



# SAARTHI - सारथी

करियर मार्गदर्शन पोर्टल · Career Guidance Portal

"सही मार्गदर्शन, उज्ज्वल भविष्य।"

करियर शीट · CAREER SHEET

## भूकंप वैज्ञानिक

Seismologists are geophysics specialists who study earthquakes and the Earth's internal vibrations. They analyse the causes, waves and hazards of earthquakes to help with disaster preparedness and structural safety.



### Scan for everything on this career

Salary, exams, colleges, the routes in and the steps after — all on the portal.

[career.gsssjethantri.in/#/career/seismologist](https://career.gsssjethantri.in/#/career/seismologist)

### राजकीय उच्च माध्यमिक विद्यालय, जेठन्तरी

Govt. Sr. Sec. School, Jethantri · ब्लॉक समदड़ी · बालोतरा (Block Samdari · Balotra)

[www.gsssjethantri.in](https://www.gsssjethantri.in) · [career.gsssjethantri.in](https://career.gsssjethantri.in)



#### सुशील कुमार शर्मा

प्रधानाचार्य, रा.उ.मा.वि. जेठन्तरी · मास्टर ट्रेनर  
Principal, GSSS Jethantri · Master Trainer



#### श्री चेनाराम चौधरी

प्रधानाचार्य, डाइट बाड़मेर  
Principal, DIET Barmer



#### श्रीमती संघमित्रा

वरिष्ठ व्याख्याता, डाइट बाड़मेर (सहयोग)  
Sr. Lecturer, DIET Barmer (Support)



#### भरत चौधरी

अभिकल्पना व विकास · व्याख्याता (इतिहास)  
Designed & developed · Lecturer (History)

### विशेष धन्यवाद · SPECIAL THANKS



#### सुरेन्द्र सिंह राठौड़

व्याख्याता (इतिहास) · रा.उ.मा.वि. कानाना



#### सुरेश कुमार सैन

व्याख्याता (भूगोल) · रा.उ.मा.वि. रामसीन मूंगड़ा



#### वनिता कुमारी

व्याख्याता (इतिहास) · रा.उ.मा.वि. रामसीन मूंगड़ा



#### कमलेश चौधरी

व्याख्याता (राजनीति विज्ञान) · रा.उ.मा.वि. टापरा

करियर मार्गदर्शन कार्यशाला, डाइट बाड़मेर (14-17 जुलाई 2026) में विकसित व लोकार्पित  
Developed & unveiled at the Career Guidance Workshop, DIET Barmer (14-17 July 2026)

यह एक स्वतंत्र परियोजना है, जो सरकार की आधिकारिक करियर-मार्गदर्शन सामग्री पर आधारित है। · An independent project based on the Government's official career-guidance content.

## 1 About this career

Seismologists are geophysics specialists who study earthquakes and the Earth's internal vibrations. They analyse the causes, waves and hazards of earthquakes to help with disaster preparedness and structural safety.

## 2 At a glance

|                       |                                  |
|-----------------------|----------------------------------|
| Stream                | Science (PCM)                    |
| Minimum qualification | B.Sc/M.Sc/PhD Geophysics/Geology |
| Avg Starting Salary   | ₹6–9 LPA                         |
| Key Sector            | Earth science & research         |

## 3 What you need

### INTERESTS

- Deep interest in science and mathematics
- Curiosity about the Earth and natural phenomena
- Enjoy experiments and data analysis

### ABILITIES

- Strong mathematical and analytical ability
- Patience and careful observation
- Proficiency with computers and data modelling

### KEY SKILLS

- Seismic data acquisition and analysis
- Computer modelling and programming (Python/MATLAB)
- Seismic hazard assessment
- Geophysical instruments and seismographs
- GIS and mapping
- Scientific reporting and research writing

## 4 How to get there

---

- 1 Complete Class 10+2 Science (Physics, Chemistry, Maths).
- 2 Pursue B.Sc in Geophysics/Geology/Physics.
- 3 Specialise via M.Sc/M.Tech (Geophysics/Seismology).
- 4 Clear GATE or JEST to enter research institutes.
- 5 Gain research experience at NGRI/IIG and pursue a PhD.
- 6 Start as a Seismology Researcher or Geophysicist.

