



Physical Research Laboratory, Ahmedabad

Special Colloquium 19-04

Speaker: Dr. N. Purnachandra Rao

Director, National Centre for Earth Science Studies, Ministry of Earth Sciences,
Thiruvananthapuram

Title: " Earthquakes and Tsunamis in the Indian Subcontinent "

Time: Tuesday, 19 February 2019, 10.30 hrs.

Venue: K.R. Ramanathan Auditorium, PRL

Abstract

The Indian plate is a tectonic laboratory depicting a range of movements from continental collision with Eurasia in the Himalaya-Tibetan belt, to subduction in the Andaman region, divergence with the African plate in the southwest and a diffuse deformation zone further south, forming a new plate boundary with respect to the Australian plate in the Indian Ocean region. This leads to a large number of earthquakes all along its plate boundaries comprising thrust, normal and strike-slip types of faulting. Some of the Great earthquakes that shook the region are the 1897 Shillong, 1905 Kangra, 1934 Bihar-Nepal and 1950 Assam earthquakes in the Himalayan belt. The central Himalayan gap is seen as the next potential zone with the 2015 Nepal earthquake seen as merely a teaser of the forthcoming disaster. Other destructive earthquakes within the Indian plate region, also referred as intra-plate earthquakes are the 1967 Koyna, 1993 Latur, 1997 Jabalpur and the 2001 Bhuj earthquakes. The most devastating earthquake in the subcontinent occurred in 2004 in the Andaman region leading to an unprecedented tsunami that devastated the Indian Ocean countries including India, Indonesia, Sri Lanka, Bangladesh, etc. The most potential tsunamigenic zones in the Indian subcontinent are the Andaman subduction zone in the southeast and the Makaran subduction zone in the northwest. A few more zones in the Indian Ocean pose a tsunami threat to our country which require attention in future.

The Speaker

Dr. N. Purnachandra Rao is Currently the Director of the National Centre for Earth Science Studies, Thiruvananthapuram, under the Ministry of Earth Sciences, Govt. of India.

Dr. Rao is a well-known seismologist of India. He has obtained his Ph.D. from Osmania University and D.Sc. from University of Tokyo, Japan, in the field of Seismology.

He is a specialist in the Physics of earthquake processes and simulation of Synthetic seismograms. He has extensively worked on the Seismotectonics, Earthquake hazard and Earth's structure in the Indian subcontinent, including in the Himalayas, Burma, Andaman, Indian Ocean and intra-plate seismic zones. His specific research interest includes, seismic ambient noise correlation tomography, Reservoir triggered seismicity, Earthquake forecast, Scientific deep drilling for earthquake studies, Seismic Hazard Assessment and Microzonation, Moment tensor inversion for earthquake source mechanism, Seismic waveform modeling to study earth's internal structure, Stress field and Tectonics.

Dr. Rao has published over 100 research papers, technical reports, books and book chapters in leading international journals of high repute. He has guided several students from India and abroad for Master's and Ph.D. theses.

Dr. Rao is the recipient of several awards and honours in his illustrious career. Some of the important awards, right from the beginning of career include ONGC-AEG best Ph.D. award, JSPS (Ronpaku) fellowship of Japan, Alexander von Humboldt fellowship of Germany, Raman Research fellowship at the Univ. of California, San Diego, USA; and National Geoscience Award.

Tea at 10:00 hrs
ALL ARE WELCOME

