

# IGWC 2017



7<sup>th</sup>

INTERNATIONAL GROUNDWATER CONFERENCE  
on

**Groundwater Vision 2030**

**Water Security, Challenges and Climate Change Adaptation**

**December 11-13, 2017, New Delhi**

Organized by :



आपो हि स्था मयोभुवः

**National Institute of Hydrology,  
Roorkee, India**

In association with :



**Central Ground Water Board,  
India**



**Association of Global  
Groundwater Scientists**

**TEXAS A&M UNIVERSITY, USA**

## THE IGWC SERIES

The international conferences in IGWC series are the meeting point for groundwater professionals and researchers, bringing together experts in the various inter-related disciplines in the field of groundwater hydrology. Groundwater has emerged as a major resource in safeguarding agriculture and drinking water security in many parts of the globe. India is at present the largest and fastest consumer of groundwater in the world. The role of groundwater in contributing to water security and searching solutions for its conservation and sustainable management at present will play a crucial role to meet water demands of the population in future against the backdrop of climate change and to ensure food and water security for both the developed and developing countries. The aim of IGWC 2017 is to provide a common platform for researchers, academicians, water managers, industrialists and technocrats to discuss and present their vision for groundwater management in the face of growing challenges of the needs of rising earth population and anticipated impacts of climate change.

## NATIONAL INSTITUTE OF HYDROLOGY (NIH), ROORKEE

National Institute of Hydrology (NIH) is a premier research and development organization in the area of hydrology and water resources in India. The Institute was established in 1978, as an autonomous society under the Ministry of Water Resources, River Development & Ganga Rejuvenation, Government of India, with its headquarters at Roorkee. The Institute undertakes, aides, promotes and coordinates systematic and scientific work in all aspects of hydrology. Six Regional Centres of the Institute are located in different physiographic regions of the country.

The scientific and technical credibility of the Institute in conducting hydrological and water resources research is well recognized both at the national and international level. The Institute along with the joint organizers is planning an exciting three-day event that will enable delegates to examine the multi-dimensional challenges facing us in the coming years in terms of sustaining our groundwater resources, enabling a water secure future and adapting to climate change.

## ASSOCIATION OF GLOBAL GROUNDWATER SCIENTISTS (AGGS)

AGGS with its registered office in Coimbatore, Tamil Nadu, India, is committed to work on the promotion of research for minimizing groundwater pollution and to advocate the effective use of groundwater for better health and sustainable livelihood through undertaking appropriate measures. AGGS organizes seminars/symposia at various centres in India and in the neighbouring countries viz. Bangladesh, Sri Lanka, Pakistan, Nepal and Bhutan and publishes proceedings and new findings. It also plays a partner role along with other International Associations viz., IAHS & IAH in organising international events in other developing countries as well as SAARC countries.

## CENTRAL GROUND WATER BOARD

Central Ground Water Board (CGWB), a subordinate office of the Ministry of Water Resources, Government of India, is the National Apex Agency entrusted with the responsibilities of providing scientific inputs for management, exploration, monitoring, assessment, augmentation and regulation of ground water resources of the country. CGWB was established in 1970. Major activities being taken up by the Board include macro/micro-level ground water management studies, exploratory drilling program, monitoring of ground water levels and water quality through a network of ground water observation wells, and periodic assessment of replenishable ground water resources of the country etc. The Board also takes up special studies on various aspects of ground water sector such as ground water depletion, sea water ingress, ground water contamination, conjunctive use of surface & ground water, etc.

## TEXAS A&M UNIVERSITY

Texas A&M University, USA was established in 1876 as an institution of higher education. Since then, Texas A&M has flourished to become one of the premier research universities in USA. Texas A&M University is dedicated to the discovery, development, communication, and application of knowledge in a wide range of academic and professional fields. Its mission of providing the highest quality undergraduate and graduate programs is inseparable from its mission of developing new understandings through research and creativity. It welcomes and seeks to serve persons of all racial, ethnic and geographic groups as it addresses the needs of an increasingly diverse population and a global economy.

## SCIENTIFIC THEMES

### T-1: VISION 2030 – PREPARING FOR A WATER SECURE FUTURE

- Integrated water resources management
- Groundwater use efficiency: urban utilization and irrigation methods – innovations
- Groundwater-energy nexus and future challenges
- Water resource management: role of industrial /financial sector
- Smart cities water management
- Water reuse technology
- Community participation and safe water supplies

### T-2: VISION 2030 – FACING UPTO CLIMATE CHANGE

- Climate change and groundwater resources
- Climate change adaptation and management techniques
- Coastal groundwater management practices and ecosystem services
- Groundwater resources in Himalayan ecosystem
- Soil science, groundwater resources and food security
- Decision support system and water management

