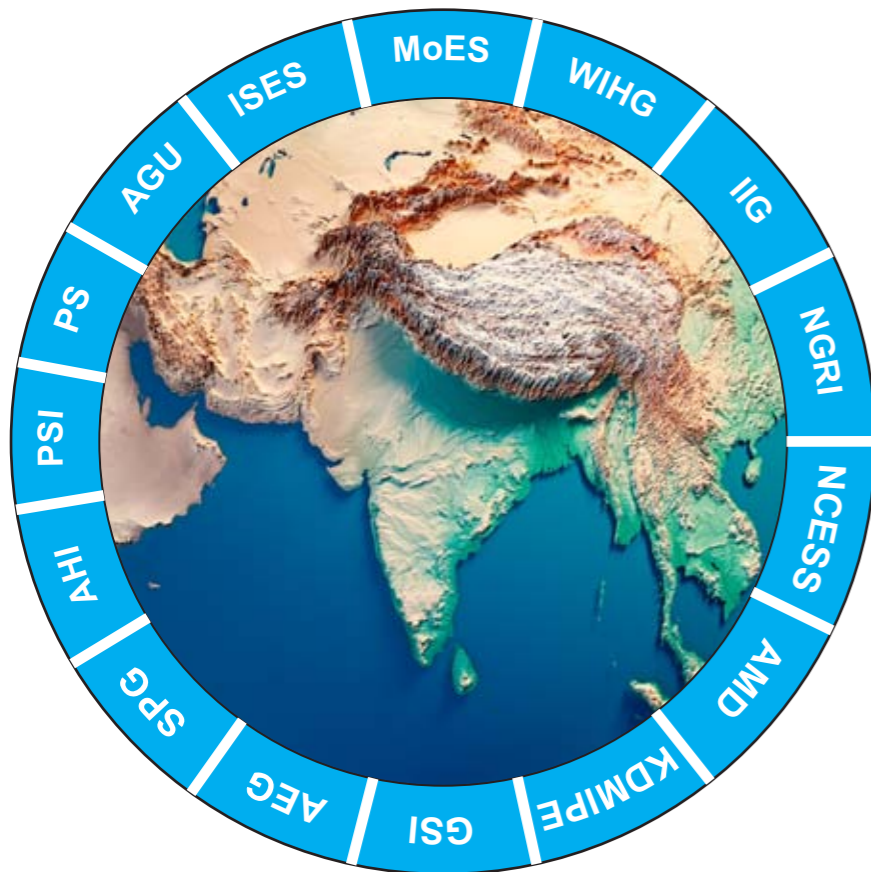




**3rd Triennial Congress
of
Federation of Indian Geosciences Association
on
Geosciences of Himalaya for Sustainable Development**

16-18 November, 2022



at

**WADIA INSTITUTE OF HIMALAYAN GEOLOGY
(An Autonomous Institute of Dept. of Sci. & Tech., Govt. of India)
33, General Mahadev Singh Road
Dehradun - 248001 (Uttarakhand)**

Objectives of FIGA

Over the years, the Earth System Science has been a truly interdisciplinary field with an increasing realization to have a common platform for interlacing and exchanging views and activities by several scientific societies. The Federation of Indian Geosciences Association (FIGA) was established in 2014 to synergize the Earth-science communities and comprehend jointly the scientific programs taken up by individual associations or societies. It has come into being with at present eight Geosciences Associations as Members and seven Geosciences Institutions/Ministries as Patrons. The purpose is to provide effective solutions to societal challenges for sustainable socio-economic development by suggesting scientific activities and making recommendations for policy implementation at national and international levels. The 1st and 2nd Triennial Congress of FIGA were successfully organized and held at IIT(ISM), Dhanbad in November 2016 and CSIR-NGRI, Hyderabad in October, 2019, respectively. The 3rd Triennial Congress of FIGA will be held during 16-18 November, 2022 at Wadia Institute of Himalayan Geology (WIHG), Dehradun – An autonomous institution of DST, Govt. of India.

