

## DEBADITYA BANDYOPADHYAY

Date of Birth: 16<sup>th</sup> May, 1990

### Institutional Address:

Department of Geology, University of North Bengal  
Raja Rammohunpur, P.O.-North Bengal University  
Dist. Darjeeling, West Bengal, Siliguri  
INDIA, PIN-734013



### Permanent Residential Address:

48/4 South Sinthee Road, Kolkata  
INDIA, PIN-700050  
Email : debaditya.b2r@gmail.com  
Phone : +91 9874547899

## I. APPOINTMENTS:

**July, 2019 – Present:** Assistant Professor (contractual) in Dept. of Geology, University of North Bengal, India.

**April, 2018 – June, 2019:** Guest Faculty in Dept. of Earth Sciences, JIS University, India.

**February, 2015 – January, 2018:** DST-INSPIRE Fellow (SRF) in Dept. of Geology, University of Calcutta.

**February, 2013 – January, 2015:** DST-INSPIRE Fellow (JRF) in Dept. of Geology, University of Calcutta.

### Short term:

**21<sup>st</sup> May, 2019 – 25<sup>th</sup> May, 2019 & 15<sup>th</sup> November, 2018 – 23<sup>rd</sup> November, 2018:** Guest Faculty in Dept. of Geology, University of North Bengal, India.

**7<sup>th</sup> June, 2017 – 14<sup>th</sup> July, 2017:** Guest Researcher at the Department of Earth Sciences, Utrecht University. [Host Supervisors – Dr. Douwe J. J. van Hinsbergen, Dr. Alexis Plunder]

**3<sup>rd</sup> November, 2016 – 29<sup>th</sup> November, 2016:** Short-Term Research Internship in the Department of Natural History Science, Hokkaido University. [Host Supervisor – Dr. Marie Python]

**April, 2015 – March, 2019:** Assistant Secretary, The Geological, Mining and Metallurgical Society of India.

**September, 2013 – February, 2014:** Students' Representative for PhD. Course Work in the Dept. of Geology, University of Calcutta.

**October, 2012 – January, 2013:** Research Scholar in Dept. of Geology, University of Calcutta.

## II. EDUCATION:

**2020 - Ph.D. in Geology,** University of Calcutta, Kolkata, India

**Topic of Doctoral Research:** Archean Sittampundi Layered Anorthosite Complex and Cretaceous Andaman Ophiolite: Contrasting Geodynamic History of Indian Plate from Petro-Geochemical Study [*Supervisor: Dr. Biswajit Ghosh*].

**2012 - M.Sc in Applied Geology** [University of Calcutta, Kolkata, India] (**1<sup>st</sup> Rank in the University**).

**M.Sc Thesis:** Origin and Thermobarometric Evolution of Symplectites and Kelyphites from Sittampundi Layered Anorthosite Complex, Tamil Nadu, India. [*Supervisor: Dr. Biswajit Ghosh*].

**2010 - B.Sc in Geology (Honours)** [Asutosh College, University of Calcutta, Kolkata, India].

## III. RESEARCH INTEREST:

Early earth geodynamics - Stagnant lid to mobile lid transition and petrological manifestation.

Petrological and geochemical modelling (eg. Metamorphic phase equilibria, numerical melting experiments).

Understanding the reaction mechanism, morphology and thermobarometric quantification of various reaction microstructures – with special emphasis on modelling of symplectite forming processes.

Various petrological, geochemical and microstructural studies of ophiolite complexes in relation to mantle melting, MOHO transition zone, chromite mineralization and subduction initiation.

## IV. AWARDS AND ACHIEVEMENTS:

1. Served as team member (with Dr. Biswajit Ghosh, and GSI team) in 36<sup>th</sup> IGC field trip project “**Geological Studies in parts of Andaman Islands towards generating field/laboratory database of the IGC 2020 field excursion along the route Port Blair-Chidiyatapu-Baratang-Havelock Island**” [ER010]

2. **University of Calcutta Travel Grant** to attend Goldschmidt Conference (held at Paris, France; from 13<sup>th</sup> Aug. to 18<sup>th</sup> Aug, 2017)

3. **GOLDSCHMIDT 2017 STUDENT AND EARLY CAREER GRANTS.**

4. **University Gold Medal** for standing **first in Class I** in M.Sc Curriculum (Applied Geology) – 2012

5. **Poster Prize** in the EMU school on "Mineral reaction kinetics: microstructures, textures, chemical and isotopic signatures" (held at the University of Vienna, AUSTRIA; from 19<sup>th</sup> Sep. to 23<sup>rd</sup> Sep, 2016).

