



75
आज़ादी का
अमृत महोत्सव

A Journey Towards An Earthquake Resilient Society

*Ready
To ride
it out?*

An Initiative of
Geosciences & Technology Division (GSTD)



CSIR- North East Institute of Science & Technology, Jorhat, Assam-785006



GEOLOGICAL SOCIETY OF INDIA

Prof. Harsh K. Gupta
President

I am very happy to learn that under the direction of Dr. G. Narhari Sastry, Director, CSIR-North-East Institute of Science and Technology (NEIST), Jorhat has undertaken a campaign to generate awareness about earthquakes in the northeast (NE) India with an aim of developing an earthquake resilient society. As of now, it is not possible to make accurate earthquake forecasts. Even if a forecast is made that a Richter magnitude 7 earthquake would occur at 1 pm next Saturday near Guwahati, can the entire population of Guwahati move out to a safer place? Earthquakes have occurred in the past and shall continue to occur in the NE India. The 15 August 1950 Assam earthquake of Mw 8.7 is the largest ever recorded earthquake in the continents. It is helpful to develop earthquake scenarios. What would happen if one of the earlier earthquakes repeats today? NEIST helped in conducting such an exercise for the repeat of the Shillong Mw 8.2 earthquake of 12 June 1897. It is estimated that if this earthquake occurs in the mid of the night, ~ 423000 human lives could be lost in the eight NE Indian states. This number can be drastically reduced by using good practices and developing an earthquake resilient society in the NE India. We need to learn to live with earthquakes. The efforts being made by NEIST to generate earthquake awareness among ~10,000 school and college students is indeed praiseworthy.

I wish all the success for this very important campaign being undertaken by NEIST.

(Harsh K. Gupta)

Address for Correspondence: CSIR - National Geophysical Research Institute, Hyderabad-500 007,INDIA.

Tele/Fax: 040-27012866, Tel: 040-27012600(Direct) 040-27155971(R) Email: harshg123@gmail.com

Member, Atomic Energy Regulatory Board
Immediate Past President, International Union of Geodesy and Geophysics

Formerly: Member, National Disaster Management Authority
Secretary to Govt. of India, Department of Ocean Development
Director, National Geophysical Research Institute
Vice-Chancellor, Cochin University of Science & Technology
Professor, University of Texas at Dallas, USA

Forwarding Message: अग्रेषण संदेश: आगकथा



Dr. G Narahari Sastry

FNA, FASc, FNAsc, FRSC

DIRECTOR

सीएसआईआर- उत्तर पूर्व विज्ञान तथा प्रौद्योगिकी संस्थान
वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद्
जोरहाट-785006, आसाम, भारत

CSIR-NORTH EAST INSTITUTE OF SCIENCE & TECHNOLOGY
COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH (CSIR)
JORHAT-785006, ASSAM, INDIA



The Geoscience and Technology Division (GSTD) of CSIR-North East Institute of Science and Technology was established in the year 1984. The northeastern (NE) regions of India are one of the most active seismic zones in the world and falls in seismic zone V as per Bureau of Indian Standards, 2002. The region is jawed, admits two gigantic arcs, the Himalayan arc to the north and the Indo-Burmese arc to the east. The region bounded between 22-90°N and 90-80°E, has suffered from two great earthquakes ($M>8.0$) and about 20 large earthquakes ($7.0>M$) have struck the region since 1897.

The foremost quest of GSTD is to scrupulously understand the complex geodynamics of the NE regions of India. Furthermore, GSTD also encompasses earthquake hazard estimation and its mitigation strategies for the region. The division has a clear transparent vision and mission towards thriving innovative ideas and technologies to make the region resilient to natural hazards like earthquake. Seismic monitoring has been one of the major activities of the division since its inception. It also publishes the yearly CSIR-NEIST, seismological bulletin which has been source for many research publication and has explained numerous research queries pertaining to Ph.D. thesis.

The division has been conducting International Virtual Workshop on Global Seismology and Tectonics (IVWGST) every year which started during the pandemic year of 2020. It is one of the examples of opportunity in adversity that our institution has carved out of the COVID-19 pandemic situation with the aim to boost the morale of the students and researchers, during the distressing pandemic situation, by provisioning opportunities to interact with eminent personalities of their research interest in the domain of Seismology and Tectonics. The division also celebrated earth day with enthusiasm and has successfully conducted tree plantation drive on 26th April, 2022. Seismic vulnerability assessment of populated cities and urban areas in NE, India is another program of the institution.

I congratulate the GSTD division for their dedication and efforts to achieve an earthquake resilient North-East, India.

