

Curriculum vitae

Dibyashakti Panda

Doctor of Philosophy

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PERSONAL INFORMATION

Date of Birth: 13th November, 1993

Birth Place: Odisha, India

Citizenship: Indian

EDUCATION

2016-2021: **Doctor of Philosophy (PhD)**, NIT Rourkela

Advisor: Bhaskar Kundu

Topic: Geodynamics of the Indo-Burmese Arc: Northwest Sunda Arc

2014-2016: **Master of Science (MSc)** in Applied Geology, NIT Rourkela, Odisha, India (94%; Institute Silver Medal)

2011-2014: **Bachelor of Science (BSc)** in Geology (Honors), Dharanidhar (Autonomous) College, Odisha, India (80.33%)

RESEARCH AND TEACHING INTERESTS

- Crustal deformation; active tectonics; plate-motion characterization; and earthquake potential estimation across fault systems (e.g., the Indo-Burmese Arc, the Eastern Himalayan Syntaxis, the Himalayan Arc, and the Karakoram Fault System in Northwest India)
- Tectonic and climatic interactions process (e.g., the seasonal dependency of micro-seismicity modulation in the Himalayas); plate-interior vs. plate-boundary deformation (e.g., the New Madrid Seismic Zone, central United States)
- Reservoir-induced seismicity (e.g., seismicity associated with the Tehri and Koyna-Warna Reservoir, India); the influence of anthropogenic activity on seismicity modulation (e.g., the 2015 Magnitude 7.8 Gorkha Nepal earthquake, the 2017 Magnitude 7.3 Iran-Iraq border earthquake)

- Lithosphere-Ionosphere coupling processes (e.g., change in Ionospheric electron content due to earthquakes and solar eclipse); volcano-induced lithospheric deformation process (e.g., magmatic and faulting processes in the May 2018 eruptive sequence at Kīlauea volcano, Hawaii)
- Volcano-tectonic interaction process and its possible dependency on rainfall event (e.g., the role of extreme rainfall events and volcano-tectonic deformation process at Mount Etna, Italy)
- Climate-induced seasonal deformation and associated seismicity modulation process using geodetic and satellite data (e.g., deep slow-slip event along the Himalayan Arc controlled by seasonal hydrologic loading)
- During my PhD studies, I did basic theory classes of Structural Geology; Active Tectonics; Tectonic Geodesy; and Geophysical Methods. I have also conducted practical classes related to Structural Geology, along with field training program (e.g., Rourkela, India, and surrounding regions) for undergraduate students

GRANTS & AWARDS

- 2020: Qualified National Eligibility Test (NET) for Lectureship/Assistant Professor (All India Rank: 1)
- 2019: Second position in Science Category during Research Scholars Week (RSW), NIT Rourkela
- 2018: Received International Travel Support from Science and Engineering Research Board (SERB), India for American Geophysical Union (AGU) Fall Meeting 2018, Washington D.C., United States of America
- 2018: Received AGU Student Travel Grant for AGU Fall Meeting 2018, Washington D.C., United States of America
- 2017: Awarded Institute Silver Medal in M.Sc. Applied Geology (2014-2016) from NIT Rourkela
- 2016, 2017: Qualified GATE: 2016 (All India Rank- 596); 2017 (All India Rank- 389)
- 2014-2016: Awarded scholarship from Institute of Mathematics and Applications, Bhubaneswar, Odisha

PUBLICATIONS (Under Review)

- **Panda, D.**, Samanta, S., Singh, M.D., Gahalaut, V.K. and Kundu, B. (2021) Low effective fault strength of a blind detachment beneath the Indo-Burmese Arc (NE-India) induced by frictional-viscous flow. *Journal of Earth System Science*
- Senapati, B., **Panda, D.**, Kundu, B. and Gahalaut, V.K. (2021) Solid-Earth tide modulations of 2019 Ridgecrest Earthquake sequence, California: Any link with Coso geothermal field? *Pure and Applied Geophysics*
- Sahoo, S., Tiwari, D., **Panda, D.**, & Kundu, B. (2021). Eruption cycles of the Mount Etna triggered by seasonal climatic Rainfall. *Journal of Geodynamics*

- Senapati, B., Kundu, B., **Panda, D.**, Tiwari, D., & Yadav, R. K. (2021). Double Puzzle” at the Shumagin seismic gap, Alaska Peninsula: A consequence of Heterogeneous fault friction on subduction megathrust. *Geophysical Research Letters*
- Sen, R., **Panda, D.** and Kundu, B. (2021) Sustaining mountain height below the tectonically supported elevation: as a proxy for cessation of active convergence. *Tectonics*

