


# Manas M.

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 <https://scholar.google.com/citations?user=VXIbrzkAAAAJ&hl=en>

## Address for communication

Poovankalayil House, Navaikulam Village,  
Kerala State, India-695603.

## Education

### ❖ **Indian Institute of Technology (Indian School of Mines), Dhanbad**

PhD. Applied Geology *about to submit in May 2022*

- *Thesis: Evolution of Indus Suture Zone (ISZ) rocks, Western Ladakh Himalaya.*  
Advisors: Dr Barun K. Mukherjee (WIHG, DDN), Dr R.K. Dubey (IIT-ISM, Dhanbad)

### ❖ **Mahatma Gandhi University, Kerala, India**

M.Sc. in Geology, June 2015

- *Thesis: Petrography and Structure of the area around Punalur, Kollam Dist., Kerala.*

CGPA: 3.22/4.0

**University Rank II.**

### ❖ **University of Kerala, Kerala, India**

B.Sc. in Geology, June 2013

CGPA: 3.18/4.0

## Research Experiences

- **Wadia Institute of Himalayan Geology(WIHG), Dehradun, India.**  
*CSIR- Senior Research Fellow, April 27 2021 –April 26 2022.*
- **Wadia Institute of Himalayan Geology, Dehradun, India.**  
*Senior Research Fellow, May 16 2018 – April 26 2021*
- **Wadia Institute of Himalayan Geology, Dehradun, India.**  
*Junior Research Fellow, May 16 2016 – May 15 2018*

- **Government College Kottayam, Kerala, India.**  
*Kerala State Council for Science, Technology & Environment-  
Student Project Fellow, June-Oct 2015.*
- **Wadia Institute of Himalayan Geology, Dehradun, India.**  
*Summer Research Fellow, May-June 2014*

### **Work Experience**

- **TCS IQN Limited, RIET, Attingal, Kerala.**  
Monitoring, server management for online examinations Dec 2015 - Feb 2016.

### **Technical Skills**

- Operation of Micro-Raman Spectrometer(Horiba LabRam HR)
- Analysis and Data acquisition from Zeiss Evo SEM, Perkin Elmer elan drc ii ICPMS and Thermofisher IRMS with Gasbench system
- Preparation of doubly polished wafers and Separation of Zircon, Monazite, Baddeleyite and other heavy minerals.
- Geochemical and thermodynamic modelling with GCD Kit, SUPERCRAAT, Theriak Domino, Perplex, Thermocalc
- Scientific Image processing with Image J, mineral chemical map processing with XMap tools
- Raman mapping and RSCM thermometry.

### **Areas of Expertise**

- Field mapping
- Petrography and Fluid Inclusion Thermometry
- Phase characterisation with Raman spectroscopy
- Mineral chemistry using SEM-EDX and EPMA

### **Language Skills**

- English(IELTS Score 7.0;Candidate id:P4663318)
- Malayalam(Mother Tongue)
- Hindi(Read, Speak and Write), Tamil(Speak)

### **Grants and Awards**

- CSIR-Direct SRF Award from Council of Scientific and Innovative Research, Ministry of S&T, Govt. of India, 2019-2020.
- Geohost award (Special registration support-SRSP) from International Geological congress for IGC 2020.

- Wadia Junior and Senior Research Fellowships (2016-2021) for research work leading to PhD thesis (National Level Fellowship).
- Second Rank in MSc. Geology, Mahatma Gandhi University, Kerala, India.
- Best Poster Award for the poster entitled "*Deformation microstructures in shear zone rocks – A study from Achankovil shear zone, Southern India*", DCE-UGC sponsored National Seminar at Govt. College Kottayam, 9-11 September, 2015.
- Student Research Project (SRP) grant from KSCSTE, for the project entitled "*Geology and Structure in part of Achankovil Shear zone near Punalur and its adjacent areas, Kollam District, Kerala.*"
- Aspire scholarship from Mahatma Gandhi University, Kerala, 2015.
- National Level Summer Research Fellowship from Wadia Institute of Himalayan Geology, 2014.
- Awarded Post graduate student scholarship from Kerala State Welfare Co-operation for Forward Communities, 2014 & 2015.

### **Professional Courses Completed**

- Certificate Course in Desktop Publishing(DTP), Kerala Kudumbasree Mission, 2008.

