Physical Research Laboratory

Tuesday Seminar

Paleogene sequences of Jaisalmer basin, Rajasthan - a paleoclimate archive

Abstract

The Jaisalmer basin is the eastern extension of the shelf part of the Indus basin and represents a more or less central part of the "West Rajasthan Shelf" tectonic province that is located to the west of the Aravalli ranges in western India, occupies an area of 42000 sq km and much of it is covered by the modern sand-dunes. Shallow-water sedimentary successions from the Jaisalmer carbonate platform offer a rare opportunity to learn about the Paleocene–Eocene Thermal Maximum (PETM; 55 Ma) and its impact on the shallow-water ecosystems. The PETM representing the extreme warming event in the Cenozoic Era is of particular interest to the Geoscientists since it is considered as an analog to the present climate change. In the studied carbonate samples, the Mn and Sr concentrations and low Mn/Sr ratio (<1) together with the stable and radiogenic isotope data suggest that they are pristine with little diagenetic alterations and have retained their primary isotopic signatures. A prominent negative excursion in $\delta^{13}C$ curves of bulk-rock (- 3‰) is interpreted as the carbon isotope excursion during the PETM. Also, the $\delta^{18}O$ (-6.4 to -9.3‰), values are very similar to PETM carbonate values in the studied samples.

Speaker: Dr. Amitava Patra
PDF, GSDN

Date	Time	Venue
6-March-2018	16:00 hrs	Ground Floor Lecture Hall

All are invited to attend and participate in discussion

Tea at 15:30 hrs

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