Published manuscripts

- Sahoo, S., Senapati, B., **Panda, D.**, Tiwari, D.K., Santosh, M. and Kundu, B. (2021) Tidal triggering of micro-seismicity associated with caldera dynamics in the Juan de Fuca ridge. *Journal of Volcanology and Geothermal Research* 107319 (Impact Factor: 2.61)
- **Panda, D.**, Kundu, B., Gahalaut, V.K. and Rangin, C. (2020) India-Sunda Plate Motion, Crustal Deformation, and Seismic Hazard in the Indo-Burmese Arc. *Tectonics*, 39(8), e2019TC006034 (Impact Factor: 3.58)
- Senapati, B., Huba, J.D., Kundu, B., Gahalaut, V.K., **Panda, D.**, Mondal, S.K. and Catherine, J.K. (2020) Change in Total Electron Content During the 26 December 2019 Solar Eclipse: Constraints from GNSS Observations and Comparison with SAMI3 Model Results. *Journal of Geophysical Research: Space Physics*, 125(10), e2020JA028230 (Impact Factor: 2.79)
- Kundu, B., Yadav, R.K., Bürgmann, R., Wang, K., **Panda, D.** and Gahalaut, V.K. (2020) Triggering relationships between magmatic and faulting processes in the May 2018 eruptive sequence at Kīlauea volcano, Hawaii. *Geophysical Journal International*, 222(1), 461-473 (Impact Factor: 2.57)
- Kundu, B., Yadav, R.K., Gahalaut, V.K. and **Panda, D.** (2020) The January 23, 2018 M7.9 Kodiak earthquake, Alaska: A consequence of slip partitioning in the outer rise region. *Journal of Geodynamics*, 101732 (Impact Factor: 2.35)
- **Panda, D.**, Kundu, B., Gahalaut, V.K., Bürgmann, R., Jha, B., Asaithambi, R., Yadav, R.K., Vissa, N.K. and Bansal, A.K. (2020) Reply to “A warning against over-interpretation of seasonal signals measured by the Global Navigation Satellite System”. *Nature Communications*, 11(1), 1-2 (Impact Factor: 12.12)
- **Panda, D.**, Kundu, B. and Gahalaut, V.K. (2020) Earthquakes in the Himalaya. H. K. Gupta (ed.), *Encyclopedia of Solid Earth Geophysics*, Encyclopedia of Earth Sciences Series, https://doi.org/10.1007/978-3-030-10475-7_263-1
- **Panda, D.**, Mondal, A. and Kundu, B. (2019) Eastward “glacier-like flow” of the Tibetan crust constrained from power-law rheology. *Journal of Asian Earth Sciences*, 177, 129-133 (Impact Factor: 3.41)
- Kundu, B., Vissa, N.K., Gahalaut, K., Gahalaut, V.K., **Panda, D.** and Malik, K. (2019) Influence of anthropogenic groundwater pumping on the 2017 November 12 M 7.3 Iran–Iraq border earthquake. *Geophysical Journal International*, 218(2), 833-839 (Impact Factor: 2.57)
- **Panda, D.**, Senapati, B., Tyagi, B. and Kundu, B. (2019) Effects of Rayleigh-Taylor instability and ionospheric plasma bubbles on the global navigation satellite System signal. *Journal of Asian Earth Sciences*, 170, 225-233 (Impact Factor: 3.41)

- **Panda, D.**, Kundu, B., Gahalaut, V.K. and Rangin, C. (2018) Crustal deformation, spatial distribution of earthquakes and along strike segmentation of the Sagaing Fault, Myanmar. *Journal of Asian Earth Sciences*, 166, 89-94 (Impact Factor: 3.41)
- **Panda, D.**, Kundu, B., Gahalaut, V.K., Bürgmann, R., Jha, B., Asaithambi, R., Yadav, R.K., Vissa, N.K. and Bansal, A.K. (2018) Seasonal modulation of deep slow-slip and earthquakes on the Main Himalayan Thrust. *Nature communications*, 9(1), 4140 (Impact Factor: 12.12)
- **Panda, D.**, Kundu, B. and Santosh, M. (2018) Oblique convergence and strain partitioning in the outer deformation front of NE Himalaya. *Scientific Reports*, 8(1), 10564 (Impact Factor: 3.99)
- Kundu, B., **Panda, D.**, Gahalaut, V.K. (2018) Non-tectonic signals in tectonic geodesy *Current Science*, 115, 822-825 (Impact Factor: 0.75)
- Kundu, B., **Panda, D.**, Gahalaut, V.K. and Catherine, J.K. (2018) The 2017 August 21 American total solar eclipse through the eyes of GPS. *Geophysical Journal International*, 214(1), 651-655 (Impact Factor: 2.57)
- Kundu, B., Vissa, N.K., **Panda, D.**, Jha, B., Asaithambi, R., Tyagi, B. and Mukherjee, S. (2017) Influence of a meteorological cycle in mid-crustal seismicity of the Nepal Himalaya. *Journal of Asian Earth Sciences*, 146, 317-325 (Impact Factor: 3.41)

PUBLICATION CITATIONS

Google Scholar: <https://scholar.google.co.in/citations?user=G8oJVzUAAAJ&hl=en>

ResearchGate: https://www.researchgate.net/profile/Dibyashakti_Panda

Website: <https://www.tectonicgeodesylab.in/our-team>

CONFERENCE PROCEEDINGS

- **Panda, D.** and Kundu, B. (2019) Seasonal modulation of deep slow-slip and earthquakes on the Main Himalayan Thrust. *Research Scholars Week, NIT Rourkela*
- **Panda, D.** and Kundu, B. (2019) Oblique convergence, strain partitioning and associated geodynamic complexities in NW and NE Himalaya. *International Workshop on Climate Change and Extreme Events in the Himalayan Region. Indian Institute of Technology Mandi*
- **Panda, D.** Kundu, B., Gahalaut, V.K., Bürgmann, R., Jha, B., Asaithambi, R., Yadav, R.K., Vissa, N.K. and Bansal, A.K. (2018) Seasonal modulation of deep slow slip and earthquakes on the Main Himalayan Thrust. *AGU Fall Meeting, Washington D.C., United States of America*
- **Panda, D.** Kundu, B., Gahalaut, V.K. and Rangin, C. (2018) Crustal deformation, earthquake occurrence process and along strike segmentation of Sagaing Fault, Myanmar. *National Seminar on Dynamics of Surface and Sub-Surface Geological Processes, Pondicherry University*

ANALYTICAL / NUMERICAL SKILLS

- MATLAB (Numerical analysis of Geodetic and Tidal stress time series; Periodicity analysis in time series; Euler pole estimation from geodetic observations, COULOMB package)
- LINUX
- Python (basic understating and working)
- Analytical Code
- Graphical presentation (Grapher, Surfer, Global Mapper, 3DEM, GMT, CorelDraw)
- Regular office applications