



## Physical Research Laboratory, Ahmedabad

### COLLOQUIUM - 14 - 01

**Speaker:** Dr. J. S. Ray

Associate Professor, Geosciences Division, Physical Research Laboratory, Ahmedabad.

**Title:** Learning from volcanoes: the story of India's only active volcano

**Date & Time:** Wednesday, 08 January, 2014, 16.00 hrs.

**Venue:** K. R. Ramanathan Auditorium, PRL.

#### Abstract

A volcanic eruption is one of the most spectacular events of nature. Volcanoes discharge hot ash high into the air and pour streams of molten rock down their flanks. They are the most visible proof that our planet is very much alive. They constantly remind us that, even after 4.56 billion years of its formation, Earth's interior is still hot and dynamic. Volcanic eruptions vary greatly in style and the materials they produce. Large explosive volcanism can cause widespread destruction of life and property and affect the climate. Therefore, it is necessary to study and understand the eruptive styles and cycles of volcanoes located close to civilizations. My interest in volcanoes lies in the very fact that they provide us a window to the deep Earth. I have been studying products of ancient volcanism in India and elsewhere in the world in an effort to understand the chemical evolution of Earth's mantle through time.

My current endeavor is focused on contemporary volcanism in the Barren Island Volcano, the lone active volcano of India, with the main objectives of deciphering its origin and evolution and the character of the mantle source. Being located in an active subduction zone, the volcano holds keys to our understanding of nature recycling of crustal material into the mantle. In the talk, I will discuss some important results of our research based on geochronology and geochemistry of lavas and tephra derived from this intriguing volcano.

#### The Speaker

Dr. J.S. Ray did his M.Tech (Applied Geology) from the University of Roorkee (now IIT Roorkee) in 1992 and Ph.D. from PRL in 1998. He went on to do his post doctoral research at the University of Ottawa, Canada and the University of Hawaii, Honolulu, USA during 1999 and 2002. He returned to PRL as a faculty member in December 2002. He has worked and is working on wide range of topics related to the chemical evolution of Earth's mantle, subduction zone processes and evolution of sedimentary basins with the help of geochemistry, isotope geology and geochronology. He has received several academic awards, which include the young scientist award from the Indian National Science Academy in 2000, the MS Krishnan gold medal from the Indian Geophysical Union in 2009 and the National Geosciences Award from the Ministry of Mines, Government of India in 2009.

Tea at 15:30 hrs.

ALL ARE WELCOME