



FOURTH INDIAN NATIONAL GROUNDWATER CONFERENCE (INGWC-2021)

With focal theme on

***Groundwater Management in Arid and Semi-Arid Regions of Hard
Rock Terrains***

and

VII Annual Convention of

Association of Global Groundwater Scientists (AGGS)

March 22-24, 2021

Organized

By

**Centre for Water Resources,
Institute of Science and Technology,
Jawaharlal Nehru Technological University Hyderabad,
Kukatpally Hyderabad**

and

**Association of Global Groundwater Scientists (AGGS),
Coimbatore, India**

In collaboration with

**Indian Institute of Technology, Hyderabad
CSIR-National Geophysical Research Institute,
Hyderabad**

Website: <https://jntuhist.ac.in/ingwc-2021>

About the Conference

According to National Ground Water Association of America, Ground water is the world's largest extracted material from the earth close to 1000 km³/year and 70% of it is used for agriculture, while meeting 50% drinking water needs globally. Interestingly India alone extract one fourth of the global ground water which is more than the extraction of china and U.S.A. put together. This has resulted in over exploitation of groundwater not only in hard rock peninsular India but also in the Indo Gangetic Alluvial plain - one of the world's densest congregations of the human settlements on the earth. If the food production of this region is affected by lack of sustainable groundwater, the socio economic fabric will be greatly disturbed and needs course correction in managing the crisis. As the water levels are depleting, groundwater quality also getting degraded due to deep rock water interactions. The problem is greatly accentuated in the hard rocks of arid and semi-arid regions.

In order to dwell upon various issues of groundwater across the globe in general and India in particular, a series of National and International Groundwater Conferences (INGWC's and IGWC's) are being organised by Association of Global Groundwater Scientists (AGGS) in association with local organising institutions across India in the years 2002, 2006, 2007, 2011, 2012, 2015, 2016, 2017, 2018, 2019 and 2020. At present, INGWC-2021 conference is being organised by Centre for Water Resources, Institute of Science and Technology, JNT University Hyderabad in collaboration with Indian Institute of Technology Hyderabad and CSIR-National Geophysical Research Institute Hyderabad.

It is proposed to organise INGWC-2021 with the main focus on ***“Groundwater Management in Arid and Semi-Arid Regions of Hard Rock Terrains”*** during March 22-24, 2021 coinciding with world water day 2021.

These conference series (INGWC's and IGWC's) have attracted attendance by national and international experts in all facets of hydrogeology, geochemistry, microbiology, modeling, economics, water resources management and water supply. It has brought together water utilities, practitioners, hydro-geologists, consultants, the wider water industry, all levels of government, farmers, academicians and students. The present conference is aimed to bring Scientists, Researchers, Students, Engineers, Water Resources Specialists, Government Administrators, NGOs and all those interested in groundwater and environmental problems to a common platform and offer the opportunity to exchange ideas, knowledge, experience, techniques and know how in various aspects of groundwater research carried out in the last few decades in India and elsewhere.

Scientific Themes for INGWC-2021

TS-1: Aquifer Characterization, Mapping and Groundwater Assessment

- Hydrogeological and geophysical investigations in aquifer mapping
- Role of Remote Sensing and GIS in groundwater resource assessment management
- Groundwater flow dynamics and characterization of aquifer parameters in hard rock and soft rock aquifer systems
- Information Technology in the assessment and management of groundwater resources

TS-2: Natural and Artificial Groundwater Recharge Processes

- River/Lake bank filtration and pond infiltration
- Check dam infiltration
- Bore hole injection (with treated as well untreated water)
- Application of Isotope Techniques in Hydrology
- Aquifer Storage and Recovery (ASR)
- Design, construction and application of MAR in water resources management

TS-3: Effect of Climate Change on Groundwater and Environment

- Hydrological extremes - droughts and floods and their impact on groundwater
- Impact of climate change on groundwater resources and agricultural productivity
- Agriculture policies for addressing climate change and climate variability vis-à-vis groundwater
- Solar power and groundwater

TS-4: Groundwater Quality

- Geogenic and Anthropogenic pollution of groundwater
- Municipal and industrial treated water recharge and its effects on groundwater quality
- Solid Waste Disposal Management vis-à-vis groundwater quality.
- Recharge of rainwater and its effects on groundwater quality
- Emerging pollutants from agriculture, industry and health sector to groundwater

