



## Faculty Details proforma for DU Web-site

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cc: [director@ducc.du.ac.in](mailto:director@ducc.du.ac.in))

Title	Dr.	First Name	Anupam	Last Name	Chattopadhyay	Photograph
Designation	Professor					
Address	Dept. of Geology, 34, Chhatra Marg, University of Delhi (North Campus), Delhi 110 007.					
Phone No	Office	27667073 (off.) Extn: 219				
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Educational Qualifications		
Degree		Year
Ph.D.	Jadavpur University	1999
M.Phil. / M.Tech.		
PG	Jadavpur University	1990
UG	Jadavpur University, Kolkata	1987
Any other qualification		

### Career Profile

Organization	Position	Duration	Responsibilities
Geological Survey of India	Geologist	1994-2003	Scientific research work and related administration
University of Delhi	Reader	2003-2006	Teaching and Research, Research guidance
University of Delhi	Associate Professor	2006-2009	- do-
University of Delhi	Professor	2009-present	- do-

### Administrative Assignments

- 1) Head of the Department of Geology: Sept. 2020 -
- 2) Member, Board of Research Studies (Science), University of Delhi: 2005-2007, 2015-17, 2019-
- 3) Member, Faculty of Science, University of Delhi: 2009-2012, 2017-till date
- 4) Served earlier on various administrative committees of the Dept. of Geology, including Committee of Courses, Departmental Research Committee, Admission committee etc. and actively participated in syllabus revision as the Convenor, Syllabus Revision Committee.

### Areas of Interest / Specialization

**Structural Geology:** Precambrian fold-thrust belts, Analog modeling of structures, Fault reactivation, Fault-related seismicity of Indian craton.

### Subjects Taught

- 1) **Structural Geology & Tectonics:** B.Sc. III Semester (old), Integrated B.Sc. (Hons) Geology-M.Sc. Geology III Semester, B.Sc. (Hons) Geology (CBCS)- II Sem.
- 2) **Deformation, Rheology and Tectonics:** M. Sc. (Integrated) Earth Sc. VII Semester
- 3) **Structural geology:** M.Sc. I Semester
- 4) **Precambrian geology of India:** M.Sc. II (old course)
- 5) **Earthquake Geology and Seismotectonics:** Integrated B.Sc. (Hons) Geology-M.Sc. Geology X<sup>th</sup> Semester

## Research Guidance

List against each head (If applicable)

1. Supervision of awarded Doctoral Thesis: **Six**
2. Supervision of Doctoral Thesis, under progress: **five** (including one PhD thesis submitted in DU, One PhD joint Supervision at Hiroshima University, Japan)
3. Supervision of awarded M.Phil dissertations: **One**
4. Supervision of M.Phil dissertations, under progress:

