



## Physical Research Laboratory, Ahmedabad

### COLLOQUIUM - 13 – 18

**Speaker: Dr. Amit Basu Sarbadhikari**  
**PLANEX Group, Physical Research Laboratory, Ahmedabad.**

**Title: Distinct Volatile Reservoirs in the Moon**

#### Abstract

It has been argued for decades whether the moon contains significant quantities of indigenous water. Initial chemical analyses of lunar rocks in the Apollo era turned up virtually no evidence of lunar water. Recent discoveries of water and other volatiles in the lunar volcanic materials indicate that the early evolution of the lunar mantle was influenced by the nature and composition of different volatile species present in it. However, the concentration of those volatiles in the bulk Moon is highly uncertain owing to variation found among the analyzed materials. I have carried out a study on apatite and melt-inclusion in a lunar mare basalt revealing few interesting facts on this heterogeneous distribution of volatiles in the lunar interior, which will be discussed in the colloquium.

#### The Speaker

Dr. Amit Basu Sarbadhikari did his M.Tech in Applied Geology and then obtained his Ph.D. in 2007 from the Indian Institute of Technology (IIT) – Kharagpur. He was postdoctoral fellow at the University of Tennessee, Knoxville, USA and then at the ISEI of Okayama University, Japan, for more than three years. He spent less than one year in Pondicherry University as an Assistant Professor in the Department of Earth Sciences, before joining PRL in 2011 as a faculty member in the PLANEX group. Dr. Amit's research interests are petrology and geochemistry and their application to planetary differentiation processes. One of his important research findings is significant geochemical insights into the enriched mantle source regions of Mars, from petrogenetic study of Martian meteorites. He was a member of the Geochemical Society, Washington University in St. Louis, Earth & Planetary Sciences, during 2012. He has some publications in peer reviewed journals, like Journal of Petrology, Precambrian Research, Meteoritics & Planetary Science, Geochimica et Cosmochimica Acta etc. He also reviewed some scientific articles of peer reviewed international journals.

**Wednesday: 07 August, 2013, 16:00 hrs**

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

**Tea at 15:30 hrs**

**ALL ARE WELCOME**