

भारत सरकार/Government of India  
भारतीय भूवैज्ञानिक सर्वेक्षण/Geological Survey of India  
27, जवाहरलाल नेहरू रोड/ 27, J.L. Nehru Road  
कोलकाता/ Kolkata-700016

सं./ No \_\_\_\_\_/IA/CHQ/2019

दिनांक/ Dated: 07.08.2019

परिपत्र/ CIRCULAR

The Co-Convener, International Workshop, NIT, Agartala has requested Geological Survey of India to nominate six delegates (Geologists and Geophysicists) to participate in a six-day workshop on 'Advanced Seismology, Seismic Hazards and Earthquake Engineering; Theory, Simulation and Observations, December 12-17, 2019' at NIT, Agartala.

Interested GSI officers having relevant association with Earthquake Geology may indicate their willingness and apply through proper channel for consideration for the above workshop on or before 19<sup>th</sup> August, 2019 to:

**Geology stream:** ADG & NHM-IV, GSI, 15 A&B Kyd Street, Kolkata-700016

**Geophysics stream:** DDG, NMH-1B, GSI, RSAS, Vasudha Bhawan, Kumaraswamy layout, Bangaluru-560078.

Advance copy of the application may be sent to the respective office mentioned above.

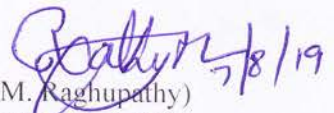
/  
(M. Raghupathy)  
DDG, IA & IGC  
GSI, CHQ

सं./ No 36 /IA/CHQ/2019

दिनांक/ Dated: 07.08.2019

**Copy for information to**

- ✓ 1. The DDG (IT), GSI, CHQ, Kolkata, 27 J.L. Nehru Road, Kolkata – 700016, with the request to upload the above in GSI portal.
2. The ADG, PSS, GSI, CHQ, Kolkata, 27 J.L. Nehru Road, Kolkata – 700016
3. The ADG & NHM-IV, GSI, 15 A&B Kyd Street, Kolkata-700016 with the request to send a panel of five geologists so that selection and necessary approval from DG, GSI may be done from this office.
4. The DDG, NMH-1B, GSI, RSAS, Vasudha Bhawan, Kumaraswamy layout, Bangaluru-560078 with a request to send a panel of five geophysicists so that selection and necessary approval from DG, GSI may be done from this office.

  
(M. Raghupathy)  
DDG, IA & IGC  
GSI, CHQ

## RESOURCE PERSONS



### Prof. Ruben Tatevosyan

*Institute of Physics of the Earth,  
Russian Academy Sciences, Moscow 123242, Russia*



### Prof. Vera Bykoba

*Institute of Physics of the Earth,  
Russian Academy Sciences, Moscow 123242, Russia.*



### Prof. Antonella Peresan

*Seismological Research Centre,  
National Institute of Oceanography & Applied  
Geophysics, Udine, Italy.*



### Prof. Päivi Mäntyniemi

*Institute of Seismology, Dept. of Geoscience &  
Geography, University of Helsinki, Finland.*



### Dr. Surendra Nadh Somala

*Dept. of Civil Engineering, Indian Institute of  
Technology Hyderabad, Kandi, Telangana, India*



### Prof. J. R. Kayal

*Ex. Deputy Director General, Geological Survey of  
India, Kolkata, India.*



### Dr. Santanu Baruah

*North East Institute of Science and Technology,  
Jorhat, Assam, India.*

## VENUE

Virtual Class room opposite to Visvesvaraya Auditorium, NIT Agartala

## DATE AND TIME

December 12-17, 2019, 9:30 am to 6:30 pm

## REGISTRATION FEE

Delegate Category	Outside State**	From State
Academy & Industrial Professional	Rs.10,000	Rs.5,000
Ph D & M Tech Scholars	Rs.7,000	Rs.500
B Tech & Passed out Students#	Rs.5,000	Rs.500

N.B: \*\*Registration fee of outside delegates covers lodging and boarding for seven days. # unemployed

## PAYMENT DETAILS

Registration fee can be paid online (website opens on or before August 16), or by DD/Cash at the Registration desk.

## ABSTRACT SUBMISSION

Participants may submit one page Abstract for poster presentation only. (Optional).

## FIELD TRIP (DECEMBER 15)

Fee Rs 1,500 per person at the Registration Desk.

