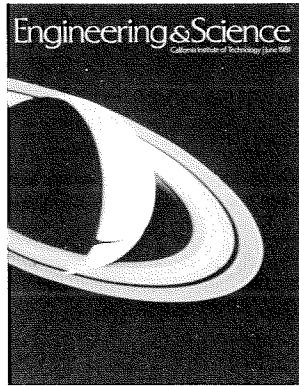
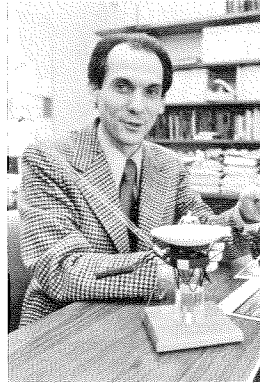


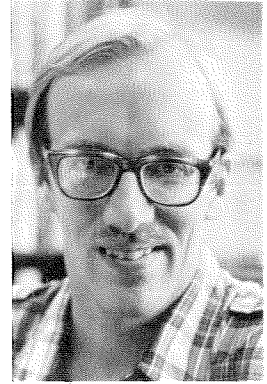
In This Issue



Edward Stone



James Bailey



Saturn

On the cover — Saturn seen back over the “shoulder” of Voyager 1 as it left the ringed planet last November. This different perspective comes from 3.3 million miles past Saturn, four days after the closest approach. Even as Voyager 1 moves on out of the solar system and Voyager 2 nears Saturn, data from this first encounter are still being studied and analyzed to clarify some of the startling and puzzling surprises that the spacecraft returned to scientists (and other enthralled spectators) on Earth.

Probably no one is better qualified to give an overview of these surprises than Ed Stone, whose article, “Voyager 1 at Saturn: An Encounter with a Multi-ringed Giant,” adapted from his recent Watson Lecture, appears on page 6. As Project Scientist for NASA’s Voyager Mission since 1972, Stone has coordinated all the scientific teams working on the two planetary exploration projects. His involvement with spacecraft goes back to his cosmic ray experiments on the Discoverer satellites in 1961; since then, he has been a principal investigator on six NASA

spacecraft and co-investigator on four others. Stone came to Caltech after receiving his PhD from the University of Chicago in 1964 and has been professor of physics since 1976. Recently he received the American Education Award, the education industry’s highest honor, for his work as Voyager coordinator.

Bumper Crop

Each June for many years it has been a pleasant custom for *E&S* to pay tribute to those members of the faculty who became emeritus. Usually this has been a matter of honoring 3 or 4 people — and once or twice there have been as many as 8 or 9. This year, for reasons that include changes in the federal and state retirement laws and in the Institute’s own retirement policies, a number of faculty members have chosen to retire earlier than they otherwise might have. “Retirements 1980-1981” on page 24 reflects the results by honoring no less than 13 members of a very special kind of graduating class.

Fun and Profit

Usually new faculty members are given some time to settle in at Caltech before being pounced on to deliver a Watson Lecture or write something for *E&S*. But interest in Jay Bailey’s area of biotechnology was so great that he was here barely six months before finding himself in Beckman Auditorium in January speaking on “Biotechnology for Fun and Profit.” And an article adapted from that talk appears on page 13, only a year after Bailey arrived as professor of chemical engineering.

Bailey came from the University of Houston, where he had been on the faculty since 1971 and was also associate dean of faculties for research for two years. His BA and PhD degrees are from Rice University, and he has been awarded a Camille and Henry Dreyfus Teacher-Scholar Award and the Allen P. Colburn Award of the American Institute of Chemical Engineers. His textbook, *Biochemical Engineering Fundamentals*, is used in almost every biochemical engineering course in the United States and in 65 other countries.

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