## Publications Profile

### A. Papers in Referred Journals (Peer-reviewed):

1. Sarkar, A., **Chattopadhyay, A.** (2020) Microstructure and geochemistry of pseudotachylyte veins from Sarwar-Junia Fault Zone, India: Implications for frictional melting process in a seismic fault zone. *Geological Journal*, 1–29. doi: <https://doi.org/10.1002/gj.3900>
2. **Chattopadhyay, A.** (2020) Proterozoic Orogenesis and Crustal Evolution in The Central Indian Tectonic Zone: Current Understanding from Recent Works. *Proceedings of the Indian National Science Academy (PINS)*, 86, 99-106.
3. Sarkar, A., Bhattacharjee, D., **Chattopadhyay, A.** (2020) Size distribution of survivor clasts in pseudotachylyte and cataclasite: Implications for crushing and melting processes in seismic fault zones. *Journal of Earth System Science*, 129, 216: doi <https://doi.org/10.1007/s12040-020-01480-3>
- 4.
5. Hatui, K., **Chattopadhyay, A.** (2020) Modification of pre-existing folds in a shear zone: A case study from Kumbhalgarh–Ranakpur area, South Delhi Fold Belt, Rajasthan, India. *Journal of Earth System Science*, 129, 126: doi <https://doi.org/10.1007/s12040-020-01395-z>
6. **Chattopadhyay, A.**, Bhattacharjee, D., Srivastava, S. (2020) Neotectonic fault movement and intraplate seismicity in the central Indian shield: A review and reappraisal. *Journal of Mineralogical and Petrological Sciences*, 115, 138–151.
7. Sarkar, D.P., Ando, Jun-ichi, Das, K., **Chattopadhyay, A.**, Ghosh, G., Shimizu, K., Ohfuji, H. (2020) Serpentinite enigma of the Rakhabdev lineament in western India: Origin, deformation characterization and tectonic implications. *Journal of Mineralogical and Petrological Sciences*, 115, 216-226.
8. Arora, D., Pant N., Pandey, M., **Chattopadhyay, A.**, Greenbaum, J., Siegert, M., Bo, S., Blankenship, D., Chalapathi Rao, N. V., Bhandari, A. (2020) Insights into geological evolution of Princess Elizabeth Land, East Antarctica-clues for continental suturing and breakup since Rodinian time. *Gondwana Research* 84, 260–283.
9. **Chattopadhyay, A.**, Bhowmik, S. K., Roy, A. (2020) Tectonothermal evolution of the Central Indian Tectonic Zone and its implications for Proterozoic supercontinent assembly: the current status. *Episodes*, doi:

<https://doi.org/10.18814/epiugs/2020/020008>

10. Ghosh, N., Hatui, K, **Chattopadhyay, A.** (2019) Evolution of fault patterns within a zone of pre-existing pervasive anisotropy during two successive phases of extensions: an experimental study. *Geo-Marine Letters*, doi: <https://doi.org/10.1007/s00367-019-00627-6>
11. **Chattopadhyay, A.**, Bhattacharjee, D. (2019) Repeated reactivation of the Gavilgarh-Tan Shear Zone, Central India: Implications for the tectonic survival of deep-seated intra-continental fault zones. *Journal of Asian Earth Sciences*, 104051; doi: <https://doi.org/10.1016/j.jseae.2019.104051>
12. Sarkar, A., **Chattopadhyay, A.**, Singh, T. (2019) Roundness of survivor clasts as a discriminator for melting and crushing origin of fault rocks: a reappraisal. *Journal of Earth System Science* (In Press) (<https://doi.org/10.1007/s12040-019-1072-2>).
13. Ghosh, N., Hatui, K, **Chattopadhyay, A.** (2019) Propagation and coalescence of en-echelon cracks under a far-field tensile stress regime: an experimental study. *Journal of Earth System Science* 128:23; (<https://doi.org/10.1007/s12040-018-1056-7>)
14. Mishra, B. K., Bhattacharjee, D., **Chattopadhyay, A.**, Prusty, G. (2018) Tectonic and lithologic control over landslide activity within the Larji–Kullu Tectonic Window in the Higher Himalayas of India. *Natural Hazards* 92, 673-697; (doi: <https://doi.org/10.1007/s11069-018-3219-x>)
15. **Chattopadhyay, A.**, Chatterjee, A., Das, K., Sarkar, A. (2017) Neoproterozoic transpression and granite magmatism in the Gavilgarh-Tan Shear Zone, central India: Tectonic significance of U-Pb zircon and U-Th- total Pb monazite ages. *Journal of Asian Earth Sciences* 147, 485-501.
16. **Bhattacharjee, D., Jain, V., Chattopadhyay, A., Biswas, R. H., Singhvi, A. K.** (2016) Geomorphic evidence and chronology of multiple neotectonic events in a cratonic area: results from Gavilgarh Fault Zone, central India. *Tectonophysics* 677-678, 199-217.
17. **Chattopadhyay, A.** (2015) Discussion on: “Carbon and oxygen isotope systematic of a Paleoproterozoic cap-carbonate sequence from the Sausar Group, central India by S. Mohanty, A. Barik, S. Sarangi and A. Sarkar” *Palaeogeography, Palaeoclimatology, Palaeoecology* 433, 156-157.
18. **Chattopadhyay, A.**, Das, K., Hayasaka, Y., Sarkar, A. (2015) Syn- and post-tectonic granite plutonism in the Sausar Fold Belt, central India: Age constraints and tectonic implications. *Journal of Asian Earth Sciences* 107, 110-121. (doi: <http://dx.doi.org/10.1016/j.jseae.2015.04.006>)
19. **Chattopadhyay, A.**, Jain M. and Bhattacharjee, D. (2014) Three dimensional geometry of thrust surfaces and the origin of sinuous thrust traces in orogenic belts: insights from scaled sandbox experiments. *Journal of Structural Geology* 69, 122-137. doi: <http://dx.doi.org/10.1016/j.jsg.2014.09.020>.
20. **Chattopadhyay, A.**, Bhattacharjee, D. and Mukherjee, S. (2014) Structure of pseudotachylite vein systems as a key to co-seismic rupture dynamics: the case of Gavilgarh-Tan shear zone, central India. *International Journal of Earth Sciences (Geol. Rundsch.)* 103, 953-965.
21. Deol, S., **Chattopadhyay, A.** and Deb, M. (2014) Deformation and metamorphism of gold-sulphide lodes in the Bhukia-Jagpura gold prospect, Rajasthan: Implications for ore genesis. *Journal of Earth System Science*, 123/1 (February 2014), 1-13.
22. Ghosh, N., Chakra, M. and **Chattopadhyay, A.** (2014) An experimental approach to strain pattern and folding in unconfined and/or partitioned transpressional deformation. *International Journal of Earth*

