

In Memoriam

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Gordon E. Moore (1929-2023)

Gordon E. Moore (PhD '54), a Caltech Board of Trustees chair emeritus, visionary philanthropist, and pioneer of the modern electronics industry, passed away on March 24, 2023, at age 94. In 1968, Moore and his colleague Robert Noyce co-founded chipmaker Intel Corporation. Moore served as executive vice president of the company

until 1975 and as CEO from 1975 to 1987. In 1965, Moore predicted the number of transistors that can fit on a chip would double every year, a trend he forecasted would continue through 1975, at which point he updated his prediction to once every two years. This principle, now known as Moore's Law, has become the guiding principle for the industry. Named a Caltech Distinguished Alumnus in 1975, Moore became a Caltech trustee in 1983, a senior trustee in 2001, and a life member of the Caltech community in 2009. He served as Caltech Board chair from 1993 to 2000, the year he and his wife established the nonprofit Gordon and Betty Moore Foundation.

background of the universe; seismologist Zhongwen Zhan's (PhD '14) fiber-optic seismology project, which uses old telecommunications infrastructure to detect earthquakes; research toward the ShakeAlert Earthquake Early Warning system; and the Institute's First-Year Success Research Institute (see page 30).

While the Moores' philanthropy buoyed promising ideas and inspired a great many people, it also sparked a change in the Institute's culture, Emami says.

"Caltech realized how transformative it is to have this type of support," she says. "It allows us to take risks, it allows us to have more freedom and do what we believe in rather than trying to convince others that it's a good idea, and it allows new projects by new faculty members to take shape. Moore was the person who really changed that paradigm for Caltech."

Fundamentally, Mead says, Moore loved to support Caltech because he saw it as a place that shared his values, especially his commitments to efficiency, drive, and accomplishment.

"Gordon understood that Caltech was a special place because he had been here; he earned his degree here," Mead says. "He realized that Caltech is about getting things done, getting things figured out. It's about excellence, and about the frontier of knowledge. These were values that Gordon fully adopted as part of his being."



Stanley Deser (1931–2023)

Stanley Deser, a theoretical physicist known for his achievements in general relativity, quantum field theory, and high-energy physics, passed away on April 21, 2023, at age 92. After Deser retired from Brandeis University in 2005, he moved to Pasadena and secured a research appointment at Caltech. At the time of

his passing, he served as a visiting associate in theoretical physics at Caltech and was the Ancell Professor of Physics, Emeritus, at Brandeis. Deser and his colleagues Charles Misner and Richard Arnowitt conceived a mathematical description of energy and mass in the context of Albert Einstein's general theory of relativity, which they called ADM formalism (ADM refers to the first initials of the researchers' last names). This, together with Deser's work on supergravity, influenced the development of theories of quantum gravity.



David B. Wales (1939-2023)

David B. Wales, who spent more than 50 years as a Caltech faculty member and administrator, passed away on July 17, 2023, at age 83. In addition to serving on the faculty in the Division of Physics, Mathematics and Astronomy, he was also Caltech's associate dean of students from 1976 to 1980, dean of students from 1980

to 1984, executive officer for mathematics from 1985 to 1991, and master of student houses from 1991 to 1997. Wales retired in 2008 but remained active in math research. An expert in group theory, algebraic combinatorics, and representation theory, he spent the most time on finite group theory, searching for and studying simple groups. In the same way prime numbers can be thought of as the building blocks of integers, simple groups are the building blocks of finite groups, which are groups with a finite number of elements.

