth and pollution. As foreign secretary of the National Academy of Sciences (NAS), he helped bring global consciousness to the emerging needs of developing countries.

After he received his PhD in chemistry in 1970, Mog and his wife, Gloria Mog, relocated to South America, where he worked for three years on science and engineering initiatives to enhance the well-being of people in Brazil. Back in the United States, he went on to the chemistry departments at Oberlin College and Princeton University before joining NAS, where he was employed for the better part of a decade.

In 1990, Mog was traveling to India with the NAS Office of International Affairs when a fellow passenger administered a wake-up call to his inner teacher. The traveler seated beside Mog was Roger Revelle, then director of Scripps Institution of Oceanography. An early and influential predictor of global warming, Revelle described the enormity of problems that come with climate change. The message hit home for Mog.

“I am proud of the impact I had on close to 1,000 students. Many have a deep appreciation of their responsibilities as citizens in caring for the planet.”

“I attended as many, or maybe even more, biology and geology seminars at Caltech as I did chemistry,” Mog recalls. “That broad and interdisciplinary education helped me see Revelle’s big-picture view right away.” The conversation convinced Mog of the need for informed, scientifically literate voters to help safeguard the health of our planet and renewed his passion for science education.

A few years after his encounter with Revelle, Mog left NAS to work at Sidwell Friends School, a renowned college-prep school near the nation’s capital. Mog taught science there until his retirement in 2009. “I am proud of the impact

ONE DEGREE OF SEPARATION

As it turns out, David Mog and Roger Revelle shared more in common than a passion for science and an airplane armrest on a flight to India.

In 1956, Revelle had recruited another Harrison Brown advisee, Charles Keeling, to help establish a CO₂-monitoring station at Mauna Loa Observatory in Hawaii. At Caltech, Brown encouraged Keeling—his first postdoctoral scholar—to conduct environmental research that required comparisons of carbon dioxide concentrations from air and water samples. But the work couldn’t move forward using existing instrumentation. So Keeling invented a new tool, conducting his first tests of the instrument on the roof of Caltech’s Seeley G. Mudd Building of Geophysics.

Keeling’s device has been monitoring levels of CO₂ in the atmosphere since 1958. Its measurements have been plotted into one of the most influential scientific graphs in human history: the Keeling Curve.

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Caltech



TORCHBEARERS APPRECIATION LUNCHEON

On April 21, some 90 members of the Torchbearers Legacy Society gathered for a special luncheon at the home of Caltech President Thomas F. Rosenbaum and his wife, Katherine T. Faber, the Simon Ramo Professor of Materials Science.



The event—an annual celebration of those who have provided for Caltech in their wills or estate plans—offered Torchbearers an opportunity to connect with each other and learn about the difference their visionary support is making at Caltech.

After a warm welcome from President Rosenbaum, guests enjoyed a presentation by Caltech junior Mohar Chatterjee, who described her journey to Caltech from the tiny island of Bahrain. Chatterjee, who is pursuing a double major in mechanical engineering and in business, economics, and management, told the crowd: “The reason I am standing here today is to say thank you. You—the Torchbearers—are why I get to do what I love. You are a large part of the reason that I’m ready to claim my place in the world.”

Another highlight was an appearance by Bethany Ehlmann, Caltech professor of planetary science and JPL research scientist. In addition to sharing details about her work with the Curiosity rover and the upcoming Mars 2020 mission, Ehlmann talked about the continuing search for life on other planets. Ehlmann also invited guests to take home signed copies of a new National Geographic children’s book, *Dr. E’s Super Stellar Solar System*, which she co-authored. The book explains facts about our solar system through the adventures of fictionalized explorer Bethany Ehlmann and her robo-dog, Rover. “Stay curious and keep exploring,” she wrote.

Top: Torchbearers stroll to the reception.

Above: Guests gather on the patio of the President’s Residence.

Right: Attendees mingle before the lunch program commences.

Below left: Caltech undergraduate Mohar Chatterjee converses with a Torchbearer guest.

