

SUPRIYO MITRA

Professor

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DoB: 12th November 1976

Nationality: Indian

AREA OF SPECIALIZATION: Seismology, Geophysics, Earth Sciences

EDUCATION

2000-2004 University of Cambridge, UK (St John's College & Department of Earth Sciences)

PhD in Geophysics (Seismology): 'Crustal structure of NE India and southern Tibet and a comparison with the lithosphere of the stable Indian Shield'.

Degree awarded in convocation (October 2006)

1998-2000 Indian Institute of Technology Bombay, India (Department of Earth Sciences)

Master of Science in Applied Geology

1995-1998 Jadavpur University, Kolkata, India (Department of Geological Sciences)

Bachelor of Science in Geology (Hons) with Mathematics, Physics and Computer programming

ACADEMIC APPOINTMENTS

2016 (Feb) onward Professor (Department of Earth Sciences)

Indian Institute of Science Education and Research Kolkata

2010 (May) to 2016 (Jan) Associate Professor (Department of Earth Sciences)

Indian Institute of Science Education and Research Kolkata

2008 (Feb to Dec) UK-IERI post-doctoral fellow, *University of Cambridge, UK*

2005 (Dec) to 2010 (May) Assistant Professor (Department of Geology and Geophysics)

Indian Institute of Technology, Kharagpur

(Was on long leave for a year in 2008 to avail the UK-IERI fellowship)

2004 (Nov) to 2005 (Dec) Visiting Faculty (Department of Geology and Geophysics)

Indian Institute of Technology, Kharagpur

AWARDS / HONORS / RECOGNITION

- 2024** Selected for the **INSA Associate Fellows**.
- 2019-2024** **Regular Associate** of **The Abdus Salam International Centre for Theoretical Physics (ICTP)**, Trieste, Italy.
- 2020** Elected **Fellow** of the **Royal Astronomical Society (FRAS)**.
- 2019** **Visiting Professor** of **The Earthquake Research Institute**, University of Tokyo, Japan.
- 2019** Elected **Fellow** of the **West Bengal Academy of Science and Technology (FWAST)**.
- 2018** **INSA Bilateral Exchange Award** (Freie University and GFZ Potsdam) Germany.
- 2016** **National Geoscience Award** by the *Ministry of Mines Govt. of India*, in recognition of significant contribution to Applied Geology.
- 2016** **Cambridge-Hamied Visiting Fellowship**.
- 2012** **NASI Scopus Young Scientist Award** for Earth, Oceanographic and Environmental Sciences.
- 2012-2015** **Visiting Associate** of Inter-University Center for Astronomy and Astrophysics.
- 2011-2014** **Associate** of the *Indian Academy of Sciences*, Bangalore.
- 2010** **Indian National Science Academy (INSA) Young Scientist Medal** in Earth Sciences.
- 2008-2009** UK-India Education and Research Initiative (**UK-IERI Fellowship**) for postdoctoral research at University of Cambridge, UK.
- 2004** **Lundgren Scholarship** awarded by the Cambridge Philosophical Society.
- 2000-2004** **Nehru Cambridge Scholarship** awarded by the Cambridge Commonwealth Trust for PhD at University of Cambridge, UK.
- 2000-2003** **Overseas Research Scholarship (ORS)** awarded by CVCP, UK.
- 2001** Elected **Fellow** of the **Cambridge Philosophical Society**.

RESEARCH PROJECTS

1. ***Royal Society International Collaboration Award: Global Challenge Research Fund (GCRF)***
Project Title: **Increasing Resilience to Earthquakes in North India.**
Principal Investigators: *James Jackson (Univ. of Cambridge) and Supriyo Mitra.*
Sponsor: Royal Society, UK.
Duration: December 2018 – November 2022.
2. Project Title: **Attenuation structure of J&K Himalaya using Coda-Q tomography.**
Principal Investigator: **Supriyo Mitra.** Co-PI: Dr. S. K. Wanchoo (SMVD University).
Sponsor: Ministry of Earth Sciences, India
Duration: June 2019 – May 2022.
3. ***DiFD-Emergency Grant***
Project Title: **Respose to the Mw 7.9 Earthquake of April 25 2015 in Nepal.**
Principal Investigators: *Keith Priestley, James Jackson, J-P Avouac ((U. Cambridge).*
Overseas Collaborators (Co-Is): **Supriyo Mitra** and Lok Bijay Adhikari (DMG, Nepal).
Sponsor: Natural Environment Research Council, U.K.
4. ***UKIERI Thematic Parthnership between SMVDU, IISER Kolkata and University of Cambridge***
Project Title: **Earthquake Hazard Evaluation in Jammu and Kashmir Himalaya and Western Indo-Gangetic Plains.**
Principal Investigators: *Keith Priestley (Univ. of Cambridge) and Sunil K. Wanchoo (SMVDU)*
Partners (Co-Investigators): **Supriyo Mitra** and Alex Copley ((U. Cambridge).
Sponsor: UGC-UK-India Education and Research Initiative, Thematic Partnership.
5. ***NERC International Opportunities Funding (IOF)***
Project Title: **Earthquake Without Frontiers**
Principal Investigators: *James Jackson, Keith Priestley, Alex Copley (U. Cambridge).*
Indian Collaborators (Co-Investigators): **Supriyo Mitra** and Sunil K. Wanchoo (SMVDU).
Sponsor: Natural Environment Research Council, U.K.
6. ***NERC-Impact Acceleration Award (IAA) - Knowledge Exchange Awards***
Project Title: **Seismic structure, active faulting and ground motion evaluation in NW India.**
Principal Investigator: *Keith Priestley (U. Cambridge).*
Co-Principal Investigators: **Supriyo Mitra**, Alex Copley (U. Cambridge) and Sunil K. Wanchoo (SMVDU).
Sponsor: Natural Environment Research Council, U.K.

