Physical Research Laboratory

Tuesday Seminar

Did life originate in ocean-ridge settings?

Abstract

Recent investigations demonstrate that life most likely have originated in the deep ocean when H_2 reacted with CO_2 to form CH_4 via Fischer-Tropsch reaction mechanism. Although it is established that concentration of CO_2 was high in the Archean (4-2.5 Ga) ocean water, uncertainty remained on the process of H_2 generation in the early Earth. Following this, I will show an example of geosphere (rock) - hydrosphere (water) interaction predominantly at ocean-ridge settings, which has the potential to release H_2 as reaction product. Using a combination of natural observations, experimental studies and numerical modeling, I will present how the chemistry of the interacting fluid can influence the reaction products and also how temperature plays an important role on controlling the amount of H_2 generation during such process. This study may therefore provide an insight on the origin of life in the early Earth.

Speaker: Dr. Alik Sundar Majumdar
INSPIRE Faculty, GSDN

Date	Time	Venue
19-December-2017	16:00 hrs	Ground Floor Lecture Hall

All are invited to attend and participate in discussion

Tea at 15:30 Hrs

A .K. Sudheer, Geosciences Division