*Sciences (Geol. Rundsch.)*, 103, 349-365.

23. **Chattopadhyay, A.** and Chakra, M. (2013) Influence of pre-existing fabrics on fault patterns during orthogonal and oblique rifting: an experimental approach. *Marine and Petroleum Geology* 39, 74-91.
24. Mandal, N., **Chattopadhyay, A.**, Srivastava, H.B., Biswal, T. K. and Bose, S. (2012) Brittle and ductile deformational structures in tectonic zones: the research trends in India. *Proceedings of the Indian National Science Academy (PINSa)* 78, 373-384.
25. Bhowmik, S.K., **Chattopadhyay, A.**, Gupta, S. and Dasgupta, S. (2012) Proterozoic tectonics: an Indian perspective. *Proceedings of the Indian National Science Academy (PINSa)* 78, 385-391.
26. **Chattopadhyay, A.** and Khasdeo, L. (2011) Structural Evolution of Gavilgarh-Tan shear zone, central India: A possible case of partitioned transpression during Mesoproterozoic oblique collision within the Central Indian Tectonic Zone. *Precambrian Research* 186, 70-88.
27. **Chattopadhyay, A.** (2011) Contrasting tail-geometry around K-feldspar porphyroclasts in granite-mylonite, central India (photo-of-the-month). *Journal of Structural Geology* 33, p.423.
28. **Chattopadhyay, A.**, Holdsworth, R.E., McCaffrey, K.J.W. and Wilson, R.W. (2010) Recording and analyzing geospatially accurate structural data through 'Digital Mapping' technique: a case study from the Canisp Shear Zone, NW Scotland. In: *M. A. Mamtani (Ed.) Structural Geology: from Classical to Modern Concepts. Spl. Issue, Journal of Geological Society of India*, 75, 43-59.
29. **Chattopadhyay, A.** and Holdsworth, R. E. (2009) Photo-of-the-month: Ductilely deformed pseudotachylite layer in sheared granite of Gavilgarh-Tan Shear Zone, central India. *Journal of Structural Geology* 31, p. 353.
30. **Chattopadhyay, A.**, Khasdeo, L., Holdsworth, R. E. and Smith, S. A. F. (2008) Fault reactivation and pseudotachylite generation in the semi-brittle and brittle regimes: Examples from Gavilgarh-Tan shear zone, central India. *Geological Magazine* 145(6), pp. 766-777.
31. Ghosh, N. and **Chattopadhyay, A.** (2008) The initiation and linkage of surface fractures above a buried strike-slip fault: an experimental approach. *Jour. Earth Syst. Sci.* 117, 23-32.
32. **Chattopadhyay, A.** and Ghosh, N. (2007) Polyphase deformation and garnet growth in pelitic schists of Sausar Group in Ramtek area, Maharashtra, India: A study of porphyroblast-matrix relationship. *Jour. Earth Syst. Sci.* 116, 423-432.
33. Roy, Abhijit, Kagami, H., Yoshida, M., Roy, A., Bandyopadhyay, B.K., **Chattopadhyay, A.**, Khan, A.S., Huin, A. K. and Pal, T. (2006) Rb-Sr and Sm-Nd dating of different metamorphic events in Sausar Mobile Belt, Central India: implications for Proterozoic crustal evolution. *Jour. Asian Earth Sci.* 26, 61-76.
34. **Chattopadhyay, A.**, Huin, A.K. and Khan, A.S. (2003) Structural framework of Deolapar area, central India and its implications for Proterozoic nappe tectonics: [Reply to comments](#). *Gondwana Research Newsletter*, 6, 936-937.
35. **Chattopadhyay, A.**, Khan, A.S., Huin, A.K. and Bandyopadhyay, B. K. (2003) Reinterpretation of stratigraphy and structure of Sausar Group in Ramtek-Mansar-Kandri area, Maharashtra, central India: [Reply to comments](#). *Jour. Geol. Soc. Ind.* 61, 743-747.
36. **Chattopadhyay, A.**, Huin, A.K. and Khan, A.S. (2003) Structural framework of Deolapar area, central India and its implications for Proterozoic nappe tectonics. *Gondwana Research*, 6, 107-117.