6. **Financial grant (International Travel Support Scheme)** to attend 2nd European Mineralogical Conference [Science and Engineering Research Board, Government of India]
7. Selected in **Japan-Asia Youth Exchange Program in Science (Sakura Exchange Program in Science (Host Organization – Kanazawa University, Japan))** administered by Japan Science and Technology Agency. (28th Oct, 2015 – 12th Nov, 2015)
8. **Prof. Nirmal Nath Chatterjee Medal (2015)** [The Asiatic Society].
9. **Prof. N.N. Chatterjee Memorial Book Grant** [The Geological, Mining and Metallurgical Society of India].
10. **Kalyan Mukherjee “61 Geology” Medal (2011-12)** [The Mining, Geological and Metallurgical Institute of India].
11. **INSPIRE Fellowship** (5<sup>th</sup> Advertisement, dt. 16<sup>th</sup> Jan, 2013) [Department of Science and Technology (DST)].
12. **FERMOR FUND (The Geological Society, London)** supported field excursions.
13. **Club HP Special Efforts Scholarship (2005)** [Hindustan Petroleum Corporation Limited].
14. **Somenath Bose Memorial Award (2003)** [Paschimbanga Vigyan Mancha - Sinthee Unit Committee].

## V. MEMBERSHIP:

1. **American Geophysical Union** (Student Member since Feb, 2020)
2. **The Geological Society of America** (Student Member since Apr, 2018)
3. **The Mineralogical Society of Great Britain and Ireland** (Student Member since Jan, 2017)
4. **Sakura Science Club** (since Nov, 2015)
5. **The Geological, Mining and Metallurgical Society of India** (Life Member)

## VI. WORKSHOPS ATTENDED:

1. **EMU school on "Mineral reaction kinetics: microstructures, textures, chemical and isotopic signatures"** [MRK-2016] held at the University of Vienna, AUSTRIA from 19<sup>th</sup> Sep. to 23<sup>rd</sup> Sep, 2016. [http://mrk16.univie.ac.at/]
2. **Summer School on Crystallography, Mineralogy, Thermodynamics and Mantle Petrology** organised by National Centre for High Pressure Studies, Indian Institute of Science Education and Research Kolkata during 6<sup>th</sup> – 17<sup>th</sup> June, 2016.
3. Two Days Workshop on **FESEM with EDS and EBSD Facility** organised by **JEOL INDIA PVT LTD** at the Centre for Research in Nanoscience and Nanotechnology (CRNN), University of Calcutta, July, 2013.
4. **Pre-Conference (Granulites and Granulites 2013)** workshop on “Calculating Metamorphic Mineral Equilibria” held at the Indian Institute of Technology - Kharagpur on 8–10 January, 2013.

