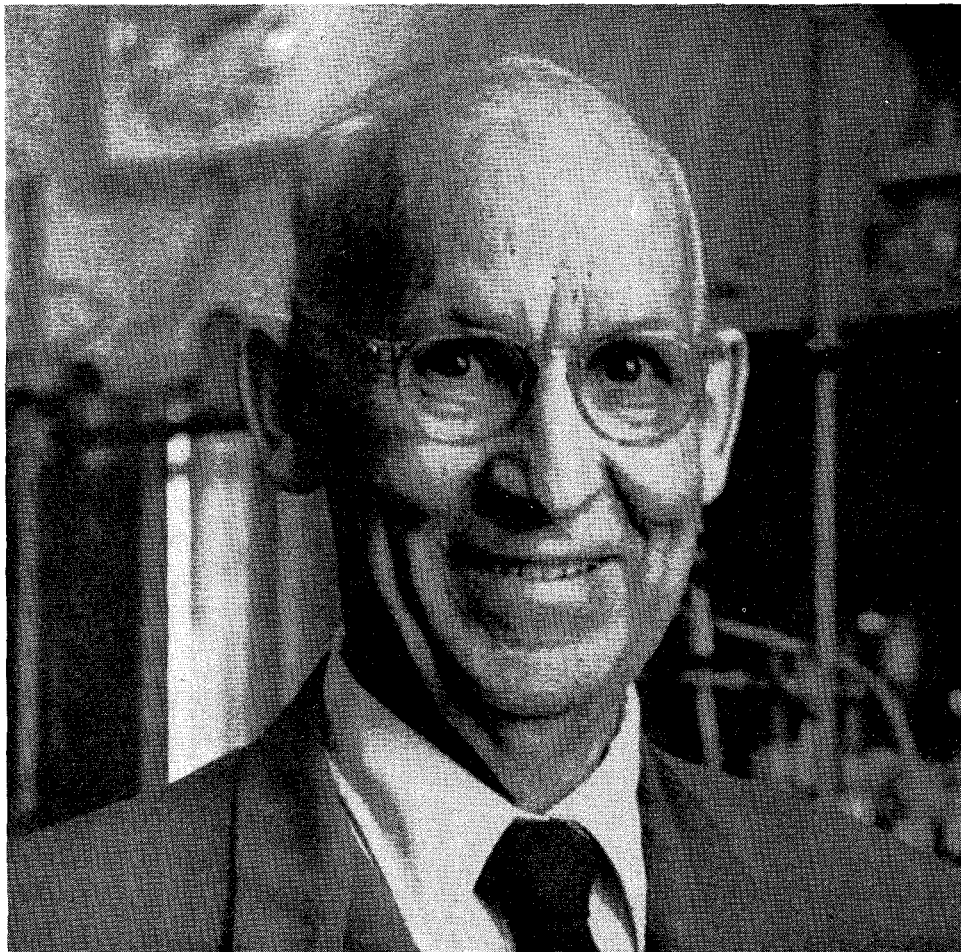


FACULTY PORTRAIT



HOWARD J. LUCAS

Professor of Organic Chemistry at Caltech for nearly 40 years, he's achieved real success in his favorite field of research — the synthesis of chemists

AT THE AMERICAN CHEMICAL Society's National Meeting in Los Angeles this month Howard J. Lucas, Caltech Professor of Organic Chemistry, will receive the 1953 Scientific Apparatus Makers Award in Chemical Education.

This \$1,000 award goes each year to a man who has made "outstanding contributions to chemical education considered in its broadest meaning, including the training of professional chemists; the dissemination of re-

liable information about chemistry to prospective chemists, to members of the profession, to students in other fields, and to the general public; and the integration of chemistry into our educational system."

As anyone can see, it takes quite a man to qualify for this award—and yet the qualifications, when applied to Howard Lucas, sound like a straightforward description of his life's work.

Professor Lucas has been in charge of the undergradu-

ate courses in organic chemistry at Caltech for 38 years, and it is a gauge of his success as a teacher that a good many of his former students are today outstanding organic chemists themselves. At a gathering of professional chemists such as the ACS meeting in Los Angeles this month, Professor Lucas is likely to run into something like 200 of his old students.

