

Papanicolaou Received the First William Benter Prize in Applied Mathematics



George Papanicolaou

City University of Hong Kong (CityU) has awarded the first William Benter Prize in Applied Mathematics, a newly launched international award in the field, to George C. Papanicolaou, Robert Grimmett Professor of Mathematics at Stanford University, in recognition of his exceptional contributions across a wide spectrum of research areas in applied mathematics.

George Papanicolaou, an internationally acclaimed mathematician, has devoted his research career to bridging theoretical research and applied problems in areas including multi-scale and stochastic analysis, fluid dynamics, electro-dynamics and, more recently, imaging analysis and financial applications, advancing the understanding of a vast range of phenomena.

The William Benter Prize in Applied Mathematics was established by the Liu Bie Ju Centre for Mathematical Sciences at the City University of Hong Kong in honor of Mr. William Benter for his dedication and generous support to the enhancement of the University's strength in mathematics research. The Prize is a biennial award that carries a cash prize of US\$100,000 and aims to recognise outstanding mathematical contributions that have a direct and fundamental impact on scientific, business, finance, and engineering applications.

The Prize was presented to Professor George Papanicolaou by Mr. William Benter, its donor, at the opening ceremony of the International Conference on Applied Mathematics, organised by the Liu Bie Ju Centre for Mathematical Sciences at CityU on 7 June 2010.

Biographical Sketch

Professor George C. Papanicolaou was born on January 23, 1943 in Athens, Greece. He obtained his bachelor's degree in engineering in 1965 from

Union College in Schenectady, New York, and his master's degree (1967) and PhD degree (1969) in Mathematics from the Courant Institute at New York University, where he began his career as an Assistant Professor in 1969. He became a full Professor in 1976 and was appointed Director of the Division of Wave Propagation and Applied Mathematics in 1979. In 1993, he joined Stanford University, and became the Robert Grimmett Professor of Mathematics in 1997. He is a Member of the U.S. National Academy of Sciences and won the SIAM von Neumann Prize in 2006.

Citation

Over the past 40 years, Papanicolaou has made many fundamental contributions in developing and applying multi-scale and stochastic techniques to a wide array of emerging scientific problems ranging from geophysics, materials science, fluid dynamics, imaging process, to finance. He has always been interested in modeling volatility in markets and the effects on derivatives. Since the financial crisis, he has become more conscious of the importance of risk assessment in various aspects of financial modeling.

In recent years, Papanicolaou has made pioneering contributions in developing innovative mathematical analysis for the emerging field of time-reversal imaging in heterogeneous random media and actively exploring its wide range of applications from imaging analysis to communications. This line of research has generated a great deal of interest in both mathematics and the broad scientific community. Papanicolaou has also made many other outstanding contributions, which include the dynamic rescaling method to study singularity formation in focusing nonlinear Schrödinger equations, convection of microstructures in incompressible flows, new variational methods for turbulent transport, bounds on effective properties of composite materials, and homogenization theory for random elliptic systems.

— News release from City University of Hong Kong