The Department of Applied Physics and Applied Mathematics

2020 SIMON PRIZE

FOR THE MOST OUTSTANDING DOCTORAL DISSERTATION
Jyotirmoy "Jyoti" Mandal received his Ph.D. from Columbia in June 2019, where he was advised by Prof. Yuan Yang. His dissertation “Spectrally Selective Designs for Optical and Thermal Management” focused on the creation of high-performance but low-cost solar heaters and radiative coolers, and designs that can switch between heating and cooling modes.
Besides scientific novelty and performance, a guiding consideration for his designs was low-cost and simplicity of fabrication needed for use in developing countries. Jyoti’s works with Prof. Yang and in collaboration with colleagues in Prof. Nanfang Yu’s group were published in Advanced Materials (2017), Science (2018), Joule (2019) and Science Advances (2020). Jyoti received his B.A. in Physics and Mathematics, with a minor in Materials Science, from Vanderbilt University in 2014. In 2019, he was selected as a Schmidt Science Fellow, and for his postdoctoral research under the fellowship, is designing optical components at the University of California, Los Angeles. Going forward, Jyoti hopes to continue his research on radiative energy transfer and optics, with the goal of controlling the behavior of light using disordered materials for optical designs.
The Robert Simon Memorial Prize is awarded annually by the Department of Applied Physics and Applied Mathematics to the graduate student who has completed the most outstanding dissertation. Should no graduate student’s dissertation qualify in any given year, the prize may be awarded to either the most outstanding student who has completed a master of science degree in the Department or to the most outstanding graduating senior in the Department. The Department chair in consultation with the Department faculty selects the awardee.

Robert Simon (December 25, 1919–February 11, 2001) received a B.A. degree cum laude in classics from the City College of New York in 1941, where he was elected to Phi Beta Kappa, and an M.A. in mathematics from Columbia University in 1949. Between 1941 and 1944, Mr. Simon was a lieutenant in the United States Armed Forces serving in England, France, and Italy. He participated in the D-Day operation as a navigator for a plane that dropped paratroopers in the vicinity of Omaha Beach. General Dwight Eisenhower personally shook his hand and wished him well the night before the D-Day assault.

Mr. Simon, who was born and lived in New York City, spent a lifetime making valuable contributions to the field of computer science. Starting in 1953, he worked for 15 years at Sperry's Univac Division in various capacities including marketing, planning, systems engineering, systems programming, and information services. He also spent a year working at the Fairchild Engine Division as director of the Engineering Computer Group. He personally directed the establishment of several company computer centers at sites throughout the United States. Between 1969 and 1973, he was a partner with American Science Associates, a venture capital firm. Mr. Simon was a founder and vice president of Intech Capital Corporation and served on its board from 1972 to 1981 and a founder and member of the board of Leasing Technologies International, Inc. from 1983 until his retirement in 1995.

The prize was established in 2001 by Dr. Jane Faggen with additional support from friends and relatives of Mr. Simon.
We mourn the loss of Dr. Jane Faggen who passed away on April 19, 2020.

Dr. Faggen, with additional support from friends and relatives of Mr. Simon, established the Robert Simon Memorial Prize in the APAM Department for the most outstanding doctoral dissertation.
Dr. Jane Faggen was a dear friend of the Department and close family friend of SEAS Dean and APAM Chair Emeritus, Robert Gross. Through her relationship with the Gross family, Jane learned about the APAM Department and became the generous donor of the Robert Simon Memorial Prize given each year to the APAM doctoral student with the most outstanding thesis. For many years, she enthusiastically attended the ceremony in which this prize was awarded, always providing words of wisdom, including those about the burgeoning role of women in technology and other facets of life throughout her own career and life.

Jane earned her undergraduate degree at the University of Michigan, her M.S. from Cornell University, and her Ph.D. in Educational Psychology from the City University of New York (CUNY). She worked for Bell Labs and the Educational Testing Services; she was a programming librarian; and was a lecturer and a member of the research staff of the Computer Center of the CUNY Graduate Center. Jane was a pioneer in investigating the role of gender in education, which included the study she co-authored, “Women and educational testing: a selective review of the research literature,” in 1974 and the book she co-authored, “Sex Bias in the Schools: The Research Evidence,” in 1977. She was also an active volunteer worker for the Guidance Center of New Rochelle (a children's mental health clinic) and, being a great lover of both music and fine art, she became a docent at the Princeton Art Museum. She was the mother of three children - Peggy, Patti, and Patti.
SIMON PRIZE WINNERS

2002 MARK CROWDER
2003 CHARLES KERBAGE
2004 XUAN GAO
2005 IRENE DUJOVNE
2006 KUI REN
2007 REMI LEFRANCOIS
2008 YONGFENG GUAN
2015 JOHN DWYER
2016 BRIAN CAPOZZI AND HANDE ÖZTÜRK
2017 JAMES LEE-THORP
2018 ZHAOYI LI
2019 NORMAN NAN SHI