

## **SUPRIYO MITRA**

***Professor***

**Department of Earth Sciences &**

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**DoB: 12<sup>th</sup> 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**

- 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**

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

## 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).
- Senate nominated **Member of the 'IISER Kolkata Board of Governors'** (2017-2019).
- Member of the 'IISER Kolkata Senate'** (2011-2013 and 2014-ongoing).
- BoG nominated **Member of 'IISER Kolkata Building and Works Committee'** (2017-2019).
- Chairman of the 'Institute Purchase Committee'**, IISER Kolkata (2010-2011).
- Convener of the 'Technical Sub-Committee'** of Purchase Committee, IISER Kolkata (2011-2012).
- 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**