Preamble of 3rd Triennial Congress

The collision/convergence of Indian plate with the Eurasian plate is responsible for the birth and growth of the mighty Himalaya that has been a center stage of flourishing civilization due to efficient sediment-water transmission supporting the agro-economy. The complex evolving of the Himalayan system governs the location of large earthquakes; dictates the damage patterns during floods, landslides and seismic activities, and riverine landscapes; drives the climate-tectonic interaction; and pedals the continental scale crustal and lithospheric growth. All these are linked to the surface and subsurface processes, which are manifested in different forms on the surface. Geothermal hot springs, minerals and precious ore bodies, and hydrocarbons in the thrust fold belt are unique natural resources in the Himalaya. Study of high-altitude Glaciers, which is the storehouse of waters for the billions of people, is very important with regard to understanding the impact of upstream Climate change and its consequences to the downstream river systems that are source for drinking water, irrigation, hydroelectric power generation. Geoscience associations/societies under FIGA continuously strive to generate scientific information on geological processes that provide clues to understand scientific issues and impetus to natural resources and disaster risk reduction for sustainable development of society. The 3rd Triennial Congress of FIGA aims to bring the major Earth science institutions, societies, unions and associations on a single platform to address scientific challenges with a view to provide feasible solution. The focal theme has been chosen on “Geosciences of Himalaya for Sustainable Development”.

Technical Program: (i) Inaugural Session; (ii) Plenary Lectures; (iii) Contributory Talks; (iv) Young Research Program; (v) Posters; (vi) Exhibitions; (vii) Annual Convention/General Meeting of Member Associations; (viii) Joint Session with International Geoscientific Associations; (ix) Field Visits; (x) Spouse Program; and (xi) Concluding Session.

A. Subthemes of the Congress:

1. Geodynamics and Paleoclimate records

Himalaya is the best natural laboratory to study the geodynamics, crustal evolution, subduction, continent-continent collision and formation of a fold and thrust belt and evaluating plate tectonic models. The subject of Himalayan geodynamics can be systematically understood through the surface and subsurface processes and spatio-temporal events by utilizing modern geophysical and geological data. To comprehend the impact of climate change, study of climate-tectonic interaction in the geological past, hidden into sediments archives, is very important. Following topics shall be covered:

- ♦ Geodynamics, crustal evolution and mantle structures
- ♦ Climate variability and landscape evolution

2. Seismogenesis and Geo-hazards

The Himalaya, being tectonically active and rising, induces earthquakes and landslides that threaten the lives and properties in the Himalaya and adjoining

regions. Concerted efforts in understanding the earthquakes in Himalaya and reducing their impacts are on. Likewise, landslides and their distribution, controlling factors and mitigation is another grave concern. Excessive rainfall due to Indian Summer Monsoon is another factor that is responsible for the occurrences of devastating floods and landslides. Thus earthquakes, landslides and floods pose serious threats to the community living in the Himalaya and adjoining regions. This session invites papers on:

- ♦ Earthquakes: genesis and mitigation
- ♦ Landslides and their risk reduction
- ♦ Floods: past and present

3. Glaciers and Natural Resources of Himalaya

The formation of Himalaya has allowed crust to shorten and gain elevation that have led to the formation of glaciers, rivers, and springs. This has also resulted into exhumation of deep seated rocks and fluids, which have formed several precious and semi-precious minerals and orebodies, and generation of thermal springs allowing earth's heat source transmitting energy onto the surface. The sedimentary basins amalgamated in the Himalaya can be important territories for hydrocarbons accumulations. Therefore, this mountain chain is a laboratory to understand glaciers, rivers, springs, thermal springs, mineral forming processes. This session invites papers on:

- ♦ Glacial Dynamics and hazards
- ♦ Natural water and thermal springs
- ♦ Precious minerals and hydrocarbons

B. Annual Convention of Member Associations

C. Field Visit: Himalayan Frontal Thrust to Main Boundary Thrust

D. Spouse Program: Dehradun site seeing; Haridwar-Rishikesh; and Mussoorie towns

E. International Collaboration through Joint Session

Abstract Volume

The 3rd Triennial Congress of FIGA and the Annual General Meeting of GSI, Annual Conventions of IGU, AHI, PSI, ISES, AEG 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. 75,000/-
- Inside front Cover (Color) : Rs.50,000/-
- Inside back Cover (Color) : Rs.40,000/-
- Inside Full Page (Color) : Rs. 30,000/-
- Inside Full Page (BW) : Rs. 20,000/-

Those who are interested in publication of their products/ Details of their organisation need to send necessary information to: figa3@wihg.res.in by 15th October 2022. The tariff has to be paid in favour of CONVENER FIGA WIHG payable at Dehradun.

