



### ABSTRACT VOLUME

The 1st Triennial Congress of FIGA, 53rd Annual Convention of IGU & 34th Annual Convention of AHI will bring out a volume containing abstracts, messages from luminaries, geoscientific work of eminent scientists/researchers, and advertisements from Sponsors (Institutes, Industries and Instrument Manufacturers etc).

The tariffs for publication of Advertisements are listed below:

- Back Cover (Color): Rs. 60,000/-
- Inside front cover (Color): Rs. 40,000/-
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Those who are interested in publication of their products/ details of their organisation need to send necessary information to: igu123@gmail.com by 10th October 2016. The tariff has to be paid in favour of: Treasurer, Indian Geophysical Union, payable at Hyderabad.

The main theme on "Geosciences for Sustainability" contains the following symposia:

- Solid Earth Geosciences
- Marine Geosciences
- Space, Planetary & Atmospheric Sciences
- Mineral and Energy Resources
- Modern and Ancient Orogenic Processes
- Water Resources and Water Policies
- Seismic imprints from coupled systems
- Geosciences Education - Experiences and Future Perspective

In addition to above themes, a session is devoted to 'Young Researchers Program' by those who are pursuing Ph.D. in Earth Sciences.

### REGISTRATION FEES

All delegates must register in advance for participation to this Annual Convention of IGU. The enclosed registration form may be filled in and sent to Dr. Kalachand Sain, Hon. Secretary, IGU, CSIR-NGRI Campus, Uppal Road, Hyderabad-500 007 along with fees as per details below:

- General - Rs.3,000/-
- Fellows/Members of Associated Societies/Unions - Rs.2,000/-
- Associated Members - Free
- Research Scholars - Rs. 500/-
- Students - Rs. 500/-
- Student Members of IGU - Free
- Spouse / Accompanying Person - Rs.1,500/-

The registration fee is towards participation in the 1st Triennial Congress of FIGA, 53rd Annual Convention of IGU & 34th Annual Convention of AHI (includes seminar material, abstract volume, three lunches, two dinners and snacks during the Convention. The accompanying person(s) will not be entitled for the Convention material and the abstract volume.

### MODE OF PAYMENT

The payment may be sent by Money Transfer/NEFT/RTGS (Inter-Bank Transfer), to Treasurer, Indian Geophysical Union, State Bank of Hyderabad, Habsiguda Br., Uppal Road, Hyderabad IFSC code: SBHY0020087; Branch code: 20087, A/C no:52191021424.

Crossed demand draft, drawn on any Nationalised / Scheduled Bank in favour of TREASURER, INDIAN GEOPHYSICAL UNION, payable at Hyderabad.

Wire transfer for Foreign remittance through MICR Code: 500004020, Swift Code: SBHYINBB028.

### ACCOMMODATION

The participants will be accommodated mostly in the University guest house/city hotels on payment basis. Delegates are requested to send their accommodation requirements well in advance to the Local Organising Convener with a copy to igu123@gmail.com by 20th October, 2016.

### EXHIBITION/STALLS

An exhibition of geophysical and allied instruments will be organized during the Annual Convention. The exhibitor will be given a slot of 5 minutes for oral presentation of their exhibits to the delegates and participants during the Convention that will enable delegates / participants to gain a comprehensive overview of the products and services available as well as an opportunity to discuss the latest developments with the exhibitors. Exhibition/ Demonstration Fees: Rs.75,000/-

### FIGA EXECUTIVE COMMITTEE

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Indian Geophysical Union (IGU), CSIR-NGRI Campus, Hyderabad

Geological Society of India (GSI), Bangalore

Association of Exploration Geophysicists (AEG), Hyderabad

Association of Hydrologists of India (AHI), Visakhapatnam

Paleontological Society of India (PSI), Lucknow

Indian Society for Earth, Planetary and Environmental Sciences (ISEPES)

Indian Society of Applied Geochemists (ISAG), Hyderabad

The Paleobotanical Society (TPS)

Indian Society of Earthquake Sciences (ISES), Gandhinagar

Indian Geologists' Association (IGA), Chandigarh

#### Patron Member

Ministry of Earth Sciences, New Delhi

ESSO-National Centre for Earth Sciences Studies, Thiruvananthapuram

Atomic Minerals Directorate, Hyderabad

Indian Institute of Geomagnetism, Navi Mumbai

KDMIPE, Oil & Natural Gas Corporation Limited, Dehradun

CSIR-National Geophysical Research Institute, Hyderabad

1<sup>st</sup> Triennial Congress of FIGA,  
53<sup>rd</sup> Annual Convention of IGU  
&  
34<sup>th</sup> Annual Convention of AHI  
on



November 8-10, 2016

Venue:  
Indian School of Mines  
Dhanbad-826004  
Jharkhand

Organized Jointly By

FIGA, IGU & ISM



ADVISORY COMMITTEE	
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## OBJECTIVES