### MAIN EXAMS

- GATE (Geology/Geophysics – GG)
- CSIR-UGC NET (Physical Sciences)
- JEST (Physics – research admission)
- IIT JAM (M.Sc admission)

## 5 Where to study

---

### GOVERNMENT INSTITUTES

- University of Rajasthan — Jaipur, Rajasthan (<https://www.uniraj.ac.in/>)
- Mohanlal Sukhadia University — Udaipur, Rajasthan
- Indian Institute of Geomagnetism (IIG) — Navi Mumbai, Maharashtra (<https://iigm.res.in/>)
- CSIR-National Geophysical Research Institute (NGRI) — Hyderabad, Telangana (<https://www.ngri.res.in/>)
- IIT (ISM) Dhanbad – Applied Geophysics — Dhanbad, Jharkhand
- IISc – Centre for Earth Sciences — Bengaluru, Karnataka

### PRIVATE INSTITUTES

- Parul Institute of Applied Sciences — Vadodara, Gujarat
- Sri Guru Ram Rai University — Dehradun, Uttarakhand
- K. J. Somaiya College of Science & Commerce — Mumbai, Maharashtra

### ONLINE

- SWAYAM / NPTEL (भूभौतिकी/भूकंप विज्ञान) — Online (India)
- IGNOU (भूविज्ञान कार्यक्रम) — Distance learning (India)

**FEES**

About ₹10,000–₹1 lakh/year in government institutes; ₹1–2 lakh/year in private ones. Fellowships available at research institutes. (2026 estimate)

**SCHOLARSHIPS**

- National Scholarship Portal (NSP) (<https://scholarships.gov.in/>)
- INSPIRE Scholarship (DST) (<https://online-inspire.gov.in/>)
- CSIR-UGC JRF/NET Fellowship (<https://csirnet.nta.ac.in/>)
- Rajasthan CM Higher Education Scholarship (<https://hte.rajasthan.gov.in/>)

## 6 What the work is like

---

**WHERE YOU WORK**

Research institutes (NGRI, IIG), National Centre for Seismology, petroleum and mining industry, geothermal and nuclear research centres.

**WORK CULTURE**

Work in both lab and field; 5–6 days a week, at least 8–9 hours. Shift duty and overtime are common; travel for field surveys.

**WHO HIRES**

- |                                          |                                          |
|------------------------------------------|------------------------------------------|
| • National Centre for Seismology (NCS)   | • CSIR-NGRI                              |
| • Indian Institute of Geomagnetism (IIG) | • Oil and Natural Gas Corporation (ONGC) |
| • India Meteorological Department (IMD)  | • Geological Survey of India (GSI)       |

**DEMAND (2026)**

Rising needs in disaster management for earthquake-prone regions, oil-and-gas exploration and infrastructure safety keep demand steady for skilled seismologists.

## 7 Career growth

---

- 1 Intern / Junior Research Fellow
- 2 Seismology Researcher / Seismologist
- 3 Senior Seismologist

#### 4 Principal Scientist / Head of Department

##### EARNINGS

|              |                  |
|--------------|------------------|
| Starting     | ₹6-9 लाख/वर्ष    |
| Mid level    | ₹9-15 लाख/वर्ष   |
| Senior level | ₹15-25 लाख/वर्ष+ |

Salary depends on institute, qualification (M.Tech/PhD) and experience; higher in the oil-and-gas industry.

## 8 The good parts · The challenges

### The good parts

- Directly benefits society through disaster safety
- Blend of fieldwork and cutting-edge research
- Opportunities in both industry and government

### The challenges

- M.Tech/PhD essential for higher roles
- Fieldwork in remote areas and long hours
- Limited number of specialist positions

## 9 Real-life journeys

### Prof. Kusala Rajendran

**Seismologist & Professor, Centre for Earth Sciences, Indian Institute of Science (IISc), Bengaluru**

Prof. Kusala Rajendran is one of India's leading seismologists, doing pioneering research on earthquakes of the Indian subcontinent and their source mechanisms. After an M.Tech from IIT Roorkee and a PhD in the USA, she taught at IISc. She received the first National Award for Woman Scientist.

Wikipedia · [https://en.wikipedia.org/wiki/Kusala\\_Rajendran](https://en.wikipedia.org/wiki/Kusala_Rajendran)

### Dr. Harsh K. Gupta

**Eminent Seismologist, former Director CSIR-NGRI, Padma Shri**

Dr. Harsh K. Gupta is world-renowned for his research on reservoir-triggered seismicity. He led CSIR-NGRI Hyderabad and strengthened India's earthquake-monitoring systems. He was honoured with the Padma Shri for his contributions to earth science.

Wikipedia · [https://en.wikipedia.org/wiki/Harsh\\_Gupta](https://en.wikipedia.org/wiki/Harsh_Gupta)

## 10 Sources & further reading

---

1. Rajasthan Career Guidance – Seismologist — <https://cg.rajasthan.gov.in/careerguidance/>
2. National Centre for Seismology — <https://seismo.gov.in/>
3. CSIR-NGRI Hyderabad — <https://www.ngri.res.in/>
4. Indian Institute of Geomagnetism (IIG) — <https://iigm.res.in/>



### **And 770+ more careers — the whole portal**

Interest and aptitude tests, government jobs, skill courses and a CV builder — free, no login, and it works offline.

[career.gsssjethantri.in](https://career.gsssjethantri.in)