

National Conference

On

CGA-2022

GEOPHYSICAL ADVANCES - NATURAL RESOURCE EXPLORATION, ENERGY SECURITY AND GEOHAZARDS

December 23 - 25, 2022



Organized by:

Department of Applied Geophysics
Indian Institute of Technology (Indian School of Mines)
Dhanbad - 826 004, Jharkhand (INDIA)

Venue:

Indian Institute of Technology (Indian School of Mines)
Dhanbad - 826 004, Jharkhand (INDIA)

About the Conference

The energy sector was already visualising change to respond to the challenges of the energy transition, and the pandemic has simply accelerated this transformation. The frequency and intensity of extreme climate events keep increasing and demand for timely combined action by our society, governments, academic institutions, national labs, and investors. At the same time, the huge fluctuations in energy demand and prices associated with the reactivation of the economies have revealed the need for pragmatic solutions to ensure a sustainable transition that guarantees an uninterrupted vital energy supply. The waves of change that are affecting the energy sector and the digital workplace will inevitably impact the geosciences and engineering professionals who will have to adjust, develop and foster new competencies and practices in this new era. The scheduled meeting is timely and can play a major role in outlining and promoting some of these new competencies and practices that will make geoscientists and engineers more competitive in accessing the opportunities that the new environment will provide. In light of the aforementioned, we have chosen the topic of the National Conference entitled **“Geophysical Advances - Natural Resource Exploration, Energy Security and Geohazards”**. We are working on the conference programme that will address the challenges, will promote the debate, and will offer some guidance on the future of our professions. We are confident that it will be of interest to all members and we are looking forward to welcoming you to the coal capital of India - Dhanbad during 23-25 December, 2022.

About IIT (ISM) Dhanbad



The Indian School of Mines (ISM), Dhanbad with 393 acres of campus area is located in the prime coking coal belt of India which is 260 km away from Kolkata city. The IIT (ISM) Dhanbad has all the facilities of a world-class academic institute and is fully residential. The Indian School of Mines was formally opened on 9th December 1926, by Lord Irwin, the then Viceroy of India to address the need for trained manpower related to mining activities in the country with disciplines of Mining and Applied Geology. In 1967 it was granted the status of a deemed to be university under Section 3 of the UGC Act, 1956. Over the last nine decades, ISM has incorporated important core engineering disciplines and has acquired the status of a full-fledged institute of global repute for imparting higher education in engineering, science, and management. The Indian School of Mines has been conferred the status of Indian Institute of Technology (IIT) on September 06, 2016, by the Government of India and has been renamed as Indian Institute of Technology (Indian School of Mines), Dhanbad. Since its establishment, the institute has undergone considerable expansion of its activities, and presently it can be considered a total technology education institute. IIT (ISM) offers B. Tech. (4 Years) courses in the 12 major disciplines of engineering; Integrated M. Tech. (5 Years) courses in Applied Geology, Applied Geophysics, and Mathematics & Computing; Master of Technology; Master of Science; Master of Science and Technology; Master of Business Administration; and awards Ph.D. Degree. IIT (ISM) Dhanbad has been contributing significantly to the growth and development of Mining, Mineral, Petroleum, and groundwater exploration in India.

About the Department

The Department of Applied Geophysics, IIT (ISM) was established in 1957 and successfully completed 65 years with excellence. Since then, it has emerged as one of the premier geophysics departments in the country imparting quality teaching and research. Over the years, the Department has expanded manifold and offers many courses namely three years M.Sc. Tech. and five years integrated M. Tech. in Applied Geophysics, two years M. Tech in Earthquake Engineering and Sciences, and also offers a doctoral programme in Applied Geophysics. Students of the department are associated with the student's chapter and other professional bodies such as SEG, EAGE, SPG, AEG, AAPG, and IGU. The department has more than 15 R&D ongoing projects, several national and international consultancy projects funded by several agencies and industries, and many national programmes such as DRS, UGC-SAP, COSIST, CAS, and FIST funded by the government of India. The Department is well-equipped with state-of-the-art geophysical instruments for various geophysical disciplines and has a number of laboratories i.e., Seismic, Gravity & Magnetic, Electrical & Electromagnetic, Geophysical Inversion, Global Optimization & Statistical Simulation, Rock & Petrophysics, and Remote Sensing, Geophysical Instrumentation and Seismological Observatory. The department is evolving in cutting-edge research. It has established a Center for Mineral Exploration and planning to establish SERB-Centre of Excellence in AI/ML modeling for early warning of extreme Geohazards in association with DST, New Delhi.

Papers

It gives us great pleasure to welcome you to the National Conference on **“Geophysical Advances - Natural Resource Exploration, Energy Security, and Geohazards”** which will be organized at IIT(ISM) Dhanbad during 23-25 December 2022. Bringing together a diverse community of educators, scientists, researchers, engineers, industrial delegates, and policymakers who are working towards a world where scientific discovery leads to scientific solutions and where our global collaborations and partnerships can carry us into a sustainable future. This conference provides an opportunity to witness the most recent geophysical breakthrough, spanning from basic improvements in methodology to the most interesting case studies.

Important Dates:

Pre-registration	15th November 2022
Last date of extended abstract submission	15th November 2022
Acceptance of extended abstract	1st December 2022
Final Registration	23rd to 24th December 2022
Conference	23rd to 25th December 2022

First Day

Inauguration:	Time:	10:00 – 11:30 AM
Invited Talk:		12:00 – 01:00 PM
Lunch Break:		01:00 – 02:30 PM

Conference Session

Session 1: Solid Earth Geosciences: Geohazards and Early Warning

Convener: Prof. P. K. Khan & Prof. Nriptika Jana **Time:** 02:30 – 05:30 PM

Second Day

Session 2: AI/ML and Big Data in Earth Science Modelling

Conveners: Prof. Saumen Maiti & Prof. Swarandeeep Sahoo

Time: 09:30 – 01:30 PM

Session 3: Advances in Geophysical Inversion, Numerical Modelling, and Uncertainty Quantification

Conveners: Prof. Upendra K. Singh & Prof. Arun Singh

Time: 09:30 – 01:30 PM

Lunch Break:

01:30 – 02:30 PM

Session 4: Recent Advances in Engineering and Environmental Geophysics

Conveners: Prof. Sanjit Kumar Pal & Prof. Mohit Agrawal

Time: 02:30 – 06:00 PM

Session 5: Continental Margin and Deep Ocean basins: Geoscientific Advancement in Non-living Resource Exploration

Conveners: Prof. Anil K. Chaubey & Prof. G. S. Rao

Time: 02:30 – 06:00 PM

Third Day

Session 6: Advancement in Natural resource Exploration and the Energy Security in India

Convener: Prof. Saurabh Datta Gupta

Time: 9:30 – 01:00 PM

Lunch Break:

01:00 – 02:30 PM

Session 7: Panel discussion on “Higher Education in Earth Sciences”

Session Organizer:

Time: 02:30 – 03:30 PM

Concluding Session:

Time: 04:00 – 05:00 PM

Registration

At least one author of each accepted paper must register for the paper to be included in the conference proceeding. Student’s registration is only applicable if the first author of the paper is a registered student at an institution.

Registration Fees (including GST @18%):

	Early Bird Registration	Normal Registration
Participants from the Industry	INR 8000/-	INR 10000/-
For Full-Time Faculty	INR 5000/-	INR 7000/-
For Research Scholars	INR 2000/-	INR 3000/-
Bank Details: A/C no. 0986101024892; Canara Bank; Saraidhela Branch, RTGS code: CNRB0000986; MICR code: 826015003; GSTIN: 20AAAAI0686D1Za		

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Registration Form

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GEOPHYSICAL ADVANCES - NATURAL RESOURCE EXPLORATION, ENERGY SECURITY AND GEOHAZARDS

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1. Name (in block letters):

2. Affiliation:

3. Postal Address:

4. Tel: Fax:

5. Email:

6. Participation details:

(i) Extended Abstract submitted: Y/N

(ii) Author's Name:

(iii) Title of the Abstract:

7. Details of Registration Fees

Demand Draft No: Date:

Amount:

8. Additional information, if any:

Online Link for Registration:

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CORRESPONDENCE

Prof. Upendra K. Singh, Convener

Email: upendra@iitism.ac.in, Mobile: +91-9470194998/9931741042

Prof. Anil K. Chaubey

Co-convener

Email: akchaubey@iitism.ac.in

Mobile: +91-8369289939

Prof. Saurabh Datta Gupta

Organizing Secretary

Email: saurabh@iitism.ac.in

Mobile: +91-9431513999

Prof Arun Singh

Treasurer

Email: aruns@iitism.ac.in

Mobile: +91-9690242173

DEPARTMENT OF APPLIED GEOPHYSICS,
IIT(ISM), DHANBAD-826 004, JHARKHAND (INDIA)