

Princeton University

Honors Faculty Members
Receiving Emeritus Status



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Faculty Members Receiving Emeritus Status

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Jacques Robert Fresco



Jacques Fresco, the Damon B. Pfeiffer Professor in the Life Sciences and a member of the molecular biology department, has spent fifty-three years on the Princeton faculty. Jacques was a pioneer in the biochemistry of nucleic acids. He received his B.A. in biology and chemistry, M.S. in biology, and Ph.D. in biochemistry, all from New York University. From 1952 to 1954, he did postdoctoral work in nucleic acids at Sloan-Kettering Institute; he then worked as a research fellow and tutor in biochemical sciences in the Department of Chemistry at Harvard University from 1956 to 1960. He came to Princeton in 1960 as an assistant professor.

In 1961, the spectacular successes of biochemistry and molecular biology led to the formation of the Program in Biochemical Sciences. Jacques and Arthur Pardee were the first appointees. Soon thereafter, a new biochemical sciences department was created, and Pardee was the first chairman, followed by Charles Gilvarg, Bruce Alberts, and then Jacques, from 1974 to 1980. The Department of Molecular Biology was created in 1984 and Jacques soon moved to that department.

In the course of his research, Jacques has published 167 papers, abstracts, and patents. His recent work has focused in several areas of DNA biochemistry, including gene repair for sickle cell anemia; fluorescent cytogenetic probes for genes that are amplified in cancers; self-catalytic site-specific G depurination in genes; and the evolution of the genetic code. He has continued to work on triple-stranded nucleic acid helices that can form under special conditions, and he is working to apply triple-strand technology to the correction of the single base-pair mutation in sickle cell anemia. His new findings on self-catalytic, site-specific depurination were recently published in the *Proceedings of the National Academy of Science*.

Jacques received the American Scientist Writing award in 1962, a Guggenheim fellowship to the Medical Research Council Laboratory

of Molecular Biology in Cambridge, England, in 1969, a visiting professorship at the Hebrew University of Jerusalem in 1973, and M.D. *honoris causa* from University of Gothenburg, Sweden, in 1979. He was a visiting scientist at the Weizmann Institute in 1994, and a visiting scientist in several institutions in 2006.

Jacques also has been continuously active in research and training students. Recently, he taught MOL 458, “Chemistry and Structure and Structure-Function Relations of Nucleic Acids,” a subject he knows extremely well. Students find Jacques a remarkable source of historical perspective. He has a stellar track record in training undergraduates and is a wonderful one-on-one mentor.

Jacques is known for his attention to detail, his strong and measured voice at faculty meetings, and his passion for research. One cannot pass by Jacques in the hall without him catching your eye, smiling, and remarking with excitement about the new ideas that are coming from his laboratory.