

Joyjeet Sen

Email: senjoyjeet@earth.sinica.edu.tw

128. Sec 2, Academia Road, Nangang, Taipei 11529, Taiwan

Office : +886-2-2783-9910 ext. 1523

Work Experience

March 2026-

March 2020 – Feb 2025

Feb 2018 – Feb 2020

PDF, Institute of Earth Sciences, Academia Sinica, Taipei, Taiwan

SRF, JUGEodynamics Lab, Jadavpur University, India

JRF, JUGEodynamics Lab, Jadavpur University, India

Education Department of Geological Sciences, Jadavpur University, Kolkata, India

- **Ph.D. in Science** **2018-2025**
Topic: Underlying dynamics of lithospheric plates and their controls on surface topography;
Advisor: Prof. Nibir Mandal
- **M.Sc. in Applied Geology** **2014-2016**
Dissertation: Indian cratonic deformation and its implication on first-order surface topography: an experimental study
- **B.Sc. in Geological Sciences** **2011-2014**
Dissertation: Martian tectonics

Research Interests Geodynamics, Tectonics, Numerical modelling, Analogue modelling

Publications

- Dasgupta, R., Sen, J., & Mandal, N. (2021). Bending curvatures of subducting plates: old versus young slabs. *Geophysical Journal International*, 225(3), 1963-1981. <https://doi.org/10.1093/gji/ggab070>
- Maiti, G., Roy, A., Sen, J., & Mandal, N. (2021). Impact of Decelerating India-Asia Convergence on the Crustal Flow Kinematics in Tibet: An Insight From Scaled Laboratory Modeling. *Geochemistry, Geophysics, Geosystems*, 22(11), e2021GC009967. <https://doi.org/10.1029/2021GC009967>
- Sen, J., Sarkar, S., & Mandal, N. (2023). Control of mush complex viscosity on mid-ocean ridge topography: A fluid–structure model analysis. *Physics of Fluids*, 35(6). <https://doi.org/10.1063/5.0152667>
- Ghosh, D., Sen, J., & Mandal, N. (2024). Periodicity in the Deccan volcanism modulated by plume perturbations at the mid-mantle transition zone. *Journal of Geophysical Research: Solid Earth*, 129(6), e2024JB029020. <https://doi.org/10.1029/2024JB029020>
- Ghosh, D., Sen, J., & Mandal, N. (2026). Rift-Induced Repositioning of Mantle Plumes Beneath the Indian Lithosphere: Implications for Deccan Volcanism. In revision, in *Journal of Geophysical Research: Solid Earth (Manuscript id: 2025JB031576)* (doi: [10.31223/X59Q73](https://doi.org/10.31223/X59Q73))
- Sen, J., Roy, A., & Mandal, N. (2026). Decoding the Eastward Tilt of the Indian Peninsular Plateau: Insights from Geodynamic Modelling. Under review in *Geosphere*. (Manuscript id: GS2905)
- Sen, J., Sarkar, S., & Mandal, N. (2026). Complexity in the 3D stress fields of mid-ocean ridge tectonics: a manifestation of sub-crustal mush dynamics. Under review in *Acta Geologica Sinica*. (Manuscript id: AGS-2025-194)