7. **UKIERI Thematic Partnership between IISER Kolkata and University of Cambridge**

Project Title: **Seismic Velocity Structure of the northwestern and northeastern Himalaya and its implications for earthquake hazard assessment.**

Principal Investigators: *Supriyo Mitra* and *Keith Priestley* (U. Cambridge).

Sponsor: UK-India Education and Research Initiative (UKIERI) Thematic partnership between IISER Kolkata and University of Cambridge.

Duration: 2012 – 2014.

8. Project Title: **Investigation of the Deep Seismic Structure in the foreland of the Indo-Himalayan Collision Zone.**

Principal Investigator: *Supriyo Mitra*.

Sponsor: Institute Scheme for Innovative Research and Development, IIT Kharagpur.

Duration: 2006 – 2009.

9. Project Title: **3-Dimensional imaging of the lithosphere and active deformation across Sikkim-Darjeeling Himalaya and a comparison with NW-Himalaya.**

Principal Investigator: *Supriyo Mitra*. Co-PI: Dr. S. S. Rai (National Geophysical Research Institute, Hyderabad) and Dr. V. Joshi (GB Pant Institute of Himalayan Environment and Development).

Sponsor: Department of Science and Technology (Deep Continental Studies program).

Duration: April 2007- May 2010.

10. Project Title: **The exhumation factor in the genesis of inverted metamorphic sequences - an evaluation from structure, metamorphism, fluid inclusion and earthquakes.**

Principal Investigator: Saibal Gupta, Co-PI: M. K. Panigrahi, *Supriyo Mitra*

Sponsor: Department of Science and Technology (Deep Continental Studies program).

Duration: September 2007 – August 2010.

STUDENTS AND POST-DOCS SUPERVISED

Degree/Position	Completed	Ongoing	Total number	Funding
<i>Post-Doctoral researcher</i>	2	1	3	N-PDF, IISER-K
<i>Ph.D.</i>	6	4	10	CSIR, UGC, DST-INSPIRE
<i>M.Tech</i> (IIT Kharagpur)	3	0	3	GATE
<i>M.Sc.</i> (5 year integrated)	12	0	12	
<i>BS-MS</i> (5 year integrated)	15	2	17	DST-INSPIRE
<i>M.Sc.</i> (2 year)	5	0	5	