TS-5: Modeling and Groundwater Hydraulics

- Unsaturated zone processes, flow, transport and reactive models.
- Saturated groundwater flow and transport models
- Benchmark computer codes to model reactive transport models (RTMs)
- Coupled models with Artificial Intelligence
- Soft computing techniques in groundwater modeling

TS-6: Groundwater Management

- Surface and groundwater interactions
- Conjunctive use of surface and groundwater in agricultural, domestic and industrial sectors
- Application of IoT in the Groundwater and Environment
- Groundwater rights, pricing and legislation
- Groundwater and power management

TS-7: Groundwater in Watershed Management

- Water and soil conservation techniques
- Appropriate use of groundwater in watershed management
- Soil water management
- Community managed groundwater systems

Call for Papers

Centre for Water Resources, Institute of Science & Technology, JNT University Hyderabad, in association with AGGS, Coimbatore, and in collaboration with IIT Hyderabad, and CSIR-National Geophysical Research Institute invites you to Hyderabad, India during **March 22-24**,

2021 and present your scientific work either through oral or poster presentation. Abstracts pertaining to the above themes are accepted. All abstracts not exceeding 250 words should reach to Prof. B. Venkateswara Rao Conference Convener, Fourth Indian National Groundwater Conference (INGWC) -2021, at cwr_jntu@yahoo.com and Dr. C. Mayilswami, Secretary (AGGS), at ceemayil@gmail.com, on or before by **November 30, 2020**. Abstracts will be reviewed by the Scientific Review Committee on the basis of scope / theme of INGWC-2021 and will be classified as ORAL or POSTER presentation. Acceptance will be communicated by **December 31, 2020**.

Authors will have to submit full manuscripts of the papers with original figures and tables to the Conference Secretariat by **January 31, 2021**. Necessary instructions regarding preparation of the manuscript will be sent along with the acceptance and authors are requested to submit the final text in electronic form by email. For any clarifications contact: +91 9177142356 and +91 9849585290.

About the Host Institute

The Centre for Water Resources (CWR) which forms a part of the Institute of Science and Technology, JNT University, Hyderabad was established in the year 1984 with the funding from the then Ministry of Education and Culture, Government of India to impart training in the management of water resources at an advanced level and to undertake research and developmental activities in the field of Water, Land and Environmental Management and other related areas. Since then the Centre has acquired a reputation among user agencies like State and Central Government Departments and other public sector and private organizations as an apex body for imparting education and training and undertaking field oriented research projects in Water, Land and Environmental Management. In the past decade the activities of the centre has been greatly diversified and is concentrated on water, land and environment for sustainable development. Central Public Health and environmental engineering organisation has recognized this centre as one of the renowned institute offering P.G. programmes in Water and Environment. The centre is funded by the World Bank under Technical Education Quality Improvement Programme (TEQIP) and established well equipped laboratories. Research projects were taken up in many areas of Water Resources and Environment at National and International levels. Many National and International conferences were also conducted by the centre, notable among them is ICHWAM (International Conferences on Hydrology and Watershed Management) series which is being conducted for every four years.

About the Hyderabad City

Hyderabad, a city more than 400-years old is the capital for the state of Telangana in South India. The city presents an attractive amalgamation of ancient architecture, together with the ebullience of growth and enterprises of the modern world. Hyderabad, often called the Gateway of the South, blends the north and south Indian identities. Hyderabad is famous for its minarets and its pearl bazaar apart from buzzing software industry. Hyderabad is at an altitude of 536 m above Mean Sea Level and is a seat of a number of Research and Development Organizations of national and international importance besides being a host for half a dozen Universities. The venue of the Conference is at the auditorium of UGC academic staff collage, Jawaharlal Nehru Technological University Hyderabad, Kukatpally Hyderabad-500085. Important places of interest for visitors are Charminar, Golkonda Fort, Birla Mandir, Falaknuma palace, Salarjung Museum, Hussain Sagar Lake and Ramoji film city. During the conference days the Hyderabad

is experiencing mild summer days with the day time temperature reaching 35° C and night time temperatures are pleasant.

About the Association of Global Groundwater Scientists (AGGS)

Many groundwater professionals in India and elsewhere believe that sharing knowledge and experience on groundwater matters on a worldwide scale is an effective strategy to identify and promote optimal approaches to the assessment, development and management of groundwater resources. This is what precisely the Association of Global Groundwater scientists (AGGS) intends to do by organising conferences and workshops at various centres in India and if possible in the neighbouring countries viz. Bangladesh, Sri Lanka, Pakistan, Nepal and Bhutan by publishing proceeding volumes and sharing the new findings among congress members. It also plays a partner role along with other International Associations viz. IAHS and IAH in organising international events in other developing countries as well as SAARC countries.

