

Princeton University

HONORS FACULTY MEMBERS
RECEIVING EMERITUS STATUS



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CONTENTS

Faculty Members Receiving Emeritus Status 2015

Steven L. Bernasek	3
David Botstein.	6
Erhan Çinlar	8
Caryl Emerson.	11
Christodoulos A. Floudas	15
James L. Gould.	17
Edward John Groth III.	20
Philip John Holmes.	23
Paul R. Krugman	27
Bede Liu	31
Alan Eugene Mann	33
Joyce Carol Oates	36
Clarence Ernest Schutt	39
Lee Merrill Silver	41
Thomas James Trussell.	43
Sigurd Wagner	46

ERHAN ÇINLAR



Erhan Çınlar, the Norman J. Sollenberger Professor of Engineering, and one of the pioneers in the field of stochastic processes, is transferring to emeritus status at the end of this academic year. Erhan is known for developing rigorous mathematical theories for stochastic models as well as for extensive service to Princeton and the probabilist community around the world.

Erhan was born in Divriği, Turkey. His hometown did not have high school, but after a competition exam, he won a government scholarship that paid for a boarding school for his high school years. Afterward, Erhan won another scholarship and was sent to the University of Michigan in 1959. There, he studied industrial engineering and minored in engineering mathematics, taking BSE's in both in 1963. He stayed there for graduate study, getting an M.A. in mathematics in 1964 and his Ph.D. in industrial engineering in 1965. Erhan was hired as an assistant professor at Northwestern University. Three years later, he was promoted to associate professor of industrial engineering. He left Northwestern University as a full professor to come to Princeton in 1985 as a professor of civil engineering. This was the time of the demise of the statistics department and Erhan transitioned from statistical science into the engineering school offerings.

Erhan's early research focused on semi-Markov processes and renewal theory. He was one of the first to understand their importance in the analysis of queuing systems. He single-handedly developed the theory of Markov additive processes and Lévy systems. These have become mainstays of the modern theory of Markov processes. Later on, in the wake of the general theory of stochastic processes by the French probability school, Erhan uncovered the deep relationships between Markov processes and semimartingales in a series of three pathbreaking contributions published in 1981. Today, these results are taken for granted by young generations of probabilists. While Erhan's

research was laying the groundwork for some of the most theoretical developments at the forefront of research in probability, he was also contributing to the applications of stochastic modeling to practical engineering challenges such as the reliability of complex devices, fatigue crack growth, and mass transport by stochastic flows, to name a few. His uncanny ability to bring the beauty of the most abstract mathematical theories to bear on the solutions of practical engineering problems stood him apart throughout his long and successful career.

Erhan is also known for his extensive service to the probability community. He served on the board of directors of the Society of Engineering Science, and as associate editor of the leading peer review journals in applied probability and operations research. Also, Erhan served as editor-in-chief of the Institute for Operations Research and the Management Sciences' journal *Mathematics of Operations Research* between 1987 and 1992, and as a member of the council of the Bernoulli Society, one of the field's most prestigious international societies.

Erhan has authored several influential textbooks in the field of probability theory, including *Introduction to Stochastic Processes*, which has been a classic in the field for over 40 years. His recent book on *Probability and Stochastics* is very well received, especially as a major text on Poisson random measures, Brownian motion, and Lévy processes. His recently coauthored book, with Robert Vanderbei, *Real and Convex Analysis*, is widely adopted as a required reading before graduate studies.

Erhan was elected fellow of the Institute of Mathematical Statistics in 1974 and of the Institute for Operations Research and Management Sciences in 2003, and he received the Recognition for Eminent Research from the Bernoulli Society in 2012.

Over the years, Erhan organized many international conferences and research workshops. But his name will remain attached to the Seminar on Stochastic Processes, a yearly gathering of probabilists from around the world. Erhan initiated this seminar back in 1981. He controlled its destiny for more than 30 years. Being an invited speaker at one of these events is now an important landmark in the career of a probabilist, and a coveted recognition of success in the field. The list of past invited speakers is the Who's Who of probability.

Erhan's vision, his organizational skills, his high standards, and his impeccable taste for quality made this event the prime showcase of research in probability. The tradition goes on and the seminar is, still to this day, a vibrant melting pot of research ideas: Erhan's brain child will have a long lasting impact on generations of probabilists to come.

His University service includes being the director of the program of statistics and operations research, the chair of the Department of Civil Engineering and Operations Research, and the founding chair of the Department of Operations Research and Financial Engineering.

Students have repeatedly ranked Erhan's undergraduate probability course, ORF 309, one the University's most challenging. He is a highly skilled speaker, and his lectures are attended by students from all over the campus, as well as faculty eager to hone their skills in probability theory. He received the President's Award for Distinguished Teaching in 2010. On February 24, 2013, he received a Lifetime Achievement Award from the Engineering Council in recognition of excellence in teaching, a distinction awarded only after five Excellence in Teaching Awards from the Engineering Student Council. He was made an honorary member of the Class of 2013. Erhan is an avid reader of ancient literature, especially Greek mythology, Chinese history, and Egyptian history. He also has a keen interest in the history of science and how it is reported. His prowess as a storyteller is enjoyed by students and colleagues alike.