WORKSHOPS / SYMPOSIUM / TRAINING ORGANIZED

- 2022** *Royal Society International Collaboration funded One-day discussion meetings on “Increasing resilience to earthquakes in north India” in Jammu (J&K), Dharamshala, McLeod Gunj (HP) and Hoshiarpur (Punjab).*
Organizers: Supriyo Mitra (IISER-K), S. K. Wanchoo (SMVDU), Abhijeet Kaplish (IAS)
Expert Scientists: James Jackson (CBE, FRS).
- 2020** *Discussion meetings (online) on Earthquake resilience in district Reasi, Jammu and Kashmir between District Collector and administrators of Reasi J&K, Nepal Society for Earthquake Technology (NSET) and earthquake scientists, July 2020.*
Organizers: Supriyo Mitra (IISER-K), S. K. Wanchoo (SMVDU) and DC Reasi.
Experts: Surya Shreshta and Ramesh Guragain (NSET), Supriyo Mitra (IISER-K).
- 2019** *Royal Society (GCRF) Workshop on Increasing resilience to earthquakes in India: A meeting between earthquake scientists and administrators, Jammu, 29-30 November 2019.*
Organizers: Supriyo Mitra (IISER-K), S. K. Wanchoo (SMVDU), in collaboration with J&K State Disaster Management Authority (JKSDMA).
Expert Scientists: James Jackson (CBE, FRS), Alex Copley (University of Cambridge), Karim Aoudia (ICTP, Italy), Ramesh Gurgain (NSET, Nepal), Morteza Talebian (GSI, Iran).
Administrators from NDMA, JKSDMA, HPSDMA & DC Pathankot.
- 2018** *A Training Program on Advance Methods of Computational Seismology for National Technical Research Organisation (NTRO) Scientists at IISER-K, October-November 2018.*
Course Coordinator and Faculty member: Supriyo Mitra (IISER-K)
- 2016** **Global Initiative in Academic Networks (GIAN):** A short course on Active Continental Tectonics, 7-18 November 2016 at IISER Kolkata.
Course Coordinator: Supriyo Mitra.
Faculty members: James Jackson (CBE, FRS) and Supriyo Mitra (IISER-K).
- 2015** **SERB, DST sponsored one week training programme on Earthquake Hazard: Basic Approaches, Field Investigations and Modeling,** 10–16 November 2015 at Jammu.
Chief Organizers: Supriyo Mitra (IISER-K) and Sunil K. Wanchoo (SMVDU).
Expert Scientists: James Jackson (CBE, FRS), Keith Priestley, Alex Copley (University of Cambridge), Vinod K. Gaur (CMMACS), Malay Mukul (IIT Bombay), SN Bhattacharya (ex-ADG IMD), Umesh Sharma (SERB), VC Thakur (WIHG), Supriyo Mitra (IISER-K).
- 2014** **UK-IERI sponsored workshop** on ‘Earthquake Hazards Quantification in the Himalaya’, on 30th May 2014 at Sri Mata Vaishno Devi University, Katra, Jammu & Kashmir.
Chief Organizers: Supriyo Mitra (IISER-K) and Sunil K. Wanchoo (SMVDU).
Expert Scientists: Keith Priestley (University of Cambridge), Vinod K. Gaur (CMMACS), SN Bhattacharya (ex-ADG IMD Seismology), Supriyo Mitra (IISER-K).

RESEARCH LABS ESTABLISHED and FIELD EXPERIMENTS CONDUCTED

1. *Established and head the IISER Kolkata Seismological Observatory and Computational Seismology* facility at IISER Kolkata (January 2011 onward).
2. *Deployed and operated broadband seismograph systems* in Peninsular India and Himalaya (since 2001): NE India, Sikkim Himalaya, NW Himalaya, Western Bengal Basin and the Indian sub-continent. Ongoing experiments in Jammu and Kashmir Himalaya and Himachal Himalaya.
3. Conducted *Seismic Noise Survey for site selection of* Laser Interferometer Gravitational Wave Observatory (*LIGO*)-India Gravitational Wave Detector Observatory at six sites across India.

RESEARCH COLLABORATIONS

1. **Joint Coordinator** (2005-2010) from the *Indian Institute of Technology Kharagpur* side on the **Memorandum of Understanding (MOU)** signed between *IIT Kharagpur* and *University of Cambridge* for Investigation of the Deep Seismic Structure of the Indo-Himalayan Collision Zone.
2. **Indian collaborator** of the NERC funded Consortium **2004-2005 Indian Ocean earthquakes - Subduction Zone segmentation and controls on earthquake rupture.**
3. Member of the **Indian Initiative in Gravitational-wave Observations** (IndIGO) Consortium.
4. **Joint Coordinator** from *Indian Institute of Science Education and Research Kolkata* on the **Memorandum of Understanding (MOU)** signed between *IISER-K*, *University of Cambridge* and *Shri Mata Vaishno Devi University, Katra* on **Seismotectonic studies of Northwestern Himalaya.**
5. **Indian collaborator** in the multi-institutional, multi-national **NERC Earthquake Without Frontiers (EwF) project.**

INVITED TALKS / OUTREACH SEMINARS DELIVERED (*selected*)

1. “*Crustal Structure and Evolution of the Eastern Himalayan Plate Boundary System*”, **GFZ, Potsdam & University of Freiberg, Germany**, Nov. 2018, CSIR-4PI, **Bangalore**, March 2019, **IIT Kanpur**, Dec. 2020, *Indo-American Society of Geoscientists (ISG)*, June 2023.
2. “*Earthquake hazard in the Himalaya: Lessons learnt from recent earthquakes*” at the National Workshop on Earthquake Safety of Large Projects in Himalaya, organised by **USDMA, Dehra Dun**, November 2017 and at the National Conference on 'Emerging Trends in Geophysical Research for Make-in-India (ETGRMI-2018)' at **IIT(ISM) Dhanbad**, March 2018, **Freie University and GFZ Potsdam, Germany**, Nov. 2018, and Earthquake Research Institution (**ERI**), **University of Tokyo, Japan**, Oct. 2019.
3. “*Earthquake hazard in India and the Himalaya*”, EWF meeting, **Almaty, Kazakhstan**, Sept. 2016.
4. “*Crustal Structure and Deformation of the Eastern Himalayan Plate Boundary System using Broadband Seismology*”, Geological Survey of **Iran, Teheran**, May 2015.
5. “*Earthquake hazard in India*”, National Society for Earthquake Technology - Nepal (**NSET**), **Kathmandu**, Nepal Feb. 2015.

