Debanjan Pal

Graduate student (5th year) Computational Geodynamics Lab Centre for Earth Sciences Indian Institute of Science CV Raman Road, Bangalore-5600012 Karnataka

Education

Indian Institute of Science (IISc)

Ph.D. (5th year), Research Interest: Geodynamics

Jadavpur University

M.Sc Applied Geology

Jadavpur University

B.Sc Geology

2019 - Present

Bangalore - 12, Karnataka

2016 - 2018

Kolkata-32, West Bengal

2013 - 2016

Kolkata-32, West Bengal

Awards and Achievements

- Received SERB-DST International Travel Grant, Govt. of India, 2023.
- Received Shyama Prasad Mukherjee Fellowship, 2021.
- Junior Research Fellowship, Indian Institute of Science, 2019.
- All India Rank (AIR) 12 in National Eligibility Test (NET), 2019.
- AIR 56 in Graduate Aptitude Test in Engineering (GATE), 2019.
- Industrial summer internship in Oil and Natural Gas Corporation Limited, 2018.
- Silver Medal in National Mathematical Olympiad, 2009.

Teaching Experience

Course name: Earth Science Laboratory (ES207), IISc Bangalore.
Course syllabus: Introduction to plotting maps, vectors, and dataset rasters and data interpolation using Generic Mapping Tool (GMT). Solving and interpreting simple geodynamic problems.

Professional skills

- Programming language used: C, Python, Fortran, JAVA and MATLAB
- Experienced with Ubuntu OS and shell scripting.
- Extensive working experience with HPC systems.
- Software: GPlates, Paraview, Adobe Illustrator, Corel Draw, ArcGIS, LaTeX
- Geodynamic packages used: CitcomS, I2ELVIS, HC (Hager & O'Connell flow computation), pyGPlates and GMT.

Student Membership

American Geophysical Union

Publications

- **D. Pal***, A. Ghosh, Present day mantle structure from global mantle convection models since the Cretaceous, submitted in Geophysical Journal International (under 2nd revision, Editorial decision: minor revision).
- **D. Pal***, A. Ghosh, How the Indian Ocean Geoid Low was Formed, Geophysical Research Letters, 50, e2022GL102694, https://doi.org/10.1029/2022GL102694, 2023.
 - (This paper was featured in various media outlets like Scientific American, New Scientist, The Guardian, CNN, and The Washington Post, Communications of the ACM).
- A. Ghosh*, D. Pal, Do lower mantle slabs contribute in generating the Indian Ocean Geoid Low?, Tectonophysics, 822, https://doi.org/10.1016/j.tecto.2021.229176, 2022.
- **D. Pal**, A. Ghosh, What caused the speed-up of the Indian plate during late Cretaceous to early Cenozoic? (manuscript under preparation).
 - * Corresponding author of the paper

Conference Abstracts

- **D. Pal**, A. Ghosh, Reproducing the present-day mantle structure using forward mantle convection models since the Cretaceous. AGU Fall meeting, San Francisco, California, 2023.
- **D. Pal**, A. Ghosh, What caused the speed-up of the Indian Plate during the late Cretaceous to early Cenozoic? AGU Fall meeting, San Francisco, California, 2023.
- A.Ghosh, D.Pal, Formation of the enigmatic Indian Ocean geoid low, AGU Fall meeting, San Francisco, California, 2023.
- **D. Pal**, A. Ghosh, Predicting the origin of the Indian Ocean Geoid Low from global mantle convection models since the Cretaceous, AGU Fall meeting, Virtual, 2022.
- **D. Pal**, A. Ghosh, How the Indian Ocean Geoid low was formed, 7th National Conference on Rock Deformation and Structures, Banaras Hindu University, Varanasi, Uttar Pradesh, 2022.