### T-3: VISION 2030-WATER RESOURCES IN ARID & SEMI-ARID REGIONS

- Potential climate change impacts on extreme weather events in arid & semi-arid regions
- Arid and semi-arid zone hydrology
- Innovation in development of water resources in drought prone areas with scarce water resources
- International and regional cooperation for drought mitigation
- Drought monitoring, planning & management
- Dryland agriculture
- Flood hazard identification & mitigation

### T-4: NIRMAL AND AVIRAL GANGA –WATER QUANTITY AND QUALITY MANAGEMENT IN INDO-GANGETIC PLAINS & BASEFLOW SUSTENANCE

- Surface water & ground water interaction
- Groundwater & baseflow sustainability for river health
- Best watershed management practices for a clean river system: case studies from across globe
- Groundwater environmental flow and ecosystem services
- Conjunctive water use management

### T-5: GROUNDWATER CONTAMINATION AND CHALLENGES

- Anthropogenic sources & remedies
- Geogenic sources & remedies
- Geochemistry & geochemical modeling
- Advanced instrumentation for water quality monitoring & assessment
- Advanced techniques for remediation of contaminated water including geogenic contamination: putting science to practice

## SCIENTIFIC THEMES

### T-6: GROUNDWATER MODELING AND MANAGEMENT

- Groundwater flow and mass transport modeling
- Fracture geometry and flow mechanism in hard rocks.
- Model calibration and validation issues when models using decision-making tools
- Skimming well techniques
- Aquifer characterization & parameter estimation
- Soft computing techniques in modeling & management
- Modeling and estimation of GW recharge

### T-7: ADVANCED TECHNIQUES FOR GW EXPLORATION & ASSESSMENT

- Remote sensing and Geographic Information System (GIS) in groundwater
- Identification of fracture zones in hard rock region
- Delineation of fresh and salt water interface in a coastal aquifer system
- Statistical techniques for estimation of hydrological variables
- Aquifer delineation, mapping, etc

### T-8: AUGMENTATION OF GROUNDWATER RESOURCES

- Managed aquifer recharge
- Natural treatment techniques for enhancing groundwater resources
- Aquifer storage and recovery in inland and coastal areas: case studies
- Revival and rejuvenation of traditional rainwater harvesting methods

### T-9: ISOTOPIC TECHNIQUES IN GROUNDWATER INVESTIGATION & MANAGEMENT

- Surface-groundwater recharge management
- Stream-aquifer interaction
- Lake investigation & management
- Sea water intrusion
- Groundwater mixing and dynamics

### T-10: GROUNDWATER POLICY,REGULATION AND GOVERNANCE

- Groundwater governance
- Groundwater development vs. management
- Pricing & regulation
- Water education
- Policy framework for enhancing groundwater recharge & management
- Groundwater economics & sustainability

## ORGANIZING COMMITTEE

### Conference Chairs:

Er. R D Singh, Director, NIH, Roorkee, India  
Mr. K B Biswas, Chairman, CGWB, New Delhi, India  
Dr. B. Venkateswara Rao, President, AGGS, India  
Prof. V.P. Singh, Texas A & M University, USA

### Conference Convener:

Dr. N C Ghosh, Scientist G & Head, NIH, Roorkee, India

### Organizing Secretaries:

Dr. Anupma Sharma, Scientist E, NIH, Roorkee, India  
Mr. K. C. Naik, Member, RGI, CGWB, Faridabad, India

### Joint Organizing Secretaries:

Dr. Surjeet Singh, Scientist E, NIH, Roorkee, India  
Mr. G. C. Pati, Member, TT & WQ, CGWB, Faridabad, India

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- Director (Regional Head for Asia), IWMI, Sri Lanka
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- Dr. D.C. Singhal, India
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- Prof. Rajiv Sinha, IIT, Kanpur, India
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- Dr. T.N. Olsthoorn, Delft, Netherlands
- Dr. S Majid Hassanizadeh, Utrecht University, Netherlands
- Prof. Dajun Shen, Renmin University of China
- Dr. Rauf Israfilov, Institute of Geology, Hydrogeology and Engineering Geology Laboratory, Azerbaijan
- Dr. Ricardo Hirata, University of São Paulo, Brazil

## CALL FOR PAPERS

You are invited to submit abstracts of about 500 words on the mentioned themes through our website [www.nihroorkee.gov.in/igwc2017](http://www.nihroorkee.gov.in/igwc2017) electronically by March 31, 2017. Mention your affiliation, mailing address, phone and fax numbers and e-mail address. Alternatively, you can also email the abstract to the Organizing Secretary IGWC 2017 by above date at [igwc2017@gmail.com](mailto:igwc2017@gmail.com).