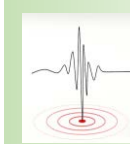
## CONTACTS

Dr Sima Ghosh, (Convener), [sima.civil@nita.ac.in](mailto:sima.civil@nita.ac.in) / +91-9862472558

Prof J R Kayal (Co-Convener), [jr.kayal@gmail.com](mailto:jr.kayal@gmail.com) / +91-9830675424



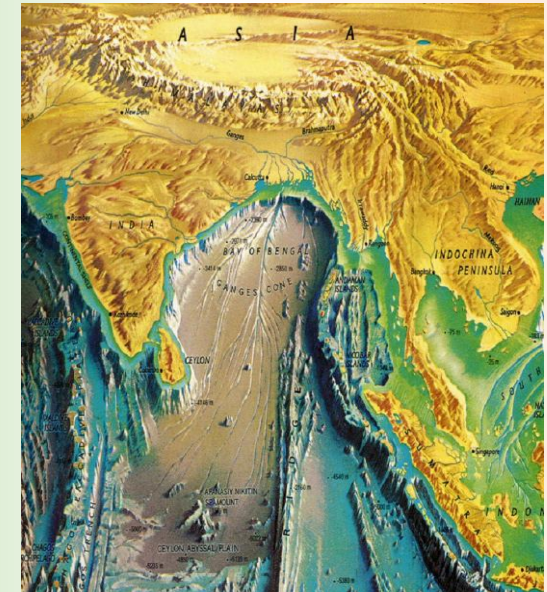
Neermahal, Tripura



## INTERNATIONAL WORKSHOP ON

# ADVANCED SEISMOLOGY, SEISMIC HAZARDS & EARTHQUAKE ENGINEERING: THEORY, SIMULATION & OBSERVATIONS

DECEMBER 12-17, 2019



Organized by:



**DEPARTMENT OF CIVIL ENGINEERING  
NATIONAL INSTITUTE OF TECHNOLOGY  
AGARTALA, TRIPURA-799046**

## OBJECTIVE OF THE WORKSHOP

Knowledge of *Earthquake Seismology* is much needed not only to the Earth Scientists but also to the Civil Engineers to cope up with the Earthquake Disaster Mitigation by making earthquake resilient structures to save lives and properties of the society. The NIT-Agartala started M Tech course with specialization in *Seismic Science and Engineering* during the last five years, and being much encouraged with need of the hour, we planned this six days Workshop for benefit of the students, research scientists, engineers and concerned authorities in the country, northeast India region in particular, which falls in zone V, highest seismic risk zone in the Seismic Zoning map of India (BIS, 2004). This is the first venture of its kind by the NIT-Agartala, and we believe that exchange of knowledge with **international** and **national experts** in this Workshop would definitely enhance confidence and expertise of the participant students/scientists and engineers.

## PARTICIPANTS

M Tech / Ph D students, Researchers / Scientists (Geology / Geophysics / Seismology) and Civil Engineers from India and abroad.

## ABOUT THE DEPARTMENT



The Civil Engineering Department of NIT Agartala is working since its inception (1965). The department has grown tremendously over years and recognized as one of the leading departments in NIT Agartala. The department has about 39 faculty members having exposure from national and international prestigious institutes. Besides high quality teaching, the faculty members of this esteemed department are actively involved in number of sponsored R&D and consultancy projects. This department has produced many technocrats who are serving the country as well as abroad. Further, the department is also actively engaged in collaborative research works with leading universities of the country, such as, IITs, NITs etc. and also abroad universities. The department is equipped with state of art laboratories and softwares. Many renowned personalities from academia as well as industry visit the department every year.

## ABOUT NIT AGARTALA



National Institute of Technology Agartala, a centrally funded Institution is setup to impart quality technical education into various levels of higher learning. It may be mentioned here that the 23rd February 2006 is a Red Letter Day in the history of Tripura Engineering College as well as for the State of Tripura as the Union Cabinet approved the proposal of State Government for conversion of Tripura Engineering College to National Institute of Technology, a fully Central Government funded Institution with Deemed to be University status and would also to become a National Centre of Excellence. The Institute (i.e., erstwhile Tripura Engineering College) was established in 1965 with the three traditional branches of Civil, Electrical and Mechanical Engineering. It was initially affiliated to Calcutta University and had the same curriculum structure and examination system at per with Bengal Engineering College (presently Bengal Engineering and Science University, Shibpur). After the establishment of Tripura University, the Institute was affiliated to the new Tripura University. The Institute is approved by All India Council for Technical Education (AICTE). Computer Science & Engineering degree course has been started in 1999-2000 session as well as three new courses viz. Electrical & Electronics, Production and Transportation Engineering have been introduced in this Institute during 2005-2006 sessions to cater the needs of the technical manpower in this region.

## HOW TO REACH THE INSTITUTE

The Institute is 4 km off from NH-44 and about 20 km away from capital city.

