



International Conference

ON

SUSTAINABLE TECHNOLOGIES FOR INTELLIGENT WATER MANAGEMENT

February 16-19, 2018

Organised by



Department of Water Resources
Development & Management

&



Indian Water Resources Society (IWRS)



Background

India is the second most populous and largest democratic country in the world. It is one of the few countries that are endowed with abundant land and water resources. Majority of its population relies on agriculture for sustenance. Since independence, considerable efforts have been made for attaining food security to meet the increasing demand of food for its growing population, and there has been a remarkable success. Undoubtedly, the Green Revolution technologies of the 1960s addressed the challenge of food security, enhanced the yield with better irrigation prospects and successfully increased crop production using high-yielding seed varieties.

The prevailing concept of smart cities in the country relies on multiple utility infrastructure systems that are characterized by complexity and accompanied by high investment and management costs. These smart cities and other urban centres are expected to face water resources distribution challenges due to increased population flow, energy supply issues due to depletion of fossil fuel resources, increased investment overheads, spiralling maintenance and management costs, and improper land resource utilization. Innovative and sustainable technologies for intelligent water management are deemed vital to minimize the impact of these emerging challenges.

Urbanization on the other hand is leading to desertification, waterlogging, soil salinity, and water born epidemics, not to mention that the cultivated area is alarmingly decreasing. For increasing food production, improvement and expansion of agricultural water management by scientific storage, transport, distribution and proper management must undertaken.

It is common experience that climate change and agriculture are interrelated. IPCC speculates 10-40% loss in crop production in India by 2080-2