## VII. GEOLOGICAL FIELD WORKS:

- 2020: (i) In and around Balotra and Sirohi, **Rajasthan** [as student instructor] mentioned in [GSI Bhuvismvad](#), (ii) In and around **Sung valley, Shillong, Meghalaya**.
- 2019: (i) In and around Deogarh, **Odisha**, (ii) **Andaman Ophiolite**, Andaman and Nicobar Islands.
- 2018: (i) In and around **Dibang Valley district (Mayodia, Hunli, Etalin)**, Arunachal Pradesh, (ii) In and around Deogarh, **Odisha**
- 2017: (i) **Sittampundi Layered Anorthosite Complex**, Tamil Nadu; (ii) **Andaman Ophiolite**, Andaman and Nicobar Islands
- 2015: (i) **Naga Ophiolite**, Nagaland; (ii) **Andaman Ophiolite**, Andaman and Nicobar Islands; (iii) In and around **Bhuj Area, Gujarat**.
- 2014: (i) In and around **Bhuj Area, Gujarat**; (ii) In and around **Rangpo, Sikkim** [Detailed Structural and lithological mapping, as student instructor].
- 2013: **Eastern Ghats**, Andhra Pradesh. [Pre-Conference (Granulites and Granulites 2013) Fieldtrip]
- 2012: **Kondapalle Layered Igneous Complex**, Andhra Pradesh.
- 2011: (i) **Dalli-Rajhara**, Chhattisgarh [Industrial Training under SAIL in fields of mining and exploration lithological mapping, structural mapping, slice mapping, grade calculation, and reserve estimation in iron ore mines]; (ii) **Granite-Greenstone belts of Chitradurga**, Karnataka [Structural and lithological mapping as a part of M.Sc curriculum]
- 2009: **Joda Iron ore Mines and Manganese Mines** (Tata Steel); Orissa. **Chaibasa (Limestone quarry)**, Jharkhand and **UCIL (Uranium mines Narwapahar, Jaduguda)**, Jharkhand [as a part of B.Sc Economic geology field work curriculum]
- 2008: **Delhi Supergroup, Baewar**, Rajasthan [as a part of B.Sc Structural mapping field work curriculum]
- 2007: In and around **Purulia, West Bengal**. [as a part of B.Sc geological field work curriculum]

## VIII. PUBLICATIONS (including submitted, under review, in preparation): [google scholar, ResearchGate]

### PEER REVIEWED

1. **Bandyopadhyay, D.**, Ghosh, B., Guilmette, C., Plunder, A., Corfu, F., Advokaat, E.L., Bandopadhyay, P.C., van Hinsbergen, D.J.J. (2020) Geochemical and geochronological record of the Andaman Ophiolite, SE Asia: From back-arc to forearc during subduction polarity reversal?, *Lithos (In Press)*, 105853, [DOI: [10.1016/j.lithos.2020.105853](https://doi.org/10.1016/j.lithos.2020.105853)]
2. Plunder, A., **Bandyopadhyay, D.**, Ganerød, M., Advokaat, E.L., Ghosh, B., Bandopadhyay, P.C., van Hinsbergen, D.J.J. (2020) History of subduction polarity reversal during arc-continent collision: constraints from the Andaman Ophiolite and its metamorphic sole, *Tectonics*, vol-39, e2019TC005762, [DOI: [10.1029/2019tc005762](https://doi.org/10.1029/2019tc005762)]
3. **Bandyopadhyay, D.**, van Hinsbergen, D. J. J., Plunder, A., Bandopadhyay, P. C., Advokaat, E., Chattopadhyaya, S., Morishita, T., and Ghosh, B. (2020). Andaman Ophiolite: An Overview. In: Ray, J. S. and Radhakrishna, M. (eds.), *The Andaman Islands and Adjoining Offshore: Geology, Tectonics and Palaeoclimate*, Springer International Publishing, Cham, pp.1-17. [DOI: [10.1007/978-3-030-39843-9\\_1](https://doi.org/10.1007/978-3-030-39843-9_1)]
4. Ghosh, B., Mukhopadhyay, S., Morishita, T., Tamura, A., Arai, S., **Bandyopadhyay, D.**, Chattopadhyaya, S., Ovung, T.N. (2018) Diversity and evolution of suboceanic mantle: constraints from Neotethyan ophiolites at the eastern margin of the Indian plate. *Journal of Asian Earth Sciences*, vol-160, pp.67-77. [DOI : [10.1016/j.jseaes.2018.04.010](https://doi.org/10.1016/j.jseaes.2018.04.010)]
5. Chattopadhyaya, S., Ghosh, B., Morishita, T., Nandy, S., Tamura, A., **Bandyopadhyay, D.** (2017) Reaction microtextures in entrapped xenoliths in alkali basalts from the Deccan large igneous province, India: Implications to the origin and evolution. *Journal of Asian Earth Sciences*, vol-138, pp.291-305. [DOI : [10.1016/j.jseaes.2017.01.028](https://doi.org/10.1016/j.jseaes.2017.01.028)]
6. Ghosh, B., **Bandyopadhyay, D.**, Morishita, T. (2017) Andaman-Nicobar ophiolites, India: Origin, Evolution and Emplacement. In: Bandopadhyay, P. C. and Carter, A. (eds). *The Andaman–Nicobar Accretionary Ridge: Geology, Tectonics and Hazards. Geological Society, London, Memoirs*, vol-47, pp.95–110. [DOI: [10.1144/M47.7](https://doi.org/10.1144/M47.7)]
7. Ghosh, B., Morishita, T., Gupta, B., Tamura, A., Arai, S., **Bandyopadhyay, D.** (2014) Moho Transition Zone in the Cretaceous Andaman ophiolite, India: a passage from the mantle to the crust. *Lithos*, vol-198-199, pp.117-128. [DOI : [10.1016/j.lithos.2014.03.027](https://doi.org/10.1016/j.lithos.2014.03.027)]