Date: 09/03/2023


(G. Narahari Sastry)

Forwarding Message: अग्रेषण संदेश: आगकथा



東北大学大学院理学研究科

地震・噴火予知研究観測センター

The Geoscience and Technology Division of CSIR-NEIST Jorhat has a broad area of studies in the Northeast India region and its vicinity. Northeast India is one of the most seismically active complex tectonic provinces in the world and provides numerous geological and geophysical problems to decode Earth's mysteries. The Northeastern region is situated in the interaction junction of three major plates: the Indian plate, Eurasian plate and Burmese plate. Hence, it is an important natural laboratory for all the seismologists and geologists across the world.

I am very delighted to learn that the department is also conducting earthquake awareness campaigns in various schools and colleges of Northeast India to sensitize young minds. I hope this awareness program will be a mass success not only for the institute but also for the benefits of mankind.

I would like to congratulate Dr. G. Narahari Sastry, Director of CSIR-NEIST for his visionary ideas towards this great cause. I also like to wish Dr. Santanu Baruah, Senior Scientist & his entire team of Geoscience and Technology Division, CSIR-NEIST for their enormous dedication towards the society and wish them good luck for future endeavors.

A handwritten signature in black ink, reading 'Dapeng Zhao' in English and Chinese characters. A red circular seal is placed above the signature. The signature is underlined.

Dapeng Zhao, Professor
Department of Geophysics
Graduate School of Science
Tohoku University
Sendai 980-8578, Japan
Tel: +81 – 22-225-1950
E-mail: zhao@tohoku.ac.jp

<http://www.aob.gp.tohoku.ac.jp/>

Forwarding Message: अग्रेषण संदेश: आगकथा

Prof. J. R. Kayal, M. Sc. (IIT-ISM), Ph. D. (VUW, N Z)

Former Deputy Director General (Head, Geophys), Geol Surv India, Kolkata

Ex Visiting Scientist: University of Leeds, UK; USGS, California;

Ehime University & University of Tokyo, Japan; Strasbourg University, France;

IPE, Moscow, Russia and GFZ, Potsdam, Germany

& CSIR Emeritus Professor, Jadavpur University, Kolkata, India

Adjunct Professor: IIT-Kgp, IIT-ISM, ISR, Tezpur Univ, Manipur Univ, NIT-A

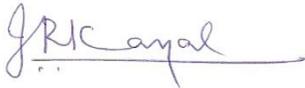
Guest Faculty: UNESCO & ICTP Training Courses, South Asia

Member, Advisory/Assessment Committee: CSIR, WIHG, NHPC, NPCIL (India)

The Northeast Region (NER) of India as well as its adjoining areas is tectonically one of the most active zones in the world due to its juxtaposition with the Himalayan collision zone to the North and atypical Indo-Burma subduction zone to the east. CSIR-North East Institute of Science & Technology (CSIR-NEIST), Jorhat is the only CSIR laboratory situated in the region mainly devoted to study of all kind of science, technology, hazard and disaster risks for the entire North-East region.

The International Virtual Workshop on Global Seismology and Tectonics (IVWGST) being organized via online mode by the Geoscience and Technology Division of the CSIR-NEIST, Jorhat is a magnanimous endeavor of its kind. The entire IVWGST editions are well designed to enhance knowledge and thoughts of young minds as well as the entire geoscience community. All the editions of the workshop are well documented in the form of e-abstract volume for future perspective.

The Geoscience & Technology Division is also educating masses through earthquake awareness program to commemorate the great Assam Earthquake of 1897 under the visionary advice of Padmashree awardee Prof. Harsh K. Gupta. I would like to extend my heartiest congratulations to the Convener, Dr. Santanu Baruah and his formidable team for their efforts and dedication towards the society. I also warmly appreciate the leadership and guidance of Dr. G. Narahari Sastry, Director, CSIR-NEIST for conceptualizing and taking the initiatives of such programs



Forwarding Message: अग्रेषण संदेश: आगकथा

CSIR-NORTH-EAST INSTITUTE OF SCIENCE & TECHNOLOGY (A constituent establishment of CSIR)

Jorhat - 785 006, ASSAM

Ph: 2372624

PABX: 2370117 / 2370139-extn 2210(off)

Fax: (0376) 2370011, 2370115 Gram: Research

E-mail: director@rtrjorhat.res.in

Website: <http://www.neist.res.in>



सीएसआइआर-उत्तर पूर्व विज्ञान तथा प्रौद्योगिकी संस्थान
(सी एस आई आर की अंगीभूत इकाई)

