



**RAJIV MUKHERJEE**  
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### Personal Information

*Date of Birth:* 22<sup>nd</sup> May, 1996

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### Educational qualification

Degree/Examinations	Institute/Board	Year	Percentage of marks
PhD in Earth Sciences	IIT Kanpur	2021-	CPI – 9.5 (Coursework)
MSc in Applied Geology	University of Calcutta	2018-2020	CGPA – 8.324 (First Class 1 <sup>st</sup> )
BSc in Geological Sciences	University of Calcutta	2015-2018	74.5%
Higher Secondary in Science	WBCHSE	2015	94.6%
Madhyamik Exam (10 <sup>th</sup> standard)	WBBSE	2013	92.42%

### Coursework information

Degree	Relevant courses taken
PhD	Geophysical methods, Mathematics in Earth Science, Isotope Geology and applications, Environmental Geology, Communication skills in Earth Science, Experimental Rock mechanics and Rock Physics, Geodynamics, Remote Sensing and GIS for georesources evaluation, Instrumentation in Earth Science
MSc	Advanced Structural Geology, Mineralogy and Optical Microscopy, Geochemistry and Isotope Geology, Igneous Petrology and Petrotectonics, Metamorphic Petrology and Thermodynamic Equilibria, Palaeobiology and applications, Geodynamics and Global Tectonics, Hydrogeology, Sedimentology and Basin analysis, Economic Geology, Stratigraphy, Engineering Geology, Fuel Geology, Remote Sensing, Advanced Statistics, Geomathematics
BSc (H)	Geology Honours, Undergraduate Mathematics, Undergraduate Physics

### National level examinations qualified

- GATE (Graduate Aptitude Test in Engineering) 2021 – All India Rank 268
- GATE (Graduate Aptitude Test in Engineering) 2020 – All India Rank 551
- UPSC (Union Public Service Commission – Govt. of India) Combined Geoscientist Examination – Prelims 2020
- JAM (Joint Admission Test for Masters) 2018 – All India Rank – 170

### Research Experience

MSc Thesis: Quantitative Paleobiology – “*Measure of skeletal completeness of the Indian Saurischian dinosaur fossil record and its paleobiological implications*”. Thesis supervisor – Dr. Subhronil Mondal, Assistant Professor, Dept. of Earth Science, Indian Institute of Science Education and Research, Kolkata (IISER – Kolkata).

### Professional Experience

Attended Industrial Training on Geology and Ore Exploration at Malanjkhand Copper Project under Hindustan Copper Limited, Malanjkhand, Madhya Pradesh, 8<sup>th</sup> - 23<sup>rd</sup> July, 2019.

Attended Mineral Development Awareness Programme (MDAP), held during 23-25th August 2019 at Joda, Odisha, organized by The Society of Geoscientists and Allied Technologies (SGAT)

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## Field Work experience

<i>Curriculum/Year</i>	<i>Year</i>	<i>Location</i>	<i>Work details</i>
<i>MSc 2<sup>nd</sup> year</i>	2020	Dwarka, Gujarat	Bio-stratigraphy, Paleontology
<i>MSc 1<sup>st</sup> year</i>	2019	Angul and Chandipur, Orissa	Structural mapping of deformed terrane and Sedimentology at Angul, Ecology of marine invertebrates and ichnology at Chandipur
<i>BSc 3<sup>rd</sup> year</i>	2017	Jajpur and Sukinda, Orissa	Visit to Chromite and Iron ore mine, field study of mining and exportation of economic minerals
<i>BSc 2<sup>nd</sup> year</i>	2016	Galudih and Ghatshila Jharkhand	Structural mapping of deformed metasedimentary lithounits and sedimentology
<i>BSc 1<sup>st</sup> year</i>	2015	Maithon, WB	Basic geological training, rock identification and map preparation

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## Software Skills and Online certification course

Expertise in MS Office, ArcGIS 10.7, ENVI 5.6, Q-GIS, Adobe Illustrator, GeoRose, PAST 4.2, Origin 9.1, and Basic MATLAB

Certificate course on “*Writing in the Science*” from Coursera, offered by Stanford University

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## Instrumentation Skills

Proficient in operating Instrumented micro- and nanoindentation devices for nanomechanical characterization of materials.

Proficient in handling Scanning Electron Microscope (SEM) for submicroscopic imaging and analysis.

Proficient in handling Raman-Spectroscopy devices and analyzing spectral data.

Currently learning to operate the High Pressure-Temperature Torsion actuated Rock Deformation Apparatus (Paterson type) installed at the Experimental Rock Deformation Laboratory of IIT Kanpur.

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## Teaching Assistantship Experience

TA for ES417A (Geological Evolution of the Indian Plate) in 2021-2022-I and 2021-2022-II semesters.

TA for ES654A (Advanced Structural Geology) in 2022-2023-I

TA for Online NPTEL course on Introductory Field Structural Geology

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## Awards and Achievements

- Awarded with prestigious Prime Minister’s Research Fellowship in Earth Sciences (Cycle-9, May 2022)
  - Two times Academic Excellence Award (2020 and 2021) for MTech coursework at IIT Kanpur
  - First Class 1<sup>st</sup> in MSc Applied Geology 2020, University of Calcutta
  - First Class 3<sup>rd</sup> in BSc (H) in Geology, 2018, University of Calcutta
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## Publications (Journal and Conferences)

- Mukherjee, R., Misra, S., (2023) Nano-mechanics of minerals: understandings and developments through instrumented nanoindentation techniques, *Physics and Chemistry of Minerals*, Accepted for Publication.
  - Mukherjee, R., Misra, S., (2022) Dehydration Induced Nanomechanical Evolution of Natural Monocrystalline Gypsum-Hemihydrate-Anhydrite (CaSO<sub>4</sub>.2H<sub>2</sub>O) System Investigated by Instrumented Microindentation and Thermogravimetric Analysis, AGU Fall Meeting Abstract 2022.
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