### **Seminar's/Workshop's attended**

- **International Geological Congress**, Delhi. 20-22<sup>nd</sup> March 2022.
- DST-GATI Sponsored an International webinar on "**EMERGING TRENDS IN GEOSCIENCES AND ITS SOCIAL IMPACT (ETGS 2022)**" organised by NIT Rourkela, 1-5<sup>th</sup> February 2022.
- **5<sup>th</sup> National Geo-Research Scholars Meet**, organised by Wadia Institute of Himalayan Geology, Dehradun. 22-23<sup>rd</sup> July 2021
- Training Programme (Online) on "**Basic Disaster management**", Organised by *National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India* and National Service Scheme July 2 2021.
- Training Programme (Online) on "**Comprehensive Disaster management**", Organised by *National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India* and LN Mithila University June 24 2021.
- Training Programme (Online) on "**Environment and Land Use Issues in Disaster Risk Reduction**", Organised by *National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India*, June 11 2021.
- Training Programme (Online) on **Indian Disaster Resource Network (IDR)** for Inter Agency Group Members of Kerala state Organised by *National Institute of Disaster Management with KSDMA*, March 4 2021.
- Webinar on "**TEM Sample preparation**" Organised by *Oxford Instruments*, February 24 2021.

- Seminar on **"Propylitic alteration: origins and importance as a new search space for porphyry ore systems under cover"** organised by *Mineral Deposits Hub, UK*, February 24 2021.
- Training Programme on **"Phase Equilibria Modelling in Petrology – Practical approach using Perple-X "** organised by *Regional Training Division (RTD), Geological Survey of India*, 27-29 January 2021.
- **Mineral Deposit Studies Group (MDSG)** (part of Mineralogical Soc. and Geol. Soc. London) **44<sup>th</sup> Annual Winter Meeting**, 14-16 December 2020.
- Online workshop on **"PTt trajectory of metamorphic processes from a combination of pseudo section calculations, nucleation and growth simulations, and diffusion modelling using different approaches**, organised by *Geochemical Society*, December 2-3,2020.
- Webinar on **NMR for understanding functional cellular pathways: Metal transport and homeostasis** organised by *Select Science*, December 9, 2020.
- **American Geophysical Union (AGU) Fall Meet 2020**(Virtual),1-7 Dec 2020.
- Online Lecture Series" **GEOCHRON-2020**" organised by *Geological Institute, Presidency University, India.*, Aug. 22-Sept.27,2020.
- **National Geo-Research Scholars Meet** (Webinar), WIHG, June 23-24, 2020.
- National Webinar on **Tectonics of Southern Granulite terrain** organised by Government Arts College, Selam, June 19, 2020.
- **National Geo-Research Scholars Meet**, WIHG, June 6-8, 2019.
- National conference on **Advances in Mantle Petrology**, *Banaras Hindu University*, October 6-8, 2018.
- **National conference on Earth System Sciences with Special reference to Himalaya**, *WIHG*, May, 2018.
- Theme meeting on **X-Ray micro imaging using Synchrotron Radiation**, organised by Imaging beam line group of Indus Synchrotron, *Raja Ramanna Centre for Advanced Technology*-Sep. 2017..
- **National conference on Polar Sciences**, *NCAOR*, Goa, India. May 2017.
- National Conference on **Recent Trends in the Tectonics of Peninsular India**, *University of Kerala (Thiruvananthapuram, India)*, February 2016.
- **UGC SAP DRS Phase II Seminar on Shear zones and Crustal blocks of southern India**, at *University of Kerala, Trivandrum, India*, 2015.
- DCE-UGC sponsored National **Seminar on Crystallography** at *Govt. College Kottayam*, 9-11 September, 2015.

### **Professional Memberships**

- Fellow, The Society of Earth Scientists, India.
- Member, Deep Carbon Observatory.
- Member, International Association for promoting Geoethics (IAPG)-Indian Chapter.

- Member, International Geoscience Education Organization.
- Member, Young Earth Scientists (YES) Group.
- Member of the commission on Volcanic and Igneous Plumbing Systems (VIPS) of the International Association of Volcanology and Chemistry of the Earth's Interior(IAVCEI)
- Member, Indian Polar Research Network (IPRN) and Association of Polar Early Career Scientists (APECS).
- Member of The Commission for the Management and Application of Geoscience Information (CGI), IUGS.
- Previous student member of European Association of Geoscientists and Engineers(EAGE), Geochemical Society, European Association of Geochemistry, Association of Himalaya and Nepal Studies(ANHS).