### *Submitted / under review:*

1. **Bandyopadhyay, D.**, Ghosh, B., Palin, R.M., Chakraborti, S., Nandy, S., Narahari, S.T., Morishita, T. - Microstructural evolution of retrogressed garnet-websterite from the Precambrian Sittampundi Layered Anorthosite Complex, India, [Revised version to be submitted in *Geoscience Frontiers*]
2. Roy, S., **Bandyopadhyay, D.**, Ghosh, B. - Microtextural evolution of chrome spinels in dunites from Mayodia ophiolite complex, Arunachal Pradesh, India [Revised version to be submitted in *American Mineralogist*]
3. Chatterjee, S., **Bandyopadhyay, D.**, Takazawa, E., Michibayashi, K. - Orthopyroxene – Magnetite Symplectite in olivine gabbros from Lower crustal Oman Ophiolite: Oman Drilling Project, Hole GT2A [Submitted to *Journal of Mineralogical and Petrological Sciences*]

### *In preparation:*

1. Neogi, S., Pal, T., **Bandyopadhyay, D.** - Proterozoic crustal accretion-reworking processes in the formation of Greater Indian Landmass and reconstruction of part of Rodinia: new insight from Meghalaya, extreme northeastern part of India
2. Bandopadhyay, P., van Hinsbergen, D.J.J., **Bandyopadhyay, D.**, Licht, A., Advokaat, E.L., Plunder, A., Dasgupta, A., and Trabucho-Alexandre, J. - Paleogeography of the West Burma Block and the eastern Neotethys Ocean: constraints from Cenozoic sediments shed onto the Andaman-Nicobar ophiolites

### PUBLISHED ABSTRACTS

1. **Bandyopadhyay, D.**, van Hinsbergen, D.J.J., Plunder, A., Ghosh, B., Corfu, F., Guilmette, C., Advokaat, E.L., Bandopadhyay, P.C. (2020) - Clues to Cretaceous subduction initiation in South-East Asia - A geochronological and geochemical perspective from the Andaman Ophiolite. *JpGU-AGU Joint Meeting 2020 (Virtual conference from 12<sup>th</sup> July to 16<sup>th</sup> July, 2020)* [abstract: <https://confit.atlas.jp/guide/event/jpgu2020/subject/SCG56-17/tables?cryptoId=: iPoster: https://jpgu-agu2020.ipostersessions.com/?s=AF-61-EC-77-15-73-53-1D-C0-7F-BD-AC-EB-F0-6A-B4#>]
2. Chattopadhyaya, S., Ghosh, B., **Bandyopadhyay, D.**, Morishita, T. (2019) Identifying the Source Characteristics of Intraplate Alkali Basalts, Hosting the Lithospheric Mantle Xenolith from Kutch Area, Western India. *GOLDSCHMIDT 2019 (held in Barcelona, SPAIN from 18th Aug to 23th Aug, 2019)* [<https://goldschmidt.info/2019/abstracts/abstractView?id=2019002143>]
3. Plunder, A., **Bandyopadhyay, D.**, Advokaat, E., Guilmette, C., Ganerød, M., Bandopadhyay, P., van Hinsbergen, D. (2018) The metamorphic sole of the Andaman-Nicobar Islands: insights from petrology geochemistry and geochronology. *Geophysical Research Abstracts, Vol. 20, EGU2018-6169-1, 2018, EGU General Assembly 2018* [<https://meetingorganizer.copernicus.org/EGU2018/EGU2018-6169-1.pdf>]

