



**C**harles Maldarelli received his undergraduate degree in biomedical engineering and his doctorate in chemical engineering, both at Columbia University. His doctoral thesis was on the hydrodynamic stability of thin liquid films under the direction of Rakesh Jain. After postgraduate study at the Department of Applied Mathematics

and Theoretical Physics at Cambridge, he joined the Institute for Physicochemical Hydrodynamics (later renamed the Levich Institute) at the City College of the City University of New York. He has also served as a program director at the National Science Foundation. His current research interests are in the areas of interfacial hydrodynamics, particularly the effect of surfactants on the motion of bubbles and drops, colloidal hydrodynamics and self propulsion, hydrodynamic slip and superhydrophobicity, particle coalescence at an interface, and the microfluidics of high throughput screening of biomolecular binding interactions. While at City College of New York, he has mentored approximately 30 doctoral students, published 100 peer-reviewed articles, and received the Tau Beta Pi award for excellence in undergraduate teaching. He has also received the Francois Frenkiel Award from the American Physical Society Division of Fluid Mechanics for an outstanding publication in the *Physics of Fluids*. He has been a consultant for Dupont, Proctor and Gamble, SC Johnson and ExxonMobil.

# The 2014 D.O. Shah Annual Lecture in Surface Science

**Professor Charles Maldarelli**

Levich Institute

Department of Chemical Engineering

The City College of the City University of New York

## **The Hydrodynamics of Colloidal Self-Propulsion**

March 17, 2014

4:00 PM

260 Florida Gym

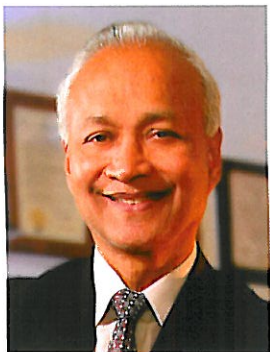
University of Florida

Gainesville, FL 32611

3:15 PM Reception

Atrium of the New Chemical Engineering Student Center

**ENGINEERING**  
SHAH ANNUAL LECTURE



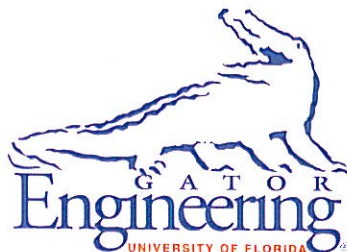
The D.O. Shah Annual Lecture in Surface Science was established in the Chemical Engineering Department at the University of Florida by Professor Dinesh Shah because of his strong commitment to the university and the field of surface science. Professor Shah retired in 2005 from the University of Florida after a distinguished academic career spanning 35 years.

Dinesh O. Shah received his B.S. in Physics and Mathematics from the University of

Bombay, India in 1959 and Ph.D. in Biophysics from Columbia University in 1965. He joined the University of Florida in 1970 with a joint appointment in the Chemical Engineering Department and in the Anesthesiology Department. He was appointed as the director of the Center for Surface Science & Engineering in 1984. He served as the chair of the Chemical Engineering Department at the University of Florida from 1987-1991. Dr. Shah has received numerous teaching, research and service awards, including the UF Excellence in Teaching Award in 1972, the UF President's Scholar Award in 1975, the UF Outstanding Service Award in 1976, the UF Teacher/Scholar of the Year Award from 1984-85, and the UF President's Medallion for Excellence in Teaching and Scholarship in 1985. In addition, Dr. Shah was named the Florida Scientist of the Year in 1988, received the Vishwa Gurjari 1992 International Award for Outstanding Achievement, and received the Pride of India Award in July 1993. In 1993 he was named as Distinguished Florida Scientist by the Florida Academy of Sciences and in 1996 he was honored with the first Charles A. Stokes Professorship at the University of Florida. He is the founding director of the Shah-Schulman Center for Surface Science and Nanotechnology, D.D. University, Nadiad, India since January 2008.

#### Previous Shah Lecturers

- 2005 Darsh Wasan
- 2006 Curtis Frank
- 2007 Bengt Kasemo
- 2008 Robert Madix
- 2009 Robert K. Prud'homme
- 2010 Clayton Radke
- 2012 Hans-Joachim Freund



# ENGINEERING

## SHAH ANNUAL LECTURE

The University of Florida's  
Chemical Engineering Department  
presents:

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