### **Reviewer In**

- Academia Letters-ISSN 2771-9359 (Reviewed “*Diverse kinds of organic matter record in Brazilian Pre-salt carbonates*” by Lehn, 2022)

### **Publications**

- **Manas M.** and Mukherjee B.K. Radiolarian constraints on the age of the youngest ophiolite along the Indus suture- ***in communication.***
- **Manas M.** and Mukherjee B.K., Dubey R.K., Carbonaceous matter and associated microstructures from volcanic tuff deposits from Himalaya- ***Under Review in ofiolithi, 2022.***
- Mukherjee B.K., Saha T., Maruyama S., **Manas M.** Combined study of CL Imaging and phase characterisation of Zircons from Tso-Morari, ***Under Review*** in Geological Magazine, 2021
- **Manas, M.,** Mukherjee, B.K. & Dubey, R.K. Non-silicate needles and metals in peridotites from Himalayan ophiolite, Western Ladakh, India: evidence of deep Earth origin. *International Journal of Earth Sciences (Geol Rundsch)* **110**, 2849–2862(2021). <https://doi.org/10.1007/s00531-021-02086-w>
- Sen K., Mukherjee B.K., **Manas M.**, Mukherjee S, Sen K.(Sr.) Episodic exhumation of Zildat Ophiolitic Melange rocks, NW Himalaya, India, ***Himalayan Geology. Sp. Vol. 40(2), 2019.***  
[https://www.himgeology.com/volume\\_abstract.php?abstract=899](https://www.himgeology.com/volume_abstract.php?abstract=899)

### **Published Abstracts (available online)**

- **Manas M.** and B.K. Mukherjee. *Occurrence of metallic oxides and sulphides in Ophiolitic peridotites; observations from Indus Suture Zone Ophiolites.* **Applied Earth Science-Taylor & Francis**, 130:2, 73, 2021.

**Conference Abstracts (Published in Abstract Volume)**

- **Manas M.** and B.K. Mukherjee, *Serpentinised peridotites from Indus Suture Zone- An ideal recipe for abiogenic hydrocarbons*, Abstract No: 792-3797; Theme 40: Planetary Sciences. IGC 202, 02-8 March 2020. Abstracts pp. 4144-4145.
- **Manas M.** and B.K. Mukherjee, *Growth of ilmenite rod and (hydro) andradite in serpentinised peridotites of Western Ladakh-Implication for deep origin and alteration*, National Geo-Research Scholars Meet ,WIHG, June 6-8,2019. Abstract Vol. p.47.
- **Manas M.** and B.K. Mukherjee, *Formation of Cr-Clinocllore and Hematite Pseudomorph in Serpentinites; Possible Implications*, National conference on Advances in Mantle Petrology, Banaras Hindu University, October 6-8,2018
- **Manas M.** and B.K. Mukherjee, *Life forming? Environments preserved in Turbidites – Insights from Western Ladakh Melange*, National Conference on Earth System Science with special reference to Himalaya: advancement and challenges, WIHG, May 16-18, 2018, Abs vol. pp. 19.
- **Manas M.** and Barun K. Mukherjee, *Serpentinites: Important roles in Geodynamic process*, National Conference on Polar Sciences, National Centre for Antarctic and Ocean Research, Goa, May 2017, Abs Vol. pp. 20-21.
- P.R. Suraj and **M. Manas**, *Petrography and Structure of the area around Punalur, Kollam district, Kerala*, Abstract volume, National Conference on "Recent Trends in the Tectonics of Peninsular India", University of Kerala (TVM, India), Feb 2016, Abs. Vol. pp. 5-6.

**Conference Abstracts/Talks (Unpublished)**

- Deformation microstructures in shear zone rocks – A study from Achankovil shear zone, Southern India", DCE-UGC sponsored National Seminar Govt. College Kottayam, 9-11 September, 2015.

**Scientific collaborations**

- Wadia Institute of Himalayan Geology Dehradun (Dr B.K. Mukherjee),
- National Centre for Polar and Ocean Sciences, Goa(Dr. K. Sen),
- Indian Institute of Technology, Dhanbad (Dr. R.K. Dubey).

## **References**

- Barun K. Mukherjee  
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- Rajendra K. Dubey  
Associate Professor  
Indian Institute of Technology (Indian School of Mines), India  
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