George Papanicolaou

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Birth Date: January 23, 1943. Married, with three children. Birthplace: Athens, Greece. U.S. Citizen.

Education

Ph.D 1969, M.S 1967, Mathematics, New York University, Courant Institute, B.E.E 1965, Union College, Schenectady N.Y.

Employment

New York University, Courant Institute: Assistant Professor, 1969-1973, Associate Professor, 1973-1976, Professor, 1976-1993. Director, Division of Wave Propagation and Applied Mathematics, Courant Institute 1979-1993. Professor, Stanford University, 1993-1997. Robert Grimmett Professor of Mathematics, 1997-present.

Visiting Member

INRIA, Rocquencourt, France, 12/74-2/75, and Observatoire de Nice France, 3/75. Also, INRIA, Rocquencourt, France 9/76-1/77. Visiting Associate Professor: Cornell University (Spring term), 1976-77. Visiting Scientist: Exxon Research Corp. 10/83-1/84. Visiting Professor: Univ. of Paris Dauphine 3/84. Visiting Member: Institute for Advanced Study, Princeton, 9/90-5/92. Gordon Moore Distinguished Scholar, Caltech 9/03-5/04. Institute for Advanced Study, Hong Kong University of Science and Technology 11-12/08. W. Romberg Guest Professor Heidelberg University, 07/10. Schlumberger Visiting Professor Institut des Hautes Études Scientifiques, Paris, 10-11/10 and 10-11/13. Courant Institute, NYU, 03-05/18, Visiting Member.

Honors and Awards

Alfred P. Sloan Fellow, 1974-1976. John Simon Guggenheim Fellow 1983-1984. Invited speaker, International Congress of Mathematicians, 1986. Honorary Doctor of Science, University of Athens, 1987. Invited speaker, International Congress of Mathematical Physics, 1994. Invited Plenary speaker, International Congress of Mathematicians, 1998. Fellow of the American Academy of Arts and Sciences, 2000. Member of the U.S. National Academy of Sciences, 2000. Sackler distinguished visitor, Tel Aviv University, 2000. Lighthill Lecture of British Mathematical Council, 2002. Invited plenary speaker SIAM 50th anniversary meeting, 2002. Invited plenary speaker International Congress of Industrial and Applied Mathematics, 2003. Invited plenary speaker, German Mathematical Union, 2004. SIAM von Neumann Prize 2006, SIAM Fellow, 2009. William Benter Prize in Applied Mathematics 2010. Josiah Willard Gibbs Lecture of the American Mathematical Society 2011. Doctor Honoris Causa, University of Paris VII, 2011. Lagrange Prize (ICIAM), 2019.

Publications

Over 200 research publications with the more recent ones listed in http://virtualmath1.stanford.edu/~papanico

The research publications are in waves and diffusion in inhomogeneous or random media and in the mathematical analysis of multi-scale phenomena that arise in their study. Applications come from electromagnetic wave propagation in the atmosphere, underwater sound, waves in the lithosphere, diffusion in porous media, etc. Both linear and nonlinear waves and diffusion are studied, in both direct and inverse problems, and in imaging in particular.

Research publications are also in financial mathematics, the use of asymptotics for stochastic differential equations in analyzing complex models of financial markets and in data analysis, as well as the modeling and analysis of systemic effects in multi-agent systems and interacting markets.