37. **Chattopadhyay, A.**, Khan, A.S., Huin, A.K. and Bandyopadhyay, B. K. (2003) Reinterpretation of stratigraphy and structure of Sausar Group in Ramtek-Mansar-Kandri area, Maharashtra, central India. *Jour. Geol. Soc. Ind.*, 61, 75-89.
38. **Chattopadhyay, A.** and Mandal, N. (2002). Progressive changes in strain patterns and fold styles in a deforming ductile orogenic wedge: an experimental study. *Jour. Geodynamics*, 33, 353-376.
39. Kano, T., Yoshida, M., Wada, H., Satish Kumar, M., Roy, A., Bandyopadhyay, B.K., Khan, A.S., Pal, T., Huin, A.K., Bhowmik, S.K. and **Chattopadhyay, A.** (2001) Field studies in the Sakoli and Sausar Belts of the Central Indian tectonic Zone. *Jour. Geosci., Osaka City University*, 44, 17-39, Japan

**B. Papers/Articles in Special Publications/Books (Peer-reviewed):**

40. Mukherjee, I., **Chattopadhyay, A.**, Deb M. (2018) Deformation of pyrite at varying metamorphic grades in sediment-hosted base metal sulphide deposits of Rajasthan, India. In: Mandal, M.E.A. (Ed.) Precambrian Crustal Evolution of India: Geological and Geodynamic Perspective. Springer (SES series) – Springer Nature; 221-238.
41. Bergh, S.G., Corfu, F., Myhre, P. I., Kullerud, K., Armitage, P.B.E., Zwaan, K. B., Ravna, E.K., Holdsworth, R.E., **Chattopadhyay, A.** (2012). Was the Precambrian Basement of Western Troms and Lofoten-Vesterålen in Northern Norway Linked to the Lewisian of Scotland? A Comparison of Crustal Components, Tectonic Evolution and Amalgamation History. In: Sharkov, E. (Ed.) *Tectonics - Recent Advances*, ISBN: 978-953-51-0675-3, InTech, Netherlands: <http://www.intechopen.com/books/tectonics-recent-advances>
42. **Chattopadhyay, A.** (2010) A review of the structural Characteristics of orogenic gold deposits, with special reference to Indian gold fields. In: *Deb, M. and Goldfarb, R. J. (Eds.) Gold Metallogeny: India and beyond. Alpha Science, Oxford & Narosa Publ. New Delhi*; pp. 123-153.
43. Deol, S., Deb, M. and **Chattopadhyay, A.** (2010) Bhukia-Jagpura gold prospect: a preferred genetic model. In: *Deb, M. and Goldfarb, R. J. (Eds.) Gold Metallogeny: India and beyond. Alpha Science, Oxford & Narosa Publ. New Delhi*; pp. 234-255.
44. **Chattopadhyay, A.** and Bandyopadhyay, B. K. (2004) Fold-thrust tectonics of the Sausar Fold belt and its bearing on the adjacent high pressure metamorphic rocks. In: *Uniformitarianism revisited: comparison between ancient and modern orogens of India (IGCP-453). Geological. Survey of India Special Publication # 84*, 319-330.
45. Deb, M. and **Chattopadhyay, A.** (2004). Westward extension of Central Indian Tectonic Zone into Aravalli-Delhi Orogenic Belt: a refinement of the earlier views. In: *Uniformitarianism revisited: comparison between ancient and modern orogens of India (IGCP-453). Geological. Survey of India Special Publication # 84*, 341-350
46. **Chattopadhyay, A.**, Bandyopadhyay, B. K. and Khan, A.S. (2001) Geology and Structure of the Sausar Fold Belt: A retrospection and some new thoughts. *Geological. Survey of India Special Publication# 64*, p.251-263.
47. Mandal, N., **Chattopadhyay, A.** and Bose, S. (1997). Imbricate thrust spacing: experimental and theoretical analyses. In: S. Sengupta (Ed.) *Evolution of Geologic Structures in Macro- to Micro-scale. Chapman and Hall, London*. 143-165.

