

Princeton University

Honors Faculty Members
Receiving Emeritus Status



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The biographical sketches were written by
colleagues in the departments of those honored.

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Faculty Members Receiving Emeritus Status

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James Wei



James Wei transferred to emeritus status on February 1, 2010, following an exceptionally distinguished and diverse career that spanned research and administration, in both industry and academia. At Princeton, Jim is best known for his 11-year tenure as the dean of the School of Engineering and Applied Science (1991–2002), during which the school grew substantially in scope and stature.

Jim received his bachelor's degree in chemical engineering from the Georgia Institute of Technology in 1952, and his M.S. and Sc.D. in chemical engineering from the Massachusetts Institute of Technology in 1954 and 1955 (with a minor in fine arts from Harvard University). He began his career as a research chemical engineer for Mobil Oil in 1955 and embarked upon a meteoric rise that led to the position of manager of long-range analysis in 1969, the same year in which he received a degree in advanced management from Harvard Business School. At Mobil, Jim established himself as a pioneer of chemical reaction engineering. Among his contributions was the Prater-Wei treatment of general first-order reaction networks, which is now a standard entry in every advanced textbook in chemical reaction engineering. Jim also launched a program on diffusion in zeolites—catalysts critical to the effective synthesis of a myriad of basic chemicals and chemical building blocks—which continued for five decades. At Mobil, Jim also created mathematical models of shale retorting, carbon burning in moving bed regenerators, and catalytic mufflers.

In 1971, Jim moved to academia as the Allan P. Colburn Professor of chemical engineering at the University of Delaware, expanding his research program into coal gasification and transport in biological systems, and supervising the doctoral theses of 11 students. After six years at Delaware, Jim joined MIT in 1977 as the Warren K. Lewis Professor, and served as department head until 1988. During this period,

Jim raised MIT's chemical engineering department to the position of prominence which it still enjoys today, while also supervising the doctoral theses of 18 students.

In 1991, Jim moved to Princeton as dean of the School of Engineering and Applied Science and the Pomeroy and Betty Perry Smith Professor of Chemical Engineering. Among the highlights of his tenure as dean were the construction of the Friend Center for Engineering Education, and the major gift from Sir Gordon Y. S. Wu '58 in support of the school. Following his tenure as dean, Jim returned full-time to the Department of Chemical Engineering, where he taught courses of his own design on "Great Inventions that Changed the World" and on "Product Engineering," the latter leading to a 2007 textbook published by Oxford University Press, *Product Engineering: Molecular Structure and Properties*.

Among Jim's many honors are the Award in Petroleum Chemistry from the American Chemical Society (1966); the Professional Progress (1970), William H. Walker (1980), Warren K. Lewis (1985), and Founders (1990) awards from American Institute of Chemical Engineers (AIChE); and election to the National Academy of Engineering (1978), the American Academy of Arts and Sciences (1982), and the Academia Sinica (1982). During the AIChE's 75th anniversary (1983), Jim was designated as one of 30 "Eminent Chemical Engineers," and during AIChE's 100th anniversary (2008), he was named one of the "100 Chemical Engineers of the Modern Era."

Within the chemical engineering profession, Jim is best known for his creative and path-breaking research, some elements of which are outlined above. At Princeton, Jim is best known as an effective and resourceful administrator and leader. But to his colleagues in the Department of Chemical Engineering, he is perhaps best known for his encyclopedic knowledge and broad wisdom, his good humor, and for his love of the arts. We wish Jim and his wife Virginia the best in all their continued endeavors.