The AGGS has started two series of flagship conferences namely International Groundwater Conference (IGWC) and Indian National Groundwater Conference (INGWC). The IGWC's were held at Dindigal (2002), New Delhi (2006), Coimbatore (2007), Madurai (2011), Aurangabad (2012), Chennai (2015), New Delhi (2017) and Roorkee (2019). Similarly INGWC's were held at Hyderabad (2016), Jalgaon (2018), Kozhikode (2020). The present conference is a sequel to this INGWC's and is being organised at Hyderabad again in March 2021.

Possible collaborators

- Central Groundwater Board (CGWB), MoWR, GOI, New Delhi
- INC-IAH, New Delhi
- GEOFORUM, Jalgaon, Maharashtra
- Florida A & M University, USA
- Texas A & M University, USA

Possible Co-sponsors of the program:

- Department of Science and Technology, Government of India
- All India Council for Technical Education, New Delhi
- Ministry of Earth Sciences, Government of India
- Ministry of Environment and Forest, Government of India
- Indian National Committee on Hydrology (INCOH), NIH, Roorkee
- National Bank for Agriculture and Rural Development (NABARD)

Preliminary Programme of the Conference

Monday March 22, 2021

Registration	: 08:30 a.m.
Inaugural Ceremony	: 10:00 a.m.
Plenary Session	: 11:30 a.m.
Technical Sessions	: 02:15 p.m.
Colloquium	: 04:30 p.m.
Cultural Programme	: 06:00 p.m.
Banquet Dinner	: 07:30 p.m.

Tuesday March 23, 2021

Plenary Session	: 09:00 a.m.
Technical Sessions	: 11:30 a.m.
AGM meeting of AGGS	: 05:30 p.m.
AGGS Dinner	: 07:30 p.m.

Monday March 24, 2021

Plenary Session	: 09:00 a.m.
Technical Sessions	: 11:30 a.m.
Panel Discussion	: 03:00 p.m.
Valedictory Session	: 04:00 p.m.

Pre-Registration Form for INGWC-2021

Title (Prof/Dr/Mr/Mrs)	Name	
Position		
Address(with PIN)		
Telephone (Off)	(Res)	(Mobile)
e-mail		
Name(s) of accompanying person(s), if any		
Are you (i) contributing a paper -- YES / No (ii) attending INGWC-2021 -- YES / No		

Registration Fee

All Foreign participants have to pay the Registration Fee in US dollars only. Registration fee should be paid through either DD drawn in favour of **Convener, INGWC-2021, payable at Hyderabad and post it to Convener, INGWC-2021, Room No. 624, SIT Building, JNT University Kukatpally Hyderabad Pin-500085, India**, or by bank transfer to Convener INGWC-2021, **Account No.39681397478, IFSC: SBIN0021008, State Bank of India JNTU campus Kukatpally Hyderabad branch and mail the transaction slip to the Convener INGWC-2021**

Delegate	Rs.3500/- or US \$350/- *
Research Scholar	Rs.2500/- or US \$250/- *
Student	Rs.1250/- or US \$125/- #
Accompanying Person	Rs.1250/- or US \$ 125/- (for each person) @

* Includes registration material, working lunch, conference dinner, tea.

Only proceedings, working lunch, conf. dinner, tea.

@ Only working lunch, conf. dinner, tea, field visit

If the conference is held virtually, only a nominal fee of Rs. 500/- for Indian delegates, US \$50/- for foreign delegates, Rs. 250/- for Indian research scholars, US \$25/- for foreign research scholars will be levied and it is free to all the students. These costs will only to cover the preparation of proceedings volume which will be sent electronically.

Accommodation

The participant(s) will be accommodated in hotels and guest houses on payment basis. Delegates are requested to send their accommodation requirements well in advance. The tariff of the various hotels located near to venue at Hyderabad will be circulated very soon for the registered participants.

Covid-19

The organizers are expecting normalcy in respect of Covid-19 during the conference days. In case organizing the conference physically is not possible, it will be held in a virtual mode. If the conference is held physically with all permissions, the delegates are expected to follow standard operating procedures as per the Government of India instructions prevailing at that time.

Patron of the conference

Sri Jayesh Ranjan IAS

Vice-Chancellor, J.N.T. University, Hyderabad

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