Participation in WORKSHOPS / SCIENTIFIC MEETINGS

- 2023** European Geosciences Union (EGU) joint meeting, Vienna, Austria.
- 2019 (online) 2018** European Geosciences Union (EGU) joint meeting, Vienna, Austria.
- 2020 (online), 2016, 2015, 2014, 2013, 2012, 2005 and 2002** American Geophysical Union Fall meetings, San Francisco, USA.
- 2016** **Earthquake Without Frontiers (EwF)** Meeting in Almaty, Kazakhstan.
- 2015** **Earthquake Without Frontiers (EwF)** Meeting in Teheran, Iran.
- 2015** **Earthquake Without Frontiers (EwF)** Meeting in Kathmandu, Nepal.
- 2012** Participated in the IRIS Metadata Workshop on ‘**Managing Waveform Data and Related Metadata for Seismic Networks**’, Bangkok, Thailand, January 8-13, 2012.
- 2012** Participated in the IRIS ‘**Advanced Studies Institute on Earthquake Location**’ Bangkok, Thailand, January 14-17, 2012.
- 2011** Participated in symposium on "**Exploring new ideas in science** - a tribute to Prof. V.K. Gaur on his 75th birthday", at *Council for Scientific and Industrial Research (CSIR) - Center for Mathematical Modeling And Computer Simulations (C-MMACS)* Bangalore, India.
- 2007** Participated in *Indian Academy of Sciences* Discussion Meeting on the **Structure and evolution of the lithosphere** lead by **Prof. Dan McKenzie** (Bullard Labs, Cambridge) at Coorg, India.
- 2006** Participated in an **Intensive Course on Inverse Modeling**, *CSIR C-MMACS*, Bangalore, India.
- 2006** Participated in *CSIR C-MMACS* Discussion Meeting on **Inverse Modelling of Geophysical Data** lead by **Prof. Albert Tarantola** (*Institut de Physique du Globe de Paris* - IPGP) at *CSIR C-MMACS*, Bangalore, India.
- 2002** Participated in Workshop on **Three-Dimensional Modeling of Seismic Waves Generation, Propagation and their Inversion**, *Abdus Salam International Center for Theoretical Physics (ICTP)*, Trieste, Italy.

MAJOR ADMINISTRATIVE DUTIES

1. **Dean, Faculty Affairs**, IISER Kolkata (2017-2018).
2. **Dean, Research and Development**, IISER Kolkata (2014-2017).
3. **Chairman (Head) of the Department of Earth Sciences**, IISER Kolkata (2010-2012).
4. Senate nominated **Member of the ‘IISER Kolkata Board of Governors’** (2017-2019).
5. **Member of the ‘IISER Kolkata Senate’** (2011-2013 and 2014-ongoing).
6. BoG nominated **Member of ‘IISER Kolkata Building and Works Committee’** (2017-2019).
7. **Chairman of the ‘Institute Purchase Committee’**, IISER Kolkata (2010-2011).
8. **Convener of the ‘Technical Sub-Committee’** of Purchase Committee, IISER Kolkata (2011-2012).
9. Special Invitee to ‘The Building and Works Committee’, IISER Kolkata (2010-2011).

PROFESSIONAL SERVICES

- 2022-2025** Member of the **expert committee** of Earth & Atmospheric Sciences for **selection** of Department of Science and Technology (DST) INSPIRE Faculty Fellowships.
- 2023-2025** Member of the **performance review committee** of Earth & Atmospheric Sciences for Department of Science and Technology (DST) INSPIRE Faculty Fellowships.
- 2019 onward** **Member of the Earth Science Committee** of Scheme for Transformational and Advanced Research in Sciences (STARS) for promoting translational, India-centric research in the sciences.
- 2016-2019** Member of the **Research Advisory Committee**, National Center for Seismology (NCS), Ministry of Earth Sciences.

PROFESSIONAL MEMBERSHIPS

- 2006 – 2010** **IIT Kharagpur Representative of Foreign Affiliate Membership** to *Incorporated Research Institutions for Seismology – IRIS*
- 2003-04, 2018, 2023 onward** Member of **European Geophysical Union** (formerly European Geophysical Society)
- 2002 onward** Member of the **American Geophysical Union**