**C. Abstracts/Posters/Presentations in Symposia (last 5 years only)**

1. Srivastava, S., Ali, M., Bhattacharjee, D., **Chattopadhyay, A.** (2021) Synergic Analysis of Seoni Earthquake

2020 Using SAR Dataset: Implication for Intraplate Seismicity in Central India. National Seminar on Recent advances in Geoscience Research in India, Dept. of Geology, University of Delhi (online)

2. Ghosh, T., Srivastava, S., Verma, G., **Chattopadhyay, A.** (2021) Applying Digital Mapping Techniques to Identify Superposed Deformations and Their Effect on ore remobilisation in Pur-Banera Belt, Bhilwara Supergroup, Rajasthan. National Seminar on Recent advances in Geoscience Research in India, Dept. of Geology, University of Delhi (online)
3. Ghosh, T., Srivastava, S., Verma, G., **Chattopadhyay, A.** (2018) GIS-based digital mapping and structural analysis of Pb-Zn bearing metasediments of Pur-Banera belt, Bhilwara Supergroup, Rajasthan. 5<sup>th</sup> Conference and Workshop on Rock Deformation and Structures (RDS-V), University of Delhi.
4. Hatui, K., **Chattopadhyay, A.** (2018) Structural analysis of parts of South Delhi Fold Belt around Kumbhalgarh-Sayra-Ranakpur area, Rajasthan, western India. 5<sup>th</sup> Conference and Workshop on Rock Deformation and Structures (RDS-V), University of Delhi.
5. Sarkar, A., Singh, T., **Chattopadhyay, A.** (2018) Roundness of survivor clasts as a discriminator for the melting vis-à-vis crushing origin of fault rocks: A Reappraisal. 5<sup>th</sup> Conference and Workshop on Rock Deformation and Structures (RDS-V), University of Delhi.
6. **Chattopadhyay A.** (2018) Fault reactivation, intracontinental seismicity and continental deformation (Invited Plenary Talk): 1<sup>st</sup> International symposium of HiPeR, Hiroshima University, Japan.
7. **Chattopadhyay, A.** (2016) Digital mapping on a GIS platform: is it the future of geoscience fieldwork? (Plenary Talk at the conference on 'Developments in Geosciences in the past decade – emerging trends for the future and impact on society' and AGM, Geological Society of India: Indian Institute of Technology, Kharagpur, 21-23 October 2016)
8. **Chattopadhyay, A.** (2016) Neoproterozoic transpression and polyphase fault reactivation in Gavilgarh-Tan shear zone: Implications for the tectonic evolution of central Indian craton (Abstract and presentation in 35<sup>th</sup> International Geological Congress, Session T33, Cape Town, S Africa).
9. Sarkar, A. and **Chattopadhyay, A.** (2016) Microstructural and chemical heterogeneity of pseudotachylytes from Indian craton, and its implications for frictional melting process along seismic faults (Abstract and presentation in 35<sup>th</sup> International Geological Congress, Session T43, Cape Town, S Africa).

