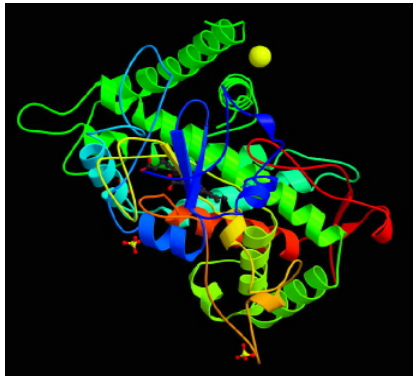
DISTINGUISHED LECTURER SERIES

VCU
MECHANICAL ENGINEERING

Wading in Troubled Waters: Tsunamis, Storm Surges and Stressed Environments



Professor Joe Fernando
Arizona State University

7 April 2008
Social Hour: 11:30-12:00 noon
Seminar: 12:00–1:00 pm
Room E2214
Engineering East Hall

ABSTRACT

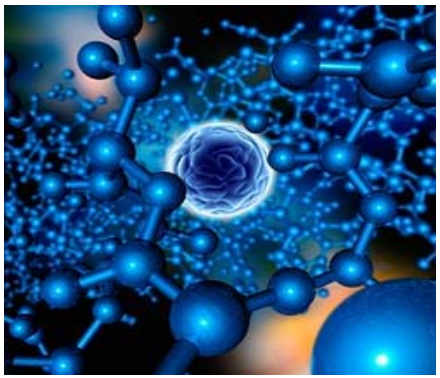
The Earth system is in a delicate balance, subjected to a suite of forcing, causations and feedbacks to maintain a stable climatic state. While the components of the Earth system have the flexibility to absorb disturbances while maintaining essential functions and structure (resilience), beyond certain forcing thresholds either the entire system, its components or building blocks thereof may shift to entirely different ecological or climatic states. While little external control is possible on natural disturbances, humans have the ability to minimize their own environmental stressors via sound planning, designs and management. In so doing, conventional disciplinary approaches and tools are insufficient, and knowledge from natural environmental, human, social and engineering aspects has to be melded and their interdependencies identified. Developments of new concepts, quantitative holistic predictive models as well as their validations are necessary to facilitate the best science and engineering based policy decisions. In this presentation, some recent catastrophic failures of urban systems due to environmentally incongruous engineering designs or lax enforcement of environmental regulations are discussed.

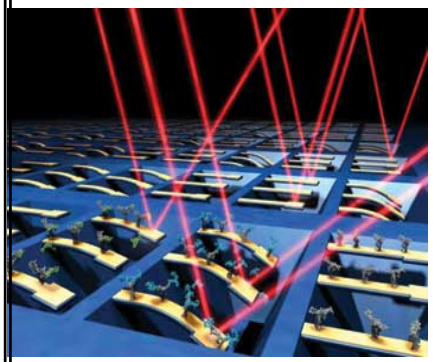
BIO

Harindra J.S. Fernando received his B.S. in mechanical engineering (with first class honors) from the University of Sri Lanka in 1979 and M.A. (1982) and Ph.D. (1983) in fluid mechanics from the Johns Hopkins University. He received post-doctoral training in environmental engineering sciences at California Institute of Technology during 1983-84. Since 1984, he has been affiliated with the Department of Mechanical & Aerospace Engineering at Arizona State University (ASU), where he is currently the Director of the Environmental Fluid Dynamics Program.

Dr. Fernando has also held visiting professorships at the University of Cambridge (UK), ETH (Zurich) and University of Girona (Spain) and has been an AWU fellow at the Solar Energy Research Institute and a visiting scientist at the British Meteorological Office.

Professor Fernando is a recipient of the Presidential Young Investigator Award in 1986 (NSF), ASU Alumni Distinguished Research Award in 1997, and Rieger Distinguish Scholar Award in Environmental Sciences from Rieger Foundation in 2001. He is a fellow of the American Society of Mechanical Engineers and the American Physical Society. He has delivered more than one hundred invited presentations at various universities and national and international laboratories.





Contact:
Mechanical Engineering
School of Engineering
Virginia Commonwealth University
401 West Main St
Richmond, VA 23284-3015
Office: 804-828-9117
Fax: 804-827-7030