For the past quarter of a century Professor Lucas has been identified with the field of modern organic chemistry. He was one of the first chemists to recognize the value of electronic interpretations of chemical data, and he has made numerous contributions to the understanding of the electronic structure of organic molecules.

In 1935 he established the pattern for all modern elementary textbooks in organic chemistry when he published the first text in the field which related organic chemistry to modern chemical theory. More recently, he collaborated with Dr. David Pressman, one of his former students who is now head of the Immunochemistry section of the Sloan-Kettering Institute for Cancer Research, on "Principles and Practice in Organic Chemistry," a book which has already become a standard work in the field. He's also published more than 85 papers. Many of these, too, have been collaborations with students.

Biography of a chemist

Howard Lucas was born on March 7, 1885, in Marietta, Ohio. His grandfather was a steamboat pilot on the Ohio River, his father one of the first telegraph operators in the country. Howard went to high school in Columbus, Ohio, then entered Ohio State University, where he developed an immediate interest in chemistry. By his senior year he was working as an assistant in the freshman chemistry lab, getting his first crack at teaching—and liking it. As a graduate assistant in organic chemistry, he decided to make a career of teaching in that field. After he got his M. A. at Ohio State in 1908 he spent a year in research at the University of Chicago, then took a position as assistant chemist with the Chicago laboratories of the U. S. Department of Agriculture.

The Chicago laboratories, at that time, were busy developing standards of purity for all kinds of food products, and getting evidence against violators of the Pure Food Law. A good deal of Howard's work involved the analysis of commercial food preparation and tests for adulterants, and his experience led, in 1912, to his spending a year as a chemist for the government of Puerto Rico.

In 1913 he came to California to find a teaching job, and joined the staff of the predecessor of Caltech, the Throop College of Technology. He was one of three chemistry instructors for a student body of 55 or 60 then. Today, he's got the longest service record of anyone in the Caltech chemistry department—and one of the longest of the whole Caltech faculty.

He has served, at various times, on the Institute's Registration Committee, Student Relations Committee,

Faculty Board, and Industrial Relations Committee. In 1941-42 he was Resident Associate of Fleming House.

Like most noted teachers, Howard has a few classic classroom idiosyncrasies. The most prominent of these is an aversion to sneezers. When, in the course of a routine lecture in Ch 41, a student callously allows a sneeze to run its full course, from the first faint tingle in the nose to the final cataclysmic blatt, Professor Lucas' reaction is as immediate as it is predictable. Barely pausing in his flight across the room to shout a few dire imprecations at the spent but happy sneezer, he flings open the window and takes several heady draughts of fresh air before returning to the subject of his lecture.

Inevitably, of course, sneezing often reaches epidemic proportions in Ch 41.

Consulting

For a number of years (1932-40) Howard was a consultant for the Kelco Company of San Diego, manufacturers of sodium alginate. He helped to develop the use of this compound in such food products as chocolate milk, ice cream, and salad dressing. As a result, sodium alginate has largely displaced gelatine in these and other food products.

During World War II he was an official investigator for the National Defense Research Committee of the Office of Scientific Research and Development at Caltech, working on hard protective coatings for optical plastics.

He's been a member of the American Chemical Society since 1907, the year he was graduated from college. He served as chairman of the Southern California Section of the ACS in 1931-32. He is also a member of the American Association for the Advancement of Science, Sigma Xi, and Phi Beta Kappa.

A bachelor, Howard used to be an avid mountaineer and camper. He's tapered off on this outdoor activity in recent years, however—though he's compensated to some extent by sharpening up his bridge-playing.

Chief field of endeavor

His chief interest, though—now, as always—is his students. His real field of endeavor, as he explains it, is the synthesis of chemists from the raw material of Caltech undergraduates. The award he is receiving from the American Chemical Society this month is one indication of how well this synthesis works.

It is fitting that this tribute comes at a time when Howard Lucas is turning over his Caltech classes in organic chemistry to a new man (p. 28), in preparation for his own retirement. It's an impressive addition to the many tributes Howard has received in his long career. Of all these tributes, though, probably the simplest and soundest was paid him by one of his colleagues.

"Of all chemists," he said, "the one most easy to get along with. Of all scientists who would be justified in having a little intellectual pride or snobbery, none ever has less."