**Nearest railstation:** Jirania Railway Station (about 2 km)

**Airlines:** Flights are available connecting Delhi, Kolkata, Guwahati and Mumbai



Ujjayanta Palace, Tripura

## CHIEF PATRON

**Prof. H. K. Sharma**

Director

NIT Agartala

Tripura, India

## CONVENER

**Dr. Sima Ghosh,**

Associate Professor

Civil Engineering Department,

NIT Agartala Tripura, India

Email: [sima.civil@nita.ac.in](mailto:sima.civil@nita.ac.in)

Mobile : +91-9862472558

## PATRON

**Prof. R P Sharma**

Professor

Department of Civil Engineering

NIT Agartala. Tripura, India

## CO-CONVENER

**Prof. J. R. Kayal**

Rtd Dy. Director

General (Geophys)

Geol Surv of India, Kolkata

Email: [jr.kayal@gmail.com](mailto:jr.kayal@gmail.com)

Mobile: +91-9830675424

## INTERNATIONAL ADVISORY COMMITTEE

Prof. Ruben Tatevosyan, Inst Phys Earth, Russia (Vice-President, Asian Seismological. Commission)

Prof. Antonella Peresan, National Institute of Oceanography & Applied Geophysics, Udine, Italy

Dr. Ardhendu Saha, NIT Agartala, India

Dr. S. K. Das, State Project Officer, Disaster Management Cell, Tripura, India

## NATIONAL ADVISORY COMMITTEE

Prof. U. K. Mishra, NIT Agartala

Dr. S. K. Pal, NIT Agartala

Dr. Manish Pal, NIT Agartala

Dr. Debashish Bhattacharya, NIT Agartala

Dr. Rajib Saha, NIT Agartala

## ORGANISING COMMITTEE

### FACULTY MEMBER

Dr. Partha Pratim Sarkar, NIT Agartala

Dr. Baby Bhattacharya, NIT Agartala

Dr. Apu Kr Saha, NIT Agartala

Mr. Gopi Nandan Dey, NIT Agartala

Mr. Suman Das, NIT Agartala

Dr. Debasis Neogi, NIT Agartala

### STUDENT MEMBERS

Mr. Arijit Saha, NIT Agartala

Mr. Suman Hazari, NIT Agartala

Mr. Shuvankar Das, IIT Kharagpur

Mr. Avik Paul, NIT Agartala

Mr. Pankaj Sarkar, NIT Agartala

Mr. Litan Debnath NIT Agartala

Mr. Rohan, NIT Agartala

**INTERNATIONAL WORKSHOP ON:**  
**Advanced Seismology, Seismic Hazards & Earthquake Engineering:**  
**Theory, Simulation & Observations**

*National Institute of Technology, Agartala, Tripura*

*December 12-17, 2019*

***Programme Schedule***

***December 12 (Day 1):***

**Inauguration: (9.30-10.30)**

*Tea Break: 10-30-11.00*

**Technical Session I (11.00-13.00):**

**Prof J R Kayal, (Ex GSI), 2 lectures, Advanced Seismology: *Seismic waves, earthquake location, fault dynamics, fault plane solution, seismic tomography.***

*Lunch Break 13.00- 14.00*

**Technical Session II (14.00-16.00):**

**Dr Santanu Baruah (NEIST), 2 lectures, Advanced Seismology: *Source studies, waveform modelling, earthquake rupture, b-value and fractal.***

*Tea Break (16.00-16.30)*

**Technical Session III (16.30-18.30):**

**Prof Ruben Tatevosyan (IPE, Russia), 2 lectures, Strong Motion Seismology: *Strong earthquakes, aftershocks, surface ruptures, macroseismic effects.***

***December 13 (Day 2):***

**Technical Session IV (9.30-11.30):**

**Dr Santanu Baruah (NEIST, Jorhat), 2 **practice**, Advanced Seismology: *Earthquake location and Waveform modeling***

*Tea Break 11.30-12.00*

### **Technical Session V (12.00-13.00):**

**Prof Päivi Mäntyniemi (Inst Seism, Finland), 1 lecture,** Seismic Hazard: *Seismic Hazard Models for Europe*

*Lunch break 13.00-14.00*

### **Technical Session VI (14.00-16.00):**

**Prof Antonella Peresan (OGS, Italy), 2 lectures.** Seismic Hazard: *Earthquake cluster analysis, seismicity pattern and forecasting.*

*Tea Break 16.00-16.30*

### **Technical Session VII (16.30-18.30):**

**Dr. Surendra Nadh Somala (IIT-Hyd), 2 lectures,** Earthquake Engineering: Structural dynamics, linear and nonlinear dynamics, base isolation etc.