## KEY DATES

**Abstract submission: March 31, 2017**  
**Abstract acceptance: May 15, 2017**  
**Paper submission: August 15, 2017**  
**Paper acceptance: Sept 30, 2017**  
**Registration deadline: Oct. 31, 2017**

## REGISTRATION FEE

Delegates Indian	Rs. 4500*
Delegates Foreign	USD 250*
Research Scholars/Students	Rs. 2500*
Accompanying Person	Rs. 2000(Indian) ** USD 100 (Foreigners)**

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

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*Note: All foreign participants have to pay their registration fee in US Dollars only.*

**Note \* :Registration fee may be submitted through either bank transfer or through demand draft (DD) drawn in favor of IGWC-2017, payable at Roorkee, India and sent to Conference Secretariat, IGWC 2017, National Institute of Hydrology, Roorkee 247667, India on or before Oct. 31, 2017. All AGGS life members will get 10% discount in registration fee.**

### Details of payment of registration fee through bank transfer:

**Account Number : 4044000100176586**

**Bank : Punjab National Bank**

**State : Uttarakhand**

**District : Haridwar**

**Branch : IIT Roorkee**

**IFSC Code : PUNB0404400 (5th character is zero)**

**MICR Code : 247024103**

**Branch Code : 404400 (Last 6 Characters of the IFSC Code)**

**City : Roorkee**

**Updates will be posted on our website: [www.nihroorkee.gov.in/igwc2017](http://www.nihroorkee.gov.in/igwc2017)**

## SPONSORSHIP

IGWC-2017 will seek two types of sponsorship: (i) Associative sponsorship; and (ii) Promotional Facilities. The associative sponsorship will be towards support of the conference; while the promotional facilities will provide the scope of exhibiting the companies profile.

### Promotional Facilities

**Platinum Sponsor:** Fee USD 10,000 / INR 3,00,000 (structure from IWW 2016)

- Full registration for seven delegates
- Company name and logo on conference, web Page (linked to the company website) promotion material like proceedings, volume, banner/signage, stationary items etc.
- 10 min. time slot for technical presentation in the session of your choice (except inaugural, plenary & valedictory sessions)
- Distribution of Literature/Brochures

**Golden Sponsor:** Fee USD 7,000 / INR 2,50,000

- Full registration for five delegates
- Company name and logo on conference, web Page\_ (linked to the company website) promotion material like proceedings
- Volume, banner/signage, stationary items etc.
- Distribution of Literature/Brochures

**Silver Sponsor:** USD 6,000 / INR 1,75,000

- Full registration for three delegates
- Company name and logo on conference, web Page\_ (linked to the company website) promotion material like proceedings
- Volume, banner/signage, stationary items etc.
- Distribution of Literature/Brochures

**Supporter:** Fee USD 4,000 / INR 1,00,000

- Full registration for two delegates
- Company name and logo on conference proceedings volume
- Distribution of Literature/Brochures

**Advertisement Opportunities** :A limited space will be made available on -first-come--first-served basis, for coloured advertisement to the organizations, involved in the concerned -field, in the Conference Volume being brought out on the occasion of the Conference. Full registration for one delegate will also be available. Interested organizations may contact the Conference Secretariat at NIH Roorkee on email [igwc2017@gmail.com](mailto:igwc2017@gmail.com).

**Fee : US\$ 1000 / INR 50,000**

### **Top Ten Reasons to Join Us at IGWC-2017, New Delhi**

- Learning what the top experts say
- Sharing your research
- Networking opportunities abound
- Case studies and real life examples
- Chance to promote your innovative technology
- Key note presentations and a panel of international groundwater experts
- Exposure to latest emerging techniques
- Be a participant in planning water security for future
- Contribute your bit for groundwater science
- Tours and social program

*For foreign delegates it is a great opportunity to visit India, the fastest growing economy of the world with 1.25 billion people. New Delhi is the capital of India and one of the most vibrant cities with a mix of culture, heritage and modernity.*

### **Tours & Social Program**

**Tours:** Post conference on Day 4 of the event, tours for delegates and accompanying persons shall be arranged to the picturesque historical places near Delhi including the majestic 'Taj Mahal' in Agra on the payment basis.

**Social Program:** A full social program will be arranged, including: a welcome reception for all participants and accompanying persons; and, a Cultural Program followed by Conference Gala Dinner on Day 2 of the event.

### **Accommodation**

Hotel rooms would be available for delegates in a wide range of categories, from 3\* to luxury 5\* on the payment basis. The hotel details shall be posted on our website : [www.nihroorkee.gov.in/igwc2017](http://www.nihroorkee.gov.in/igwc2017)

Full details of technical sessions and conference activities will be published in the final bulletin which will be available in September 2017. All the forms (registration/accommodation/tour) will be available on our website. Meanwhile for more information, contact the conference convener or the organizing secretary.

## CONTACT DETAILS

### Conference Convener IGWC 2017:

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*SEE YOU IN DELHI!!!*

