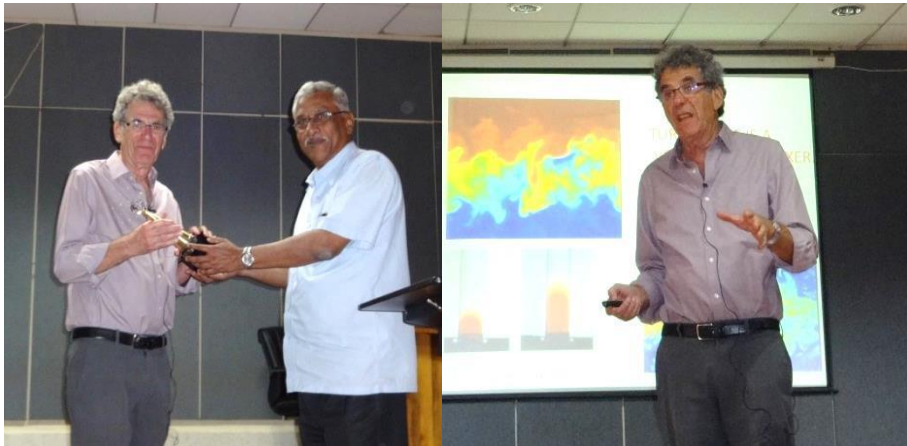


Details of the Speaker

Zellman Warhaft, Professor, Cornell University, Ithaca, NY, USA

Biography:-- After completing his undergraduate education (Melbourne University, 1967), Prof. Warhaft was an engineer at the Radio Propagation Research Division, Australian Post Office Research Laboratories, in Melbourne, where he conducted experiments on the effect of the weather on microwave radio propagation. Then, for six years through 1975, he was a research scientist at The Radio and Space Research Station, Science Research Council, Ditton Park, United Kingdom (now The Appleton-Rutherford Laboratory). After earning his doctorate (University College, London, 1975), he became a senior project associate for the Department of Aerospace Engineering at The Pennsylvania State University, where he also worked with the Meteorology Department. Since 1977 he has been at Cornell University.

Zellman Warhaft conducts basic wind tunnel experiments on particles in turbulence in order to understand the dynamics of raindrops in clouds. His present interests are in the fundamentals of the small-scale structure of the scalar and velocity fields in high Reynolds number turbulent flows and the effects of turbulence on the formation of raindrops in clouds. Prof. Warhaft has numerous collaborative research programs worldwide.



Details of the Talk

Date: 18/03/2016

Title: Mixing and Transport in Nature and Engineering Systems: Implications for Global Warming

Abstract: Heat, moisture, dust and raindrops are generally rapidly mixed by the fluid fluctuations in the atmosphere, as are reactants in chemical reactors and combustors. Knowledge of the details of heat and moisture transport in the atmospheric boundary layer, and of cloud droplet dynamics, is essential to understanding global warming. But they are still poorly understood and this hinders our progress in bridging the gap between fundamental physics and numerical simulations and predictions. Here I give an overview of mixing processes, and relate these to the larger problems of understanding and addressing global climate change.