## ***December 14 (Day 3):***

### **Technical Session VIII (9.30-11.30):**

**Prof Vera Bykova (IPE, Russia), 2 lectures,** Seismic Hazards: *Response spectra, hazard curves, GMPEs, synthetic time-histories, site-response analysis.*

*Tea Break 11.30-12*

### **Technical Session IX (12.00-13.00):**

**Prof Päivi Mäntyniemi (Inst Seism, Finland), 1 lecture,** Seismic Hazards: *PSHA in low-seismicity regions: the Fennoscandian perspective*

*Lunch break 13.00-14.00*

### **Technical Session X (14.00-16.00):**

**Dr. Surendra Nadh Somala (IIT-Hyd), 2 **practice**,** Earthquake Engineering: *Static and dynamic analysis.*

*Tea Break 16.00-16.30*

### **Technical Session XI (16.30-18.30):**

**Prof Antonella Peresan (OGS, Italy), 2 **practice**,** Seismic Hazards: *Earthquake catalogs analysis, analysis of seismic clusters.*

***December 15 (Day 4): Sunday, Field Trip!***

***December 16 (Day 5):***

**Technical Session XII (9.30-11.30):**

**Prof J R Kayal, (Ex GSI), 2 lectures, Advanced Seismology: *Seismotectonics of India***

*Tea Break 11.30-12*

**Technical Session XIII (12.00-13.00):**

**Prof Antonella Peresan (OGS, Italy), 1 lecture, Seismic Hazards: *Time-dependent seismic hazard assessment, verification & testing of ground shaking scenarios.***

*Lunch break 13.00-14.00*

**Technical Session XIV (14.00-16.00):**

**Dr Sima Ghosh, (NIT, Agartala), 2 lectures, Earthquake Engineering: Seismology and Response of Geotechnical Engineering Structures.**

*Tea Break 16.00-16.30*

**Technical Session XV (16.30-18.30):**

**Prof Vera Bykova (IPE, Russia) & Prof Paivi Mantiniemi (Inst Seism. Finland), 2 practice, Earthquake Engineering /Seismic Hazards.**

***December 17 (Day 6):***

**Technical Session XVI (9.30-11.30):**

**Prof. R P Sharma (NIT, Agartala), 1 lecture, Earthquake Engineering: Dynamic response classification of rock masses, single block response, dynamic friction, multiple block response.**

**Dr Sima Ghosh, (NIT, Agartala), 1 practice, Earthquake Engineering.**

*Tea Break 11.30-12.00*

**Technical Session XVII (12.00-13.00):**

**Prof J R Kayal, (Ex GSI), 1 lecture, Seismic Hazards: *Microzonation studies in India.***

*Lunch break 13.00-14.00*

**Technical Session XI (14.00-16.00):**

**Prof Ruben Tatevosyan (IPE, Russia) & Prof Päivi Mäntyniemi (Inst Seism, Finland) 2 Practice, Seismic Hazard Evaluation.**

*Tea Break 16.00-16.30*

***Concluding, Interacting & Valedictory Session (16.30-18.30)***

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**International Workshop**  
*on*  
**Advanced Seismology, Seismic Hazards & Earthquake  
Engineering: Theory, Simulation & Observations  
(December 12-17, 2019)  
(ASSHEE-2019)**  
NIT Agartala  
Tripura-799046

**REGISTRATION FORM**

*Personal Information*

Name (in block letters): \_\_\_\_\_

Designation: \_\_\_\_\_

Institute/Organization: \_\_\_\_\_

Address for Correspondence: \_\_\_\_\_

\_\_\_\_\_

Email: \_\_\_\_\_

Mobile No.: \_\_\_\_\_

Highest Academic Qualification: \_\_\_\_\_

Working Experience (in nos. of years), if any: \_\_\_\_\_

Accommodation required (Tick): YES/NO

*Details of Registration fees*

Amount in Rs.: \_\_\_\_\_

Transaction ID/DD No.: \_\_\_\_\_ Date of Transaction: \_\_\_\_\_

(Please enclose transaction slip/DD)

Sponsored by, if any: \_\_\_\_\_

*Signature of the Applicant with date*

*Sponsorship & Signature of Competent  
Authority with date & Seal*

[Please send the scanned copy of the completed registration form together with the scanned copy of the DD/ online payment receipt of requisite fee to the Conveners (ASSHEE-2019), Department of Civil Engineering, NIT Agartala , Tripura-799046, INDIA on or before August 31, 2019 by e-mail ([sima.civil@nita.ac.in](mailto:sima.civil@nita.ac.in) and [jr.kayal@gmail.com](mailto:jr.kayal@gmail.com))]