#### Conference Organization/ Presentations (in the last five years)

*List against each head(If applicable)*

- Organized the 5<sup>th</sup> Conference and Workshop on Rock Deformation and Structures (RDS-V) at the Department of Geology, University of Delhi (4-6 October 2018) (as Convener/Co-Ordinator) – a national level seminar in Structural Geology and Tectonics attended by more than 125 delegates from all over India.
- Online National seminar on 'Recent Advances in Geosciences Research in India' organized by Department of Geology, DU (1-2 July 2021): Chairman of the Organizing Committee.

#### Research Projects (Major Grants/Research Collaboration)

Five research projects completed:

1. Structural Evolution of Gavilgarh-Tan Shear zone, central India: Field , Microstructural and Experimental Approach (SR/S4/ES-69/2003) : Rs. 9.22 Lakhs (funded by DST)
2. Gold Metallogeny: An Integrated Approach through Petrological-Geochemical-structural studies in some less

- known potential prospects (ESS/16/207/2004): Rs. 21.49 Lakhs (funded by DST) (Co-PI with Prof. Mihir Deb)
3. Brittle reactivation of Gavilgarh-Tan Shear Zone, and its seismogenic implications (SR/S4/ES- 470/2009): Rs. 18.83 lakhs (funded by DST)
  4. A study of pseudotachylytes formed in different tectonic settings of India for understanding the genesis of frictional melts in response to seismogenic faulting in the upper crust : Rs. 12 lakhs (funded by UGC)
  5. GIS-based digital mapping of natural deformational structures: development of methodology and application to structurally controlled ore deposits: Rs. 37.06 Lakhs (Funding by SERB).

Research Collaborations: Durham University, UK; The Open University, Milton Keynes, UK; Hiroshima University, Japan.

### Awards and Distinctions

**National Mineral Award**, Govt. of India for 'distinguished services toward basic geosciences' (1999)

**Royal Society (London) International Academic Fellowship** for research work in Durham University, UK (2006-07)

**Fellow, West Bengal Academy of Science and Technology (2018)** for distinguished contribution to Earth Sciences (Structural Geology).

### Association With Professional Bodies

1. *Editing*
2. *Reviewing*: Reviewing research papers for **Journal of Structural Geology, Geophysical Journal International, Journal of Geodynamics, International Journal of Earth Sciences (Geologische Rundschau), Geological Journal, Journal of the Geological Society of India, Current Science, Journal of Earth System Science, Indian Journal of Geosciences**, and also for **MOES and DST-SERB Projects**.
3. *Advisory*
4. *Committees and Boards*:
5. *Memberships*:
6. *Office Bearer*: Founding council member of **Structural Geology and Tectonics Studies Group India (SGTSGI)**.

### Other Activities

- Delivered online technical lectures for professional geologists and students in **e-training programs on Shear Zone and Faults** organized by GSI Training Institute, Kolkata.
- Delivering thematic lectures and imparting field training as an invited faculty to the participants of '**Structural Geology Refresher Courses**' organized by Geological Survey of India, at Zawar Training Centre, Rajasthan Since 2011.
- Acting as a **Scientist-mentor** in the **Summer Research Fellowship** program of the Indian Science Academies (INSA, IASc, NASI), and to the **DST Inspire Fellowship** program (2011-present)
- Acted as External examiner for **several Ph.D. thesis** (Jadavpur University, IIT Mumbai, ISI Kolkata) and as External **paper setter** (ISM, Dhanbad).
- Acted as expert on selection committee for teachers of Dibrugarh University, Assam.

12 July 2021

(Anupam Chattopadhyay\*)

Signature of Faculty Member

\*Signed as on digital copy sent through email.