

IIT Bombay is organising an Institute Colloquium on Wednesday, August 3, 2011. The details are as follows:



Speaker : **Prof. Raghuram Murtugudde**
Professor, Department of Atmospheric and Oceanic
Science, and Executive Director, Earth System
Science Interdisciplinary Center,
University of Maryland, College Park (UMCP), USA

Title : **Predictions to Solutions: Role of Technology in Facing Change**
Day & Date : Wednesday, August 3, 2011
Time : 5:15 pm
Venue : Main Auditorium, VMCC

All are invited.

Abstract: Weather predictions have become staple news for everyday decision-making from hours to days for individuals to national and international entities. Climate projections by the IPCC have focused on coarse resolution, multi-decadal time-scales with mitigation and adaptation to climate change as the goals for international negotiations. All global warming is local and the time-scales of weeks to a decade are where most decisions are made for adaptive resource management, and decision and policy making for human health to water and energy to sustainability. High-resolution Earth System predictions with all their computational and data needs and challenges need to be merged with near real-time monitoring of the Earth System from genetic to global scales and bacteria to mammals for generating interactive decision-making tools. Science and technology have to come together seamlessly to meet the current needs and to continue to serve future demands for designer forecasts. A prototype prediction system is discussed along with the collaborative necessities among academic, government, and military-industrial complexes for facing this challenge.

About the Speaker: Prof. Raghu Murtugudde obtained his BTech (Aeronautical Engg) in 1983 from IIT Bombay, MS (Aerospace Engg) from UT-Arlington in 1986 and Ph.D. (Mechanical) from Columbia University in 1994. His extensive research work includes examining how phytoplankton, the microscopic plant life in the ocean, can affect the earth's climate. He has discovered that, in aggregate, phytoplankton produce enough heat to affect large scale weather patterns. In work funded by NASA and the National Oceanic and Atmospheric Administration (NOAA), Prof. Murtugudde has discovered that climate models must take into account the effects of phytoplankton to predict El Niños and La Niñas. He recently developed a tuna population model that reproduces the last 50 years of variation in tuna populations, which will be used to predict future fish yield. The Earth System Science Interdisciplinary Center was founded in 1999 to unite various disciplines across UMD for the study of the cause and effect of climate change. The center has received large block grants that helped boost the university's numbers in recent years. NASA awarded the center a \$13 million, four-year grant to support its 90 faculty, research assistants and graduate students. Prof. Murtugudde has published more than 100 peer-reviewed publications in international journals, is a member of several national and international organizations and has authored several books and book chapters.