4. **Bandyopadhyay, D.**, Ghosh, B., Bera, A., Morishita, T., Tamura, A. (2017) Clue to the Subduction Initiation from Andaman-Nicobar Ophiolite: A Computational Petrologic Approach. *GOLDSCHMIDT 2017 (held in Paris, FRANCE from 13th Aug to 18th Aug, 2017)* [<https://goldschmidt.info/2017/abstracts/abstractView?id=2017003407>]
5. **Bandyopadhyay, D.**, Ghosh, B., Nandy, S., Palin, R.M. (2016) Thermobarometric evolution of reaction microstructures in “arclogite” – a case study from the Sittampundi Layered Anorthosite Complex, India. *2nd European Mineralogical Conference (held in Rimini, ITALY from 11th Sep to 15th Sep, 2016)* [[https://www.dmg-home.org/fileadmin/downloads/Book-of-Abstracts\\_emc2016\\_small.pdf](https://www.dmg-home.org/fileadmin/downloads/Book-of-Abstracts_emc2016_small.pdf)]
6. **Bandyopadhyay, D.**, Ghosh, B., Nandy, S. (2013). Symplectites from garnetiferous metabasites, Sittampundi Layered Anorthosite Complex, Tamil Nadu, India – Relationship between morphology and thermobarometric evolution. *National Workshop on “Modern Geological and Geophysical Methods and Their Applications” (under aegis of IGU)*
7. Chattopadhyaya, S., Chatterjee, S., **Bandyopadhyay, D.** (2013). Magmatic evolution and geodynamic setting of Kondapalle Layered Complex, Andhra Pradesh, India – Insights from chromitite and associated mafic-ultramafic rocks. *National Workshop on “Modern Geological and Geophysical Methods and Their Applications” (under aegis of IGU)*

#### **OTHER PUBLICATIONS**

1. Pal, T., Bhattacharya, A., Ghosh, B., Koley, T., Tripathi, S.K., **Bandyopadhyay, D.**, Banerjee, K. (2020) ANDAMAN ISLANDS: An Anatomy of the Accretionary Prism in an Active Burma-Andaman-Java Subduction Zone. *Field Excursion Guide Book for 36th International Geological Congress 2020, Delhi (NCR) [IGC Code ER010]*

#### **IX. LIST OF PRESENTATIONS:**

1. *Evolution of the Earth's Crust* – Webinar organised by the **Department of Earth Sciences, JIS University** on 7<sup>th</sup> May, 2020. (Invited lecture) [JIS University [announcement](#); [post](#)]
2. *Microstructural evolution of a retrogressed garnet-websterite – Clue to delamination driven deep crustal recycling, melting and resurfacing in Precambrian Indian Peninsula* – Solid Rock Seminar (SRS) in the **Department of Earth Sciences, Utrecht University** on 7<sup>th</sup> July, 2017.
3. *Thermobarometric evolution of reaction microstructures in “arclogite” – a case study from the Sittampundi Layered Anorthosite Complex, India* - in the **Department of Earth and Planetary Sciences, Hokkaido University** on 11<sup>th</sup> November, 2016.
4. *Plate Tectonics –Our recent understandings - Training Program* for JTA (Geology) and Lab Assistant Gr. I (Geology) of **Geological Survey of India** on 13<sup>th</sup> Oct, 2015. (Invited lecture)
5. *Understanding Symplectic Morphology - Present Status and Future Prospects* - Regional Brain Storming Session titled “**36th IGC: A Unique Opportunity for Advancement of Geosciences**” organised by 36th International Geological Congress, WOCS held at Saha Institute of Nuclear Physics, Kolkata on 21-22 March, 2014. (invited as Young Geoscientist).