Exhibition Stalls

An exhibition of geosciences and allied instruments and services will be organized during the Triennial Congress of FIGA. The exhibitor will have scope to make video scrolling not exceeding 2 to 3 minutes during lunch hours.

The Exhibition stall (9 X 9 ft) fee: Rs.75,000/-

Registration Fees

All delegates must register in advance. On line registration is encouraged. However one can fill up the enclosed Registration form and send it by mail to the Convener, 3rd Triennial Congress of FIGA, WIHG, 33 GMS Road, Dehradun - 248001 along with delegate registration fee as detailed below:

- General Rs. 8,000/-
- Teachers: Rs. 5,000/-

Research Scholars (Ph.D students): Rs. 3500/-
Students (B.E., M.Sc & M.Tech students): Rs. 2000/-
Spouse / Accompanying Persons: Rs. 1,500/-

The registration fee is towards participation in the 3rd Triennial Congress of FIGA and the Annual Convention of AEG, IGU, AHI, PSI & ISES and AGM of GSI. The registration fee includes seminar material, abstract volume, three lunches, one dinners and snacks during the Convention. Accompanying person(s) will not be entitled for the Convention material and the abstract volume.

Mode of Payment

The payment may be made by Money Transfer through NEFT/RTGS or through crossed demand draft, drawn on any Nationalized / Scheduled Bank in favor of The Convener

Name of the Bank : Union Bank of India
Type of Account : Current; Account No. 518602010008838
IFSC Code : UBIN0551864 ; MICR No. : .248026005
Name of the Account : CONVENER FIGA WIHG
Branch Name : UBI Wadia Branch, GMS Road Dehradun-248001

Registration Form

3rd Triennial Congress of FIGA in conjunction with Annual Conventions of IGU, AHI, AEG, PSI and ISES and the AGM of GSI on Geosciences of Himalaya for Sustainable Development (Kindly fill up the form in capital letters and use separate form for each participant).

1. Name: (Prof/ Dr/ Mr/Mrs/Ms)
2. Age:
3. Designation / Affiliation:
4. Address for Correspondence:
5. Mobile No:
6. Email ID:
7. Fax No:
8. Title of Abstract (if submitted):
9. Preference of Presentation (please tick)
[.....] Oral [.....] Poster
Please tick suitable topic only
[.....] Geodynamics, crustal evolution and mantle structures
[.....] Climate variability and landscape evolution
[.....] Earthquakes: genesis and mitigation
[.....] Landslides and their risk reduction
[.....] Floods: past and present
[.....] Glacial Dynamics and hazards
[.....] Natural water and thermal springs
[.....] Precious minerals and hydrocarbons

10. Mode of Payment for Registration:
11. Accommodation required: Yes [] No []
12. Do you belong to any one or more of these associations ? if Yes Pl. select
IGU [.....] AEG [.....] AHI [.....] FIGA [.....]
SPG [.....] GSI [.....] PSI [.....] ISES [.....]

Place: _____
Date: _____ Signature

Abstracts of about 300-500 words should be submitted online. Under extraordinary conditions the abstracts submitted through e-mail to figa3@wihg.res.in

