Physical Research Laboratory, Ahmedabad

COLLOQUIUM - 13 – 15

Speaker: **Prof. B. N. Goswami**
Director, Indian Institute of Tropical Meteorology, Pune, India.

Title: **Scaling the Potential Predictability Barrier of the Indian Summer Monsoon Rainfall: An Indian Initiative**

Abstract

Indian summer monsoon rainfall (June-September rainfall over the Indian continent, ISMR), lifeline for about one sixth of world's population influences the Indian GDP up to 2-5% during a drought year. Skillful prediction of ISMR one season in advance, therefore, is not only of great importance for agricultural planning and policy making for disaster preparedness but also influences the economy through nonlinear influence on other economic drivers. The prediction of ISMR, however, remains a 'grand challenge' for the climate science community. The continued poor skill of the ocean-atmosphere coupled models in predicting ISMR remains an enigma in the backdrop of these models' high skill in predicting seasonal mean rainfall one season in advance over the rest of the Tropics. In this Talk, I will provide an overview of processes that are responsible for limited skill of present climate models and outline a framework for achieving the limit on potential predictability within a reasonable time frame.

IITM is leading a program called Monsoon Mission supported by the Ministry of Earth Sciences. The Mission envisages building partnership between operational forecasting agencies and R & D organizations both within India as well as International R & D Organizations to work on improving monsoon prediction. The conceptual framework and the roadmap for the Mission will also be highlighted.

The Speaker

Prof. Bhupendra Nath Goswami obtained his Master degree in Physics from Gauhati University and Ph.D. in Plasma Physics (1976) from Physical Research Laboratory (PRL), Ahmedabad (Gujarat University). Subsequently, he pursued post-doctoral research at MIT, Cambridge and at NASA/GSFC, Maryland, USA. On return to India, a brief stint at CAS, IIT-Delhi was followed by joining CAOS, IISc, Bangalore, where he became Professor and Chairman of the Centre. Prof. Goswami has been the Director of the Indian Institute of Tropical Meteorology, Pune since 2006. His areas of research interest are Indian Summer Monsoon Variability, Predictability of the Tropical Coupled Ocean-Atmosphere System, Climate Modelling, Modelling of Large Scale Air-Sea Interactions in the Tropics, Theoretical Study of Large Scale Tropical Dynamics using Simple Models. Prof. Goswami's major scientific contributions include physical mechanisms identified for scale selection of monsoon intraseasonal oscillations. He identified a radiative-convective-dynamical feedback mechanism for generating the northward propagating 30-50 day mode. His unique work has been the discovery of a new mode of variability in the Indian Ocean, namely, the Indian Ocean Dipole Mode.

Prof. Goswami has also contributed to capacity building in climate science through dedicated training programmes at IISc and IITM. He is a member of several national and international Commissions and Committees as well as of Editorial Boards of several journals. Amongst several honours and awards received by Prof. Goswami the major ones are: the Hari Om Ashram Prerit Vikram Sarabhai Award (1994), S. S. Bhatnagar Award (1995) and the K. R. Ramanathan Medal of INSA (2008). He is a Fellow of all the three science academies in India and also a fellow of the Third world Academy of Sciences. He has more than 100 publications in refereed journals.

Wednesday: 17 July, 2013, 16:00 hrs

K.R. Ramanathan Auditorium, PRL

Tea at 15:30 hrs

ALL ARE WELCOME