जोरहाट: 785 006, आसाम, भारत

फोन : 2372624

पिएविएक्स: 0376-2370117, 2370121, 2370139

फैक्स : 0376 2370011, 2370115

ई-मेल : director@rtrjorhat.res.in

वेबसाइट : <http://www.neist.res.in>

Dr. Santanu Baruah

Co-ordinator of Earthquake Awareness Programme' 2022-23

(Senior Scientist

Geoscience & Technology Division)

It gives me an immense pleasure to release the Earthquake awareness programme brochure "A Journey Towards An Earthquake Resilient Society" which is an initiative undertaken by Geoscience and Technology Division of CSIR- North East Institute of Science & Technology. This earthquake brochure reflects the objective, goal, mission as well as activities pertaining to the entire earthquake awareness and preparedness programme.

The great Shillong $M_w \sim 8.2$ earthquake of 12th June 1897 completed 125 years in 2022, and to commemorate the same under the visionary mentorship of Prof. Harsh K. Gupta and leadership of Dr. G. Narahari Sastry, Director, CSIR-NEIST; a team of Geoscience & Technology Division, CSIR-NEIST conducted a mass awareness cum training programmes in various schools and colleges of Assam. As a mission of this program, the initial target was to sensitize 10,000 school and college students on earthquake awareness and preparedness. But, the team covered around 11,874 people in the programme which comprises 10,987 students, 527 teachers and 360 helping staffs of the institutions. The team visited around 30 schools and colleges in Jorhat, Golaghat, Nagaon, Sonitpur, Majuli, Sivasagar and Tinsukia districts of Assam during the period of May, 2022-October, 2022. Apart from imparting mandated earthquake awareness and preparedness guidelines, visual explanations on basic seismological concepts were imparted. The students were visibly enthusiastic and their proactive participation in question-and-answer sessions indicated tangible development in their perception about earthquakes and its preparedness. Furthermore, pamphlets were distributed among the students and minimum of two books on Earth, Earthquakes and Essentials of Safety (CSIR published) donated to the library of individual schools/ colleges for benefits of the large mass. Overall, the Earthquake Awareness Programme was a grand success and helpful for the students to be more practically prepared in case of an emergency situation like earthquakes.

Last but not the least, I thank all the team members for their enormous support and sparkling efforts to successfully conduct such a mass awareness programme.

SANTANU BARUAH

Date: 09-03-2023

(Santanu Baruah)



An ISO 9001:2008 Certified Organization

Connecting Science & Technology for Brighter Tomorrow

हम हिंदी में पत्राचार का स्वागत करते हैं

Our Mission



Under the visionary advice of Padma Shri Prof. H. K. Gupta, CSIR-NEIST is all set to conduct an Earthquake Awareness Program across Assam with the leadership of Dr. G. Narahari Sastry, Director CSIR-NEIST. The institute has pledged to reach out to 10000 school children to sensitise them on how to react in case of an earthquake.

Objective

To create an earthquake resilient society through earthquake awareness programme in different places of Assam.



Goal

To educate and impart knowledge to at least 10,000 school/college students on earthquake awareness and preparedness within financial year 2022-23.

EARTHQUAKE Education

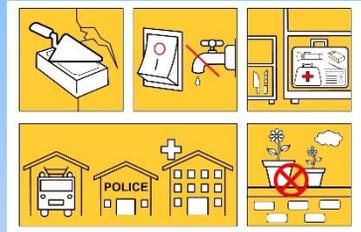


Activities

1. Slide show creating awareness on implications of construction of compromised housing structures, haphazard and unplanned urbanisation.



2. Slide show explaining the pre and post seismic precautions to be adopted.



3. Lecture and mock drill to be performed.



4. Explanation of earthquake data recording to elucidate on its functioning with the help of geophysical instruments.



Earthquake Awareness Programme, (April-October 2022)

Chief Patron: Dr. G. Narahari Sastry, Director, CSIR-NEIST, Jorhat

Advisor: Prof. H. K. Gupta, Member, Atomic Energy Regulatory Board (AERB), Govt. of India