WIHG the Host

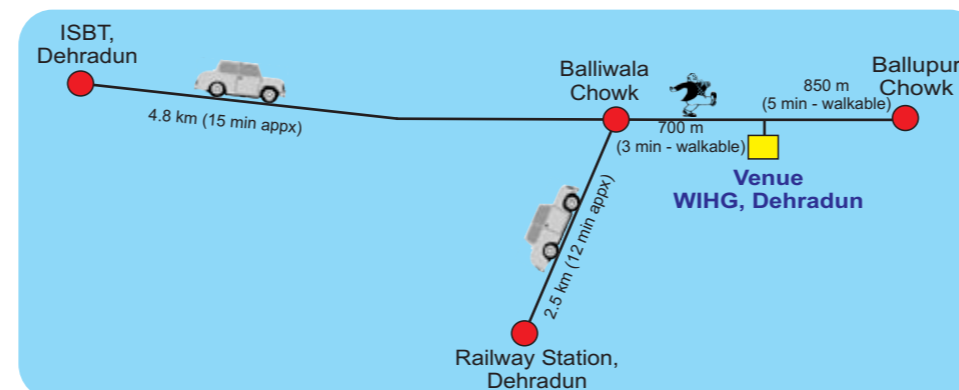
The **Wadia Institute of Himalayan Geology (WIHG)**, located in Doon valley, is a premier institute pursuing both basic and applied researches in geosciences to unravel the orogeny of majestic Himalaya and provide an improved understanding on seismogenesis, geodynamics, climate-tectonic interactions, biotic evolution and extinction, glacial dynamics, river system, geo-hazards (landslides, floods, and earthquakes), natural resources (geothermal, minerals/ores, hydrocarbons, springs), anthropogenic impact, etc. towards the well-being of the population and safeguarding the properties and structures in the Himalaya and adjoining regions. The Institute also serves as a database/National reference center for Himalayan Geology. It is equipped with state-of-the art laboratory and field equipment facilities for geoscientific data acquisition, data analysis/processing, and interpretation. Besides analytical data generation, it also provides consultancy services related to geoengineering projects, ground water surveys and natural hazards. Institute houses a beautiful geological museum within its campus.

In and around the city of Dehradun

Dehradun is a beautiful and scenic valley located between the Lesser Himalayan formations to its North and the Siwaliks to its South. Dehradun is situated ~54 km from Haridwar, ~45 km from Rishikesh and ~32 km from Mussoorie. There are a number of places for tourist attractions in and around the city. The altitude of the city is about 700 metre and the temperature during the month of November fluctuates between 11° and 26 °C. There are many flights operating daily from Delhi, Mumbai, Kolkata, Bengaluru, Lucknow, Hyderabad, Prayagraj and Pant Nagar to Dehradun and back. Dehradun is also well connected with the railways. There are trains from Delhi and many other Indian cities. The road distance from Delhi to Dehradun is about 260 km that takes ~5-6 hrs to drive. There are government buses operating from Delhi-Dehradun. The organizers may arrange hired taxi on request on payment basis (about Rs. 5000/-) direct from Delhi Airport to Dehradun.

Dehradun is suitably located between the two geologically important continental scale tectonic boundaries i.e. the Himalayan Frontal Thrust (HFT) to the south and the Main Boundary Thrust (MBT) to the north. The rocks between the HFT and MBT comprise Mid Miocene and younger Siwaliks and those above MBT are Lesser Himalayan Meta sediments that include Krol Tal sequence bearing the signs of most primitive life. Therefore, the conference attendees will have opportunity to visit the HFT and MBT and Krol Tal sedimentary belt. The famous localities of Robbers Cave and Sahastradhara are also there in the vicinity of the Karst caves and caverns drained by fresh water and sulphur springs, respectively. The religious places of Rishikesh and Haridwar, where the holy river Ganga and its alluvial fans make exit to the plains, are at one hour drive from the host institute.

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Association of Hydrologists of India (AHI), Visakhapatnam
Paleontological Society of India (PSI), Lucknow
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About Dehradun

Dehradun, the capital of Uttarakhand State is situated in the foothills of the Himalayas. This city is the gateway to many tourist places like Mussoorie, Haridwar, Rishikesh, Badrinath, Kedarnath, Gangotri, Yamunotri, Tungnath, Rudranath and Madmaheshwar.

Major Attractions in Dehradun

Forest Research Institute

Forest Research Institute is spread over 4.5 square kilometers and has an imposing Colonial and Greco-Roman styles of architecture. This premier institution in the field of forestry research in India. This institute has been internationally acclaimed due to its developed infrastructure and various notable courses offered here.