Below right: Bethany Ehlmann, Caltech professor of planetary science and JPL research scientist, discusses her work in space exploration.

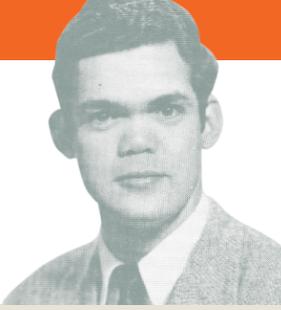


THIS IS HOW WE ROLL

IRA ROLLOVERS POST-TAX REFORM

You can make a gift to Caltech and enjoy tax savings—even if you don’t itemize your deductions.

RECOGNIZE THIS ALUMNUS?



SURVIVAL, FREEDOM, AND CHALLENGE

Just two semesters before commencement, he was drafted. He trained to be a combat engineer in Korea, a role he was told would have a 70 percent casualty rate. A week before deployment, word came down that he and a handful of others would ship out to Germany instead.

There, his scores on Army exams piqued his superiors' interest. "I'd been going to Caltech, where survival was taking tests," he says. "So I was pretty good at it." Offered several jobs, he opted to tap his mathematical skills and a Caltech survey course to serve as a topographic computer.

So, in fact, in 1955 he returned home safe and sound. But after years away, could he still hack life at Caltech and complete his degree? It turned out that the Army had given him the key: a dread of rote work in which the higher ranks decide your fate.

He was deeply motivated to obtain a credential that would ensure his freedom to choose interesting—and survivable—work. In the winter, he reenrolled, completing his BS in mechanical engineering that December and donning cap and gown in 1956.

FREEDOM!

Free at last, he went from his first job—at Bendix Aviation—right back to school, earning a master's from USC and an MBA from Stanford. The reason? "My boss would give me something, and zip, I'd hand it back," he says. "I figured that if I had an advanced degree, I might get more challenges."

Before he found the perfect challenge, he held a dozen jobs, many at young companies making electronic instruments and devices.

Then, in 1977, while working in La Cañada, he ran into some neighboring JPL engineers. As experts in what was then a space technology—solar panels—they were refining photovoltaics for widespread use on Earth.

"I wanted in," he says. "I thought solar energy was a brilliant idea."

And so he worked at JPL for two decades. Early in his time there, he invited an acquaintance, Suzanne, to join a JPL hiking club trip to his family's mountain property. The group repaired a dam, and she seemed to sparkle even as she lugged rocks. During and

after that trip, Suzanne says, she learned that there was "a lot more to him than just the surface."

After decades of marriage and family life, she still feels that way. "He's one of the most modest intellects," she says. "He has a wide range of knowledge, and it's solid. Whatever he brings up, I know it's accurate. He retains everything."

CHALLENGE

As he recalls, the Reagan administration cut the solar energy program in 1986, believing that American industries would pick up the R&D. Three JPL solar jobs survived; his was one. And he gained his best challenge yet: designing solar arrays for spacecraft, including Sojourner, the first Mars rover. He was in the control room when Sojourner landed in 1997, the year he retired.

"To make me feel even better," he says, "they used my program for calculating power on Mars on the next couple of shots."

During his time at JPL, he also reconnected with Caltech. When he had an idea he wanted to explore but lacked time and funds, his boss suggested that he host a student in Caltech's Summer Undergraduate Research Fellowship (SURF) program. He went on to mentor some SURF students and chair many sessions at Caltech's annual SURF Seminar Day.

"I can't think of a more intelligent program," he says. "The difference it makes in the students' perspectives is incredible."

Now, he has expanded his and Suzanne's philanthropy to their alma maters by making a provision in his revocable trust to endow a SURF fellowship. Chair of the reunion committee for the class of '53 at Caltech's 2018 Reunion Weekend and Seminar Day? None other than this alumnus, **Dale Burger**.



Suzanne and Dale Burger

The Tax Cuts and Jobs Act signed into law on December 22, 2017, nearly doubles the standard deduction. Now, itemized deductions—including your charitable deductions—will not reduce your income tax unless the total of your itemized deductions exceeds \$12,000 for singles or \$24,000 for married couples filing jointly.

However, it is still possible for you to reap tax benefits when making a gift to Caltech. With the IRA charitable rollover:

- You can make a gift that will provide immediate support to Caltech.
- Your gift will not be subject to income tax.
- After you reach age 70½, your gift can count toward your minimum required distribution.

Because you will not need to include the transferred funds in your income, the net effect of the IRA charitable rollover is the functional equivalent of an income tax charitable deduction.



Torchbearer

In recent months, the following people have joined Caltech's Torchbearers Legacy Society.

HONOR ROLL:

John A. Anderson (BS '46)

David (BS '60) and Nina Bailey

Baird (BS '57) and Bodil Brandow

Alan (BS '62) and Marlene Dager

Henry (BS '68) and Marcia DeWitt

Richard Fiock

David Jarvis (BS '65)

Ronald (BS '59) and Shirley Leonard

Clelia W. Mallory

David (PhD '70) and Gloria Mog

David A. Saxe

John (BS '64) and Marie Slonski Jr.

Ivo Tammaru (BS '59, PhD '67)

ESTATE GIFTS

From the estate of **Dean Blanchard**, Caltech received \$50,000 in unrestricted support.

From the estate of **Harold Hance**, Caltech received more than \$25,000 directed to the Caltech Fund.

From the estate of **Richard Steckler**, Caltech received over \$13,000 to support undergraduate scholarships.

It is important to note:

- The tax advantage described above does not apply to other retirement plans such as 401(k)s, 403(b)s, active SIMPLE IRAs, or SEP IRAs.
- Your distribution cannot be made to a donor-advised fund, private foundation, or supporting organization.
- If you withdraw the funds yourself and then make a gift to Caltech, you would have to include the withdrawal in your income.
- The total of all your qualified charitable distributions for the year must be no more than \$100,000.
- You must be at least 70 ½ years old at the time of the gift to enjoy this benefit.

To learn more about how to make a gift that works in your favor while also helping Caltech reach its \$2 billion fundraising goal for Break Through: The Caltech Campaign, please contact the Office of Gift Planning at (626) 395-2927 or giftplanning@caltech.edu.

I had on close to 1,000 students,” he says. “Many are now involved in environmental work, and many more have a deep appreciation of their responsibilities as citizens in caring for the planet.”

Mog’s years as a student and as an educator were particularly rewarding times in his life, and he has remained connected to both Sidwell and Caltech. After making numerous gifts to Caltech over the decades, the Mogs recently gave their largest one to date, in the form of a flexible charitable gift annuity (CGA). The Mogs are among the 39 percent of Caltech alumni who have made a gift to their alma mater as part of *Break Through: The Caltech Campaign*.

“The Caltech community cared about us when we were younger, and now that we are elders, we get to help take care of it,” David Mog says.

Gloria Mog, who was a social worker for many years, recommends the flexible CGA as a gift-giving vehicle for people who feel anxious about not knowing how much to save for the future. “With the flexible CGA,” she explains, “we can make a donation now and don’t have to decide until later whether the payout from the annuity goes to Caltech or comes back to us.”

David Mog chimes in: “The beauty of the CGA is that we can give in a way that will make a lasting difference that starts in our lifetimes. At the same time, it’s set up to give us peace of mind because if we need extra income later, Caltech will be there for us.”



“The Caltech community cared about us when we were younger, and now we get to help take care of it.”

CONTACT US

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 contact us.

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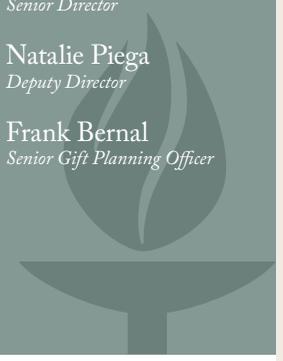
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