Sl. No.	Events	Venue	Date/ Duration	Number of total participants		
				Students	Teacher / Staff	Others
1	Emerging trends in Environment-Conservation-Public awareness	MADHABDEV UNIVERSITY, NARAYANPUR	8 April 2022	265	5	10
2	Earth Day Celebration	CSIR-NEIST, JORHAT	26 April 2022	50	10	120
3	National Science & Technology Day-2022	CINAMARA H.S. SCHOOL, JORHAT	11 May 2022	440	24	5
4	Earthquake Awareness Programme	BON BAGAN BONUA L.P. SCHOOL	11 June 2022	70	8	30
		DIPOTA GIRLS M.V. SCHOOL	13 June 2022	40	9	10
		56 NO. KHOLAKUTI L.P. SCHOOL	14 June 2022	55	4	15
		TEZPUR CHARIALI GIRLS' HIGH SCHOOL	14 June 2022	240	13	4
		TEZPUR GOVT. H.S. SCHOOL	15 June 2022	562	50	20
		LATE RASHARAM BORAH L.P. SCHOOL	16 June 2022	32	6	8
		10 NO. NA-SATRA L.P. SCHOOL	16 June 2022	6	3	2
		MALOWALI H.S. SCHOOL	30 July 2022	412	34	25
		CINNAMARA JATIYA BIDYALAY	14 Sept 2022	454	13	nil
		KARANGA GIRLS' H.S. SCHOOL	14 Sept 2022	300	20	2
		RANGAJAN HIGH SCHOOL	14 Sept 2022	175	13	2
		SAKAI KHONGIA HIGH SCHOOL	19 Sept 2022	456	13	31
		BELGURI JANAJATI HIGH SCHOOL	19 Sept 2022	291	8	4
		ADARSHA TRIBAL H.S. SCHOOL	19 Sept 2022	330	5	2
NAMDEURI H.S. SCHOOL	19 Sept 2022	464	28	20		

Earthquake Awareness Programme, (April-October 2022)

Chief Patron: Dr. G. Narahari Sastry, Director, CSIR-NEIST, Jorhat

Advisor: Prof. H. K. Gupta, Member, Atomic Energy Regulatory Board (AERB), Govt. of India

Sl. No.	Events	Venue	Date/ Duration	Number of total participants		
				Students	Teacher / Staff	Others
4	Earthquake Awareness Programme	SAUMARJYOTI VIDYALAYA, TINSUKIA	6 Oct 2022	923	40	5
		BIPIN BORA H.S. SCHOOL, TINSUKIA	6 Oct 2022	640	22	3
		ADARSHA VALIKA VIDYALAYA	6 Oct 2022	340	7	1
		BARAGURI H.S. SCHOOL	7 Oct 2022	690	21	2
		SARBANANDA SINGHA M.E. SCHOOL	7 Oct 2022	201	6	1
		SARVAJANIN H.S. VALIKA VIDYALAYA, TINSUKIA	7 Oct 2022	964	32	5
		MELENG HIGH SCHOOL	11 Oct 2022	279	19	5
		KAKOJAN BOYS' H.S. SCHOOL	11 Oct 2022	350	34	6
		KAKOJAN COLLEGE	11 Oct 2022	1057	35	5
		REBAKANTA BARUAH PUBLIC HIGH SCHOOL	11 Oct 2022	356	22	5
		NAVAYJYOTI HIGH SCHOOL, ROWMORA	19 Oct 2022	438	8	4
		JANA JATI ABASH GRIHA M.E. SCHOOL	19 Oct 2022	51	4	3
		193 SALAGURI BALIKA PRACTISING SCHOOL	22 Oct 2022	26	4	3
		ASSAM RAJIV GANDHI UNIVERSITY OF COOPERATIVE MANAGEMENT (ARGUCOM), SIVASAGAR	22 Oct 2022	30	7	2
		Total				10987
Grand Total				11874		

Other Major Events/ Workshop/ Symposium on Earthquakes:

Sl. No.	Events	Venue	Date/ Duration	Number of total Participants		
				Students	Teacher / Staff	Others
1	International Virtual Workshop on Global Seismology & Tectonics (IVWGST-2020)	CSIR-NEIST, Jorhat	20-30 Sept 2020	1009	20	5
2	International Virtual Workshop on Global Seismology & Tectonics (IVWGST-2021)	CSIR-NEIST, Jorhat	20-30 Sept 2021	1770	20	6
3	GeoIBR'22	CSIR-NEIST, Jorhat	6-7 June, 2022	625	25	10
4	International Virtual Workshop on Global Seismology & Tectonics (IVWGST-2022)	CSIR-NEIST, Jorhat	20-30 Sept 2022	528	20	13
Total				3932	85	34
Grand Total:				4051		

Earthquake Awareness Programme, (April-October 2022)

Cordinator: **Dr. Santanu Baruah, Senior Scientist, Geoscience & Technology Division (GSTD), CSIR-NEIST**