Tapkeshwar Temple

The Tapkeshwar Temple is a humble cave shrine dedicated to Lord Shiva. This revered temple is situated along the banks of a river which imparts it a unique sanctity. A Shiva Linga is enshrined in the main complex which is believed to grant the wishes of all the devotees. Water trickles from the ceiling continuously on the Shivalinga, making it an interesting spectacle to watch.



Sahastradhara

Sahastradhara literally means 'thousand-fold spring'. It is a popular attraction, famous for its ecstatic beauty and therapeutic value since its water contains Sulphur. While the place can be visited any time during the year, you would love beauty of the waterfall during the rainy season when the stream proposes the appearance of a gushing torrent.



Geological Museum

The S. P. Nautiyal Museum of WIHG takes you to millions of year back to the geological past of the Himalaya and mother Earth. The museum displays geological maps, charts, sample specimens of rocks and minerals, and models of Himalayan evolution for the awareness of general public. It also exhibits video films on the Himalaya and general geology.



Laxman Sidh Temple

A Popular temple, Laxman Siddh is around 12 kilometres from Dehradun on Haridwar-Rishikesh road, Uttarakhand, India. The temple is easily accessible by uncountable devotees especially on Sundays from all over the world. It is also the cremation site of Saint Swami Laxman Siddh and to pay the homage to the saint, multiple devotees gather at the holy Samadhi (penance) here. This temple is famous for the peace and tranquility it offers visitors. The temple is also a great place for bird watchers.



Dehradun Zoo

Located at the base of the Shivalik range, Dehradun Zoo is a zoological garden, and it is home to horned Deer, Tiger, Neelgai, Peacock and many other animals. Heaven for all the nature lovers out there, the beauty of the place is worth spending time at. Rich in flora and fauna, the park is a great point to unwind and break away from the busy life of the city.



Sai Darbar

The Sai Darbar Temple is a standout amongst the most beautiful and well known temples in Dehradun. Devoted to Shirdi Sai Baba, the temple is regularly visited by numerous aficionados crosswise over diverse beliefs. The Sai Darbar Temple is built of marble and the icon of Sai Baba is set amidst the temple.



Tibetan Temple

The Mindrolling Monastery was established in 1676 by Rigzin Terdak Lingpa which was re-established in Dehradun by Khochhen Rinpoche along with a group of monks in 1965. The monastery is not only a tourist attraction but also a destination where on a daily basis almost hundreds of individuals attain spirituality. Numerous beautiful gardens, large areas, and a stupa are all situated within the perimeter of the monastery. The monastery is an unnatural beauty owing to its gardens, university complex and the tallest Stupa in Asia surrounded by greenery. It also has numerous shrine rooms, Tibetan art forms, and murals.



Robber's Cave

Robber's cave is a river cave formed in the Himalayas and is mostly visited by tourists seeking the adventure of witnessing this natural formation that has river water flowing from the middle of a cave. It is a perfect location for those seeking adventure and thrill. Locals call it Guchhu Pani and also believe that it is home to Lord Shiva. Tourists can explore this 600 metres long cave that has been divided into two main parts. If you happen to walk a little further through the stream, you can also spot splendid waterfall.



Lachhiwala

Surrounded by Sal trees, this place is a relaxing and serene picnic spot known for gorgeous sunset views, trekking trails, and bird watching. Located on the Dehradun-Rishikesh Road, Lacchiwala is renowned for its lush greenery, scenic beauty and pleasant climate all through the year. Birdwatchers will especially enjoy spotting the many different species of colourful birds.



Santala Devi Temple

Santala Devi Temple is situated on a cliff at an altitude of 2083 m near Jaitunwala in Dehradun. This temple has great cultural and religious significance. According to legend, Santala Devi, along with her brother, on realizing that they would not be able to fight with Mughal Army, abandoned their weapons and began to pray the god. A divine light emerged as a consequence and they both turned to stone statues. It is within the fort that the shrine was built and Saturdays marks the transformation of the Goddess into stone. On every Saturday, number of devotees visiting this shrine as it is regarded as the day of Goddess Santala.



Tapovan

Tapovan is a holy place is known for releasing the tension and providing a sense of satisfaction as well as peace of mind to the visitors. It is a very famous place to go for meditation and to escalate one's spirit. Devotees flock to the place frequently in the quest to find inner peace.

