Dip **Ghosh**

DST-INSPIRE Faculty

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Department of Geology,
University of Calcutta
35 Ballygunge Circular Road
Kolkata, 700019, India

Education

- **PhD** in Geodynamics from Jadavpur University (2015-2022)
  Title Of Thesis: Mechanisms of melt migration in geodynamic processes: Theoretical and Experimental modelling
- **MSc** in Applied Geology from Jadavpur University (2013-2015)
- **BSc** in Geology from Hooghly Mohsin College (2010-2013)

Professional Experiences:

- DST-INSPIRE faculty at the Department of Geology, University of Calcutta (2023-)

Research Interests:

- Venusian Tectonics and Its relation to Early Earth Geodynamics.
- Melt Migration phenomena in subduction zone.
- Study of LLSVP dynamics and its relation to LIP volcanism.
- Dynamics of Deformable Porous Media.
- Plume-lithosphere interaction

Current Research Project:

Geodynamic modelling of the Venus: a clue to the mechanics of Earth's plate generation. Sponsoring Agency: Department of Science and Technology, Government of India

Awards and Recognitions:

- Qualified for joint **CSIR-UGC NET** to obtain **Junior Research Fellowship** (June 2016)
- Qualified **GATE** in 2016 and 2017

Memberships

- Student member of **American Geophysical Union (AGU)** (2020-)
- Member of **Structural Geology and Tectonic Studies Group of India SGTSTI** (2021-)

Publications

- **Dip Ghosh**, Giridas Maiti, Nibir Mandal and Amiya Baruah. "Cold Plumes Initiated by Rayleigh-Taylor Instabilities in Subduction Zones, and Their Characteristic Volcanic Distributions: The Role of Slab Dip." ***Journal of Geophysical Research: Solid Earth*** 125.8 (2020). DOI:10.1029/2020JB019814

- **Dip Ghosh**, Giridas Maiti, and Nibir Mandal. "Slab-parallel advection versus Rayleigh-Taylor instabilities in melt-rich layers in subduction zones: a criticality analysis." ***Physics of the Earth and Planetary Interiors*** 307 (2020). DOI:10.1016/j.pepi.2020.106560

Selected Conference Presentations

- Joyjeet Sen, **Dip Ghosh**, Nibir Mandal and Shamik Sarkar: Development of Mid Ocean Ridges (MORs): an insight from analogue modelling, *Rock Deformation and Structure Conference (RDS-V)*, 2018

- **Dip Ghosh** and Nibir Mandal: Dynamics of partially molten layers on subducting slabs in subduction zones: Insights from theory and experiments, *AGU Fall Meeting Abstracts*, 2020

- **Dip Ghosh**, Giridas Maiti, and Nibir Mandal: Late Cenozoic volcano distribution patterns in the Andean subduction system: a consequence of gravitational instabilities in melt-rich source layer, *Rock Deformation and Structure Conference (RDS-VI)*, 2021

Online Articles

- Rayleigh-Taylor instability in geodynamics, European Geoscience Union, Geodynamics division Blog, 2021