Co-Cordinator: **Dr. Manoj K. Phukan, Principal Scientist, GSTD, CSIR-NEIST**

Members:

- ❑ Mr. Sausthov M. Bhattacharyya, Senior Technical Officer
- ❑ Dr. Timangshu Chetia, Technical Assistant
- ❑ Mr. Chandan Dey, CSIR-SRF
- ❑ Mr. Nabajyoti Molia, DST-INSPIRE JRF
- ❑ Mr. Prachurjya Borthakur, PA-I

Photographs



Panbari, Assam, India
XV9C+F54, Panbari, Assam 784164, India
Lat 26.968464°
Long 93.87036°
08/04/22 10:13 AM

Fig (1): ICSSR-Sponsored National Seminar on “Emerging trends in Environment-Conservation-Public awareness” conducted by Madhabdev University, Narayanpur on 8th April 2022.



Fig (2): Dr. Santanu Baruah, Senior Scientist of CSIR-NEIST attended the seminar as an invited Resource Person.

Photographs during National Science & Technology Day-2022 on Earthquake awareness



Fig (3): Dr. Santanu Baruah, Senior Scientist of CSIR-NEIST, Jorhat while giving a talk on “abc of Earthquake Awareness” in front of the pupil of Cinamara H.S. School, Jorhat on 11th May 2022 as a part of National Science & Technology Day celebration.



Fig (4): Interactive session between the Resource person, Dr. Santanu Baruah and students of Cinamara H.S. School.



Fig (5): Dr. Santanu Baruah, Senior Scientist of CSIR-NEIST is seen on the podium during his talk on “abc of Earthquake Awareness” .

Photo shots of the awareness camps held in various parts of Assam



Fig (6): Earthquake awareness programme undertaken at **Bon Bagan Bonua L. P. School**, Golaghat district on 11th June 2022. (Mr. Chandan Dey, CSIR-SRF of CSIR-NEIST is seen on the right hand corner of the photo.)



Fig (7): Earthquake awareness programme undertaken at **Dipota Girls M.V. School**, Sonitpur district on 13th June 2022. (Mr. Nabajyoti Molia, DST-INSPIRE-JRF of CSIR-NEIST is seen on the left hand corner of the photo.)



Fig (8): Earthquake awareness programme undertaken at **56 No. Kholakuti L. P. School**, Sonitpur district on 14th June 2022. (Dr. Santanu Baruah, Senior Scientist of CSIR-NEIST is seen on the right hand corner of the photo while demonstrating about earthquakes and its awareness to the students.)



Fig (9): Earthquake awareness programme undertaken at **Tezpur Govt. H.S. School**, Sonitpur district on 15th June 2022. (Mr. Nabajyoti Molia, DST-INSPIRE-JRF of CSIR-NEIST is seen while demonstrating to the students.)

Photo shots of the awareness camps held in various parts of Assam



Fig (10): Earthquake preparedness mock drills undertaken at 56 No. Kholakuti L. P. School, Sonitpur district on 14th June 2022 (Dr. Santanu Baruah, Senior Scientist of CSIR-NEIST is seen among the students and teachers in the left photo and Mr. Nabajyoti Molia , DST-JRF is seen in the right hand photo.)



Fig (11): (a) Interaction with the students of Dipota Girls M.V. School, Sonitpur district on Earthquake preparedness and awareness on 13th June 2022.(Mr. Nabajyoti Molia, DST-JRF of CSIR-NEIST is seen on the left side photo). (b) Interaction with the students of Late R. Borah L.P. School, Nagaon district by Mr. Chandan Dey, CSIR-SRF of CSIR-NEIST on 16th June 2022.

Photo shots of the awareness camps held in various parts of Assam



Fig (12): Earthquake preparedness mock drills undertaken at **Late R. Borah L.P. School, Koliabor**, Nagaon district on 16th June 2022.



Fig (13): Interactive session between students and earthquake awareness programme co-ordinator, **Dr. Santanu Baruah** at **56 No. Kholakuti L. P. School**, Sonitpur district.



Fig (14): (a) **Mr. Nabajyoti Molia**, DST-INSPIRE-JRF of CSIR-NEIST, Jorhat while demonstrating “Basics of earthquake and its preparedness cum awareness” to the students of **Tezpur Govt. H.S. School** on 15th June 2022.

Photo shots of the earthquake awareness camps held in various parts of Assam



Fig (15): Earthquake awareness programme undertaken at **Malowali H.S. School**, Jorhat district on 30th July, 2022. (**Mr. Prachurija Borthakur, CSIR-NEIST** is seen interacting with the students.)



Fig (16): Educating pupil of **Cinnamara Jatiya Bidyalay** Jorhat district on earthquake basics and preparedness (Date: 14th September, 2022)



Fig (17): Educating masses through earthquake awareness at **Karanga Girls' H.S. School**, Jorhat (Date: 14th Sept 2022)



Fig (18): Students- Researcher interactions pertaining to earthquake mitigation and hazard preparedness undertaken at **Rangajan High School, Titabar** on 14th Sept 2022.

Photo shots of the earthquake awareness camps held in various parts of Assam



Fig (19): Mr. Nabajyoti Molia, CSIR-NEIST is seen sensitizing students of Sakai Khongia High School, Jorhat district on the earthquake basics and preparedness (Date: 19th September, 2022)



Fig (20): Earthquake awareness programme undertaken at Belguri Janajati High School, Jorhat district on 19th Sept, 2022. (Mr. Prachurjya Borthakur, CSIR-NEIST is seen interacting with the students.)



Fig (21): Educating young minds on the necessary precautions and methods that to be undertaken during a probable earthquake hazard (Adarsha Tribal H.S. School, Jorhat 19th Sept, 2022).

Photo shots of the earthquake awareness camps held in various parts of Assam



Fig (22): Students of Namdeuri H.S. School, Jorhat while attending the earthquake mass awareness campaign organized by CSIR-NEIST (Date: 19th Sept, 2022)



Fig (23): Mr. Nabajyoti Molia during his interaction with students of Saumarjyoti Vidyalaya, Tinsukia on 6th October, 2022.



Fig (24): Earthquake awareness campaign undertaken at Bipin Bora H.S. School, Tinsukia on 6th October, 2022.



Fig (25): Post interaction session between researchers and students of Adarsha Valika Vidyalaya, Tinsukia on 6th October, 2022.

Photo shots of the earthquake awareness camps held in various parts of Assam



Fig (26): Earthquake awareness programme undertaken at **Baraguri H.S. School, Tinsukia** on 7th October, 2022.



Fig (27): Post interaction session between Mr. **Nabajyoti Molia, DST-JRF** and students of **Sarbananda Singha M.E. School, Tinsukia** on 7th October, 2022.



Fig (28): Educating masses on earth's interior phenomena's that govern the earthquakes as well as other natural disasters (**Sarvajanin H.S. Valika Vidyalaya, Tinsukia**; Date: 7th October, 2022).

Photo shots of the earthquake awareness camps held in various parts of Assam



Fig (29): Mr. Nabajyoti Molia, DST-JRF of CSIR-NEIST after successful completion of earthquake awareness campaign at **Meleng High School, Jorhat** (Date: 11th October, 2022).



Fig (30): Mr. Prachuriya Borthakur, CSIR-NEIST after the successful earthquake awareness and preparedness programme at **Kakojan Boys' H.S. School, Jorhat** (Date: 11th October, 2022).



Fig (31): Earthquake awareness programme undertaken at **Kakojan College, Jorhat** on 11th October, 2022.

Photo shots of the earthquake awareness camps held in various parts of Assam



Fig (32): Mr. Nabajyoti Molia, CSIR-NEIST while demonstrating an earthquake seismogram records to the students of Navajyoti High School, Rowmora, Majuli on 19th October, 2022.



Fig (33): Mr. Prachurjya Borthakur after the successful conduction of earthquake awareness at Janajati Abash Griha M.E. School, Jorhat district (Date: 19th Oct 2022)



Fig (34): Dr. Santanu Baruah while demonstrating causes of earthquakes to school students on 22nd Oct 2022 (193 Salaguri Balika Practising School, Sivasagar)

Photo shots of the earthquake awareness camps held in various parts of Assam



Fig (35): Earthquake awareness campaign undertaken at **Assam Rajiv Gandhi University of Cooperative Management (ARGUCOM), Sivasagar** on 22nd October, 2022. **Mr. Nabajyoti Molia, DST-JRF** is seen with an oral presentation elucidating the young minds gathered in the programme.



Fig (36): The hon'ble Director, **Dr. G. Narahari Sastry** of CSIR-NEIST during the inauguration of IVWGST-2020



Fig (37): Convenor of the IVWGST-2020, **Dr. Santanu Baruah**, Senior Scientist during inauguration of the international workshop.



Fig (38): **Prof. Andrew J. Michael**, USGS during his talk on “Why it is hard to count Earthquakes: Estimating Catalog Completeness” in the first session of IVWGST-2020.

Photo shots of the IVWGST-2020



Fig (39): During the e-vaedictory function on day 12 of IVWGST-2020 where **Dr. G. Narahari Sastry**, the Director, CSIR-NEIST, India (left panel) and **Prof. Ramesh Singh**, Chapman University, USA (right panel) took part as the Chief Guest and Guest of Honour of the function, respectively. (Date: 25 September 2020).



Fig (40): The control room where the IVWGST-2020 was conducted online via MS Teams platform at the Geoscience & Technology Division of CSIR-NEIST-Jorhat, Assam, India. (Core committee members: **Dr. Santanu Baruah**, Convener & Editor; **Mr. Sausthov M. Bhattacharyya**, **Dr. Goutam K Boruah**, **Dr. Timangshu Chetia**, **Dr. Antara Sharma**, **Dr. Chinmoy Rajkonwar**, **Mr. Chandan Dey** and **Mr. Prachurjya Borthakur**)

Photo shots of the IVWGST-2021

Day-1, Lec-1 inauguration Program and 1st Talk by Andrew J. Michael, USGS, USA (IVWGST-2021)



Fig (41): Inauguration ceremony of IVWGST-2021 featuring (In clockwise direction starting from upper left) Dr. Santanu Baruah, CSIR-NEIST; Dr. Saurabh Baruah, CSIR-NEIST; Prof. J.R. Kayal, Ex-DDG, GSI; Prof. Dapeng Zhao, Tohoku University, Japan; Dr. Daniela Khun, NORSAR; Dr. Andrew J. Michael, USGS.

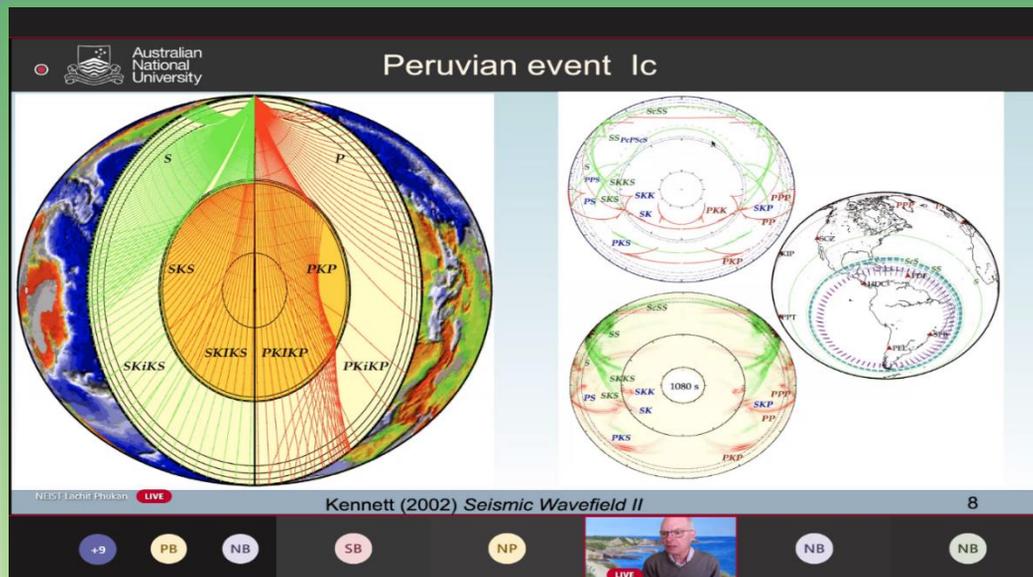


Fig (42): Prof. B. L. N. Kennett of ANU, Australia while demonstrating Seismic Wave Phases.

Photo shots of the IVWGST-2021



Fig (43): Prof T G Sitharam, IIT Guwahati (Left panel) is having an interaction with Session Chairman Prof J R Kayal, Ex DDG GSI, Govt of India (right panel) after delivering his lecture(Date: 20 September, 2021) on IVWGST-2021.



Fig (44): Dr V M Tiwari, Director, NGRI (Left panel) is having an interaction with Session Advisor Prof Dapeng Zhao, Tohoku University, Japan (right panel) after delivering his lecture(Date: 27 September, 2021).

Photo shots of the IVWGST-2021



Fig (45): During day-2 of IVWGST-2021: Post lecture interaction among the keynote speaker (Dr. David J. Wald) and Session chairperson (Prof. J. R. Kayal) featuring (in clockwise direction starting from upper left) Mr. Sausthov M Bhattacharyya, CSIR-NEIST; Prof J.R. Kayal, ex-DDG, GSI; Mr. Nabajyoti Molia, CSIR-NEIST; Dr. Santanu Baruah, CSIR-NEIST; Dr. David J. Wald .

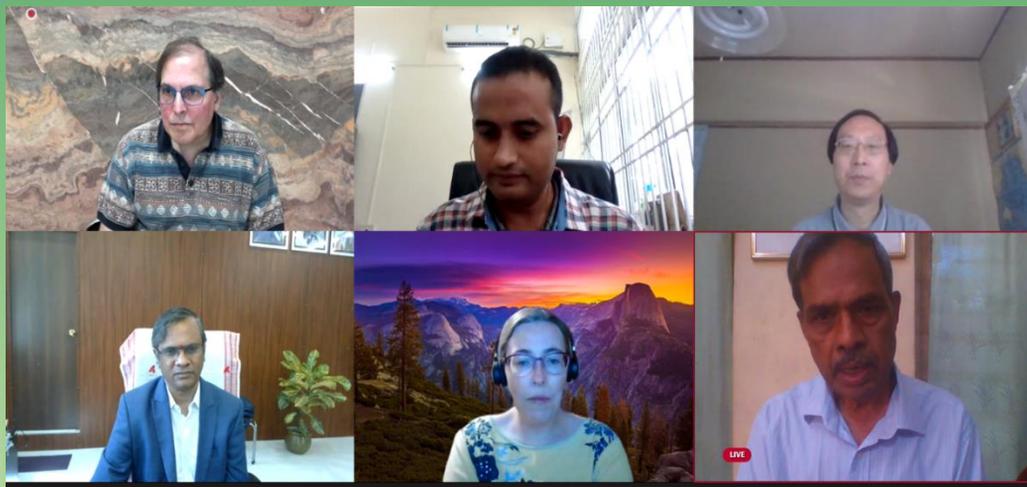


Fig (46):Valedictory Session of IVWGST- 2021 featuring (in Clockwise direction starting from upper left) Dr. Andrew J. Michael, USGS; Dr. Santanu Baruah, CSIR-NEIST; Prof. Dapeng Zhao, Tohoku University, Japan; Prof. J. R. Kayal, Ex-DDG GSI; Dr. Sarah E. Minson, USGS, USA and Dr. G Narahari Sastry, Director, CSIR-NEIST.

Photo shots of the IVWGST-2022



Fig (47): Inauguration ceremony of IVWGST-2022 featuring (In clockwise direction starting from upper right) **Dr. G. Narahari Sastry**, Director, CSIR-NEIST; **Dr. Devajit Hazarika**, WIHG; **Prof. Dapeng Zhao**, Tohoku University, Japan; **Dr. Manoj K. Phukan**, CSIR-NEIST; **Dr. Sukanta Roy**, Director, BGRL (MoES); **Miss Anwesha Dutta Hazarika**, CSIR-NEIST; **Dr. Shailesh Nayak**, Director, NIAS and Convener **Dr. Santanu Baruah**, CSIR-NEIST (at the centre)



Fig (48): During day 4 of IVWGST-2022: Post lecture interaction between the keynote speaker **Prof. Dapeng Zhao**, Tohoku University, Japan and **Dr. O.P. Mishra**, Director, NCS (Date: 23rd September, 2022)

Photographs of the Earth Day 2022 Celebration



Fig 49): A group photo of Earth Day' 2022 delegates along with scientists, scholars of Geoscience & Technology Division followed by a plantation drive.



Fig (50): Dr. G. Narahari Sastry, Director, CSIR-NEIST felicitating Guest of honor Prof. J.R. Kayal, ex DDG, GSI, Govt. of India.



Fig (51): Earth Day' 2022 celebration at Dr. J. N. Baruah Auditorium of CSIR-NEIST, Jorhat. (Hon'ble Director of CSIR-NEIST, **Dr. G. N. Sastry** is seen on the podium while addressing to the audience of the event; chief guest of the event, **Prof. A. Rajput** and guest of honor **Prof. J. R. Kayal** is also seen on the dias

Photo shots of the GeoIBR'22



Fig (52): Mr. Sausthov M. Bhattacharyya, Sr. Technical Officer of Geoscience & Technology Division , CSIR-NEIST is seen demonstrating working principles and use of GPR (Ground Penetrating Radar) to the participants of GeoIBR'22 (7th June 2022).



Fig (53): Dr. Timangshu Chetia, Technical Assistant of CSIR-NEIST while demonstrating installation & data processing of Broadband seismometer to the participants of GeoIBR'22 .