



## Dr. Swapna Panickal



Dr. Swapna Panickal received M.Sc in Oceanography and M.Tech. in Atmospheric Sciences from Cochin University of Science and Technology, Cochin, Kerala. She joined National Institute of Oceanography (NIO), Goa as Senior Research Fellow under the project Indian Ocean Experiment (INDOEX) and worked on the dynamics of large scale circulation of Indian Ocean using Institute of Numerical Mathematics (INM, Russia), Ocean General Circulation Model. She received her Ph. D degree from Goa University in 2006. She joined IITM as Research Associate under INDOMOD project and worked on the Indian Ocean Monsoon coupled interactions. She was selected as Post-Doctoral Research Associate at Hong Kong University of Science and Technology (HKUST), Hong Kong during 2007-2008. Dr.Swapna joined Indian Institute of Tropical Meteorology (IITM) as Scientist-C during 2009 and is actively involved in climate research and Earth System Model (ESM) development at Centre for Climate Change Research (CCCR), IITM.

Dr. Swapna Panickal played a key role in developing the first Indian Climate Model, IITM-ESM which would be taking part in the upcoming Coupled Model Intercomparison Project Phase-6 (CMIP6) experiments. To address the long-term critical need in India for a climate model that would provide reliable future projections of Indian monsoon rainfall, Earth System Model (IITM-ESM) was developed at CCCR, IITM. The development of IITM-ESM has emerged through transformation of a seasonal monsoon prediction model from the National Centre for Environmental Prediction (NCEP) Climate Forecast System (CFS) into a long-term climate model at CCCR, IITM. Dr. Swapna Panickal was instrumental in incorporating a new global ocean component (Modular Ocean Model version 4p1, MOM4p1) having better physics and an interactive ocean biogeochemistry in the CFS coupled model. The IITM ESM shows major improvements in simulating mean SST and exhibits better skills in capturing the South Asian monsoon rainfall, the dominant modes of climate variability such as El Niño-Southern Oscillation and Pacific Decadal Oscillation and their links with monsoon. The development of IITM-ESM is a landmark achievement in climate modeling from India. She has published 20 papers in peer reviewed national/international journals.

Dr. Swapna Panickal is awarded Certificate of Merit for her outstanding contributions in the field of Atmospheric Sciences.