

Call for Proposals

Ministry of Earth Sciences, Government of India invites innovative proposals under PAMC-Geosciences of REACHOUT Scheme on the following two broad themes:

i) *Integrating Molecular Biology and Geosciences.*

This theme would aim to elucidate the role of biology in the evolution of geological record in from Archean through the time of India's break up from the Gondwana to Holocene using (a) Metagenomics: Ancient-, Environmental-, and Sedimentary- and modern- DNAs; (b) Metabolomics including biomarkers and lipids in organic matter to inform on changes in climate, hydrology, vegetation and biota and, (c) Proteomics to elucidate interactions, function, composition, and structures of proteins in geological sequences.

Proposed thrust areas are:

- a. *Early life*, Mass Extinctions, Biotic Migrations and adaptations, great oxygenation events, Iron in earth crust, terrestrilization of plants.
- b. *Paleoclimatology and surface processes* including improved paleoclimate reconstruction using molecular markers; reconstruction of long-term paleo-records of ecology and tipping points, Holobiomes, drivers (climatic / anthropogenic) of regime shifts in landscapes, paleo fires, weathering, glacier, permafrost, microbes and future pandemics, records of solar activity, Landslides, rock weathering and soil health
- c. *Archeo-Genomics* including evolution of societies, climate induced collapses, population migration and impacts on ecosystems
- d. *Metallogeny and Biomarkers in biomineralization, REEs and Gold recovery.*

The projects durations of the project proposals could be either of 3 or 5 years.

The proposals may be submitted online on <https://reachout.moes.gov.in>

The window for submission of proposal is open till 31st July 2023 midnight.

For any queries related to this call, please contact:

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