The Earth System Sciences have become a truly interdisciplinary field with an increasing realization for a common platform for exchanging and sharing views and activities of Earth Sciences communities. As of now, Indian contributions and international initiatives have largely been based on the initiatives and opinions of individuals rather than that of the geosciences community as a whole. It is high time that we bring together contemporary technologies that can address either directly or indirectly the geoscientific issues to arrive at an effective and sustainable solution to societal problems. It is in this context, the Federation of Indian Geosciences Associations (FIGA) has come into being with the constituent association members by IGU, GSI, AEG, AHI, PSI, ISEPEs, ISAG, TPS, ISES, and IGA, and the patron members by MoES, NCESS, AMD, IIG, KDMIPE-ONGC and CSIR-NGRI in 2014. To foster the ideas of bringing Geosciences Associations/Societies/Unions at one platform and to address a common goal benefitting to the Society and suggesting future activities at national and international levels, the 1st Triennial Congress of FIGA along with the 53rd Annual Convention of IGU and 34th Annual Convention of AHI is being held at Indian School of Mines, Dhanbad.

This platform will enable interaction between scientists on a regular and continuing basis, apart from facilitating a synergic interaction across disciplines and various geosciences associations. This will incidentally provide an incubating ground for young researchers to plan major national programmes. This forum is also expected to work out the need and scope to initiate major facilities and programmes for the advancement of geo-scientific knowledge and their application to meet the requirements.

The change in natural systems and associated processes, accelerated by anthropogenic interventions have been inducing unforeseen complexities in the process of development and sustainability. The need and scope for utility of geosciences knowledge is pervading almost all fields of life apart from the management of natural resources and maintaining the ecosystem. The role of Geosciences is getting more and more prominent not only in Earth Science disciplines, but also in Life Sciences and Environmental Sciences demanding scientific strategies towards sustainability.

It is the right time to understand Geosciences with a synergic approach and transforming the elements of education and utilisation geosciences towards sustainability of humans life and natural resources focusing on water, energy, climate, natural hazards etc. Geosciences disciplines can provide meaningful inputs as it comprehends and embeds on quantifiable scientific uncertainty and extreme events. Despite many such advantages with built-in geologic reasoning for sustainable science, geoscientists have not been active participants in the development and adoption of this emerging science. The economic transformations and the developments of science and technology demands a geosciences-centric multi disciplinary approach. Thus the topic 'Geosciences for Sustainability' chosen as the focal theme is of contemporary relevance.

## ABOUT INDIAN SCHOOL OF MINES, DHANBAD:

Indian School of Mines (ISM) was set up by Government of India and formally inaugurated by the Viceroy Lord Irvin on 9th December 1926 on the model of Royal School of Mines, London. ISM was granted autonomy and become a Deemed University under UGC Act, 1956. In 1996, the Institute came under financial and administrative control of MHRD, Govt. of India. In the year 1997, ISM was affiliated to the IIT JEE for admission to its B.Tech. programmes. ISM is situated in the heart of the country's prime coking coal belt, has a fully residential campus of its own consisting of a graceful blend of old world and new style buildings. The school today is making foray into the newer areas of academic endeavors in tune with the changing times. The school is located at a distance of 3 km from Dhanbad Railway Station. Dhanbad is well connected by railways with other important cities of the country like Chennai, Delhi, Kolkata, Mumbai etc. The nearest airports are Kolkata (260 km) and Ranchi (180 km).

ISM, situated in the heart of the country's prime coking coal belt, with a campus spread over an area of 393 acres, (with 218 acres of existing campus and 175 acres under acquisition and development) the fully residential ISM has all the facilities of world class academic institute. What started as an institution to impart mining education has graduated into a full-fledged technical institution of international acclaim offering a host of programmes like B. Tech., M. Tech., M. Sc. Tech., and MBA. In addition the School offers M. Phil. and full as well as part time Ph. D. programmes, while also awarding D.Sc. as the highest degree of academic achievement.

## ABOUT DEPARTMENT OF APPLIED GEOPHYSICS

Department of Applied Geophysics was established in 1957. The world of geophysics is enormous and fascinating. Many are attracted to geophysics because of their fascination with earthquakes, volcanic eruptions, and other natural hazards. Others are drawn by their interest in hot topics such as climate change, carbon management and geothermal energy. Still others love the process of discovery associated with exploration – petroleum exploration, mineral exploration, exploration for water, or planetary exploration.

The Department of Applied Geophysics offers the 3 Year M. Sc. Tech in Applied Geophysics, 5 year M. Sc. Tech Integrated in Applied Geophysics. The department also offers 5 Years Integrated M.Tech. in Applied Geophysics for IIT-JEE Admitted candidates from 2014-2015 session, M. Tech in Petroleum Exploration jointly with Department of Applied Geology and Ph.D. in Applied Geophysics. The department has introduced a new M. Tech. course on Earthquake disaster, Hazard and Risk Mitigation since 2015-16 academic session. Our academic programs encompass many interesting fields of study, including physics, mathematics, geology, computer science, signal processing, and much, much more.



## PLACES & TOURIST ATTRACTION AT DHANBAD

The mining town of Dhanbad is internationally famous for its rich coal fields. It is 260 Km from Kolkata. This industrial and commercial town has the distinction of lying in the heart of India's richest coal-fields at Jharia. The surroundings of the coal city is enriched by numerous private and public industries and projects.



Maithon Dam

which is first of its kind in S.E. Asia. just a little away from the dam lies an ancient temple at Kalyaneshwari. The lake at Maithon is spread over an area of 65 sq.kms. On an island in the lake is a rest house which offers accommodation. Boating and fishing facilities are available. Close by, a deer park and a bird sanctuary have been established.



Panchet Dam

**Panchet Dam** - It is constructed on Damodar river, is 22,155 ft. long and 134 ft. high. A hydel station has also been constructed against the back ground of Panchet Hill in the eastern side of dam.



Parasnath Hills & Temple

**Parasnath Hills & Temple** - This famous spot is around 80 km from Dhanbad. The range of hills located in Giridih district of Jharkhand. The highest peak is 1350 metres. It is one of the most important pilgrimage centre for Jains. They call it Sammet Sikhhar. The hill is named after Parasnath, the 23rd Tirthankara.

Twenty of the twenty-four Jain Tirthankaras attained salvation on this hill. According to some, nine Tirthakaras attained salvation on this hill. For each of them there is a shrine (gumti or tuk) on the hill. Some of the temples on the hill are believed to be more than 2,000 years old. However, although the place is habited from ancient times, the temples may be of more recent origin. The Santhals call it Marang Buru, the hill of the deity.



Topchanchi Lake

**Topchanchi Lake** - It is 37 kms from Dhanbad and it is situated at G. T Road of the National highway no. 2 this road leads to artificial lake at Topchanchi. It was excavated along the slope of Parasnath Hill in 1915 to supply water to Jharia. Situated in a cool and calm, quite and beautiful environment, it is variable paradise to nature lovers. It is just 6 kms from Gomoh, where Neta ji Subhash Chandra Bose boarded the train for his historical departure from India on the 18th Jan 1941. on cooeration of this incident a statue of Neta ji was installed in the Topchanchi market.

## REGISTRATION FORM

**1<sup>ST</sup> TRIENNIAL CONGRESS OF FIGA, 53<sup>RD</sup> ANNUAL CONVENTION OF IGU & 34<sup>TH</sup> ANNUAL CONVENTION OF AHI ON**

**“GEOSCIENCES FOR SUSTAINABILITY”**

**AT INDIAN SCHOOL OF MINES, DHANBAD, NOVEMBER 8-10, 2016**

Please submit the registration form in A4 size (available in www.igu.in) in the following format along with abstract to Dr. Kalachand Sain, Hon. Secretary, Indian Geophysical Union (IGU), CSIR-NGRI Campus, Uppal Road, Hyderabad-500 007; Phone: 040-23434631/27012799; Fax: 040-27171564, Email: igu123@gmail.com.

(Kindly fill up the form in capital letters and use separate form for each participant)

- Name: (Prof/ Dr/ Mr/Mrs/Ms.)
- Age:
- Designation / Affiliation:
- Address for Correspondence:
- Telephone & Mobile No:
- Email:
- Fax No:
- Title of Abstract (if submitted):
- Preference of Presentation (please tick)  
[.....] Oral [.....] Poster

Please tick suitable topic only

- [.....] Solid Earth Geosciences
- [.....] Marine Geosciences
- [.....] Space, Planetary & Atmospheric Sciences
- [.....] Mineral and Energy Resources
- [.....] Modern and Ancient Orogenic Processes,
- [.....] Water Resources and Water Policies,
- [.....] Seismic imprints from coupled systems,
- [.....] Geosciences Education – Experiences and Future Perspective,
- [.....] Young Researchers Program

- Mode of Payment for Registration:
- Accommodation required: Yes  No
- You are belonging to which Union/ Association/Society  
IGU [ ]  
AHI [ ]  
FIGA [ ]

Place:

Date:

Signature

Abstracts of about 300-500 words should be submitted through Email:igu123@gmail.com by 10th October, 2016. The author(s) should indicate his/her/their preference for oral or poster presentation. However, the Final Scientific Program shall be decided by the technical committee, as abstracts will be accepted based on merit and contents. Acceptance will be communicated to the potential speakers by 12th October, 2016.