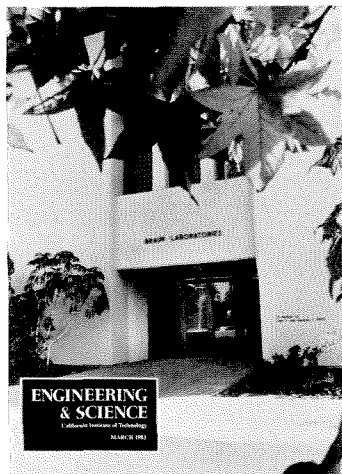


## In This Issue



### Braun Labs

On the cover — the west entrance to the new Braun Laboratories in Memory of Carl F and Winifred H Braun. These doors, of course, represent the entry to more than a building; they are also a gateway to an expanded level of basic research in molecular biology, immunology, and cell-surface chemistry at Caltech. Beginning on page 4, *E&S* presents a glimpse of some of the work now under way in these fields.

### Contributors



In the January issue of *E&S*, we referred to Leroy Hood as “many-titled,” which seems fair enough.

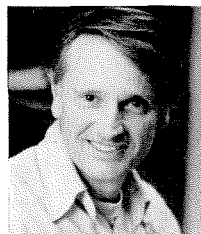
He is the Bowles Professor of Biology, the chairman of the Division of Biology, and the director of the cancer center in the new Braun Labs. He is also twice a doctor, holding both an MD from Johns Hopkins and a PhD from Caltech. Before joining the Caltech faculty in 1970, Hood was for three years a senior investigator at the National Cancer Institute in Bethesda, Maryland.

Hood’s co-author in this issue, Senior Research Fellow Michael Hunkapiller, came to Caltech as a graduate student in 1970 and received his PhD in 1974. He has spent much of the last ten years developing instruments and informa-



tion in the microchemical instrumentation facility at the Institute. In “Biotechnology and Medicine of

the Future,” which begins on page 6, he and Hood report on some of this research and its implications for society.



John Richards, professor of organic chemistry, received his BS and PhD degrees at UC Berkeley,

sandwiching between them a BSc at Oxford, where he spent two years as a Rhodes Scholar. After two years as an instructor at Harvard, he came to Caltech in 1957.

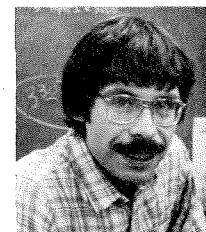
Speaking of Richards at the dedication of the Braun Labs, the chairman of his division, Harry Gray, said: “Jack Richards has a well-deserved international reputation for his research in oxygen transport in red blood cells, in enzyme catalysis, and in molecular immunology. What the Richards group is learning about abnormal hemoglobins may soon play a very important role in control of blood-cell diseases such as sickle cell anemia. In enzyme catalysis, the group is using the most modern methods of molecular biology to tailor the structures of enzymes so as to find out exactly how they work. Finally, his work in molecular immunology has as a central theme the interaction of antibodies with antigens.” In “Structure and Function in Biochemistry,” which begins on page 14, Richards describes some of this work.



Although Ellen Rothenberg’s laboratories will be located in Church Lab, her work in cellular im-

munology is very much a part of the new direction in biology that Braun Labs represent. In “How to Find Needles in Haystacks: Fluorescence-Activated Cell Sorting” beginning on page 20, she describes the new instrument used to isolate cell subpopulations and determine correlated cell properties.

Rothenberg received her AB from Harvard and her PhD from MIT in 1977. Before coming to Caltech last June as an assistant professor, she worked at MIT’s Center for Cancer Research, the Memorial Sloan-Kettering Cancer Center, and the Salk Institute for Biological Studies.



Among the new generation of young scientists attracted to the Braun Labs is Carl Parker, who came to Cal-

tech in 1981 as assistant professor of chemical biology. He received his BA from the University of Rochester and PhD from Washington University (1977). His research on the mechanisms regulating structural gene transcription in *Drosophila melanogaster* was begun as a postdoctoral fellow at Stanford’s School of Medicine.

Parker’s article, “Biochemical Studies on Gene Expression in Higher Organisms” beginning on page 18, describes his work on gene transcription using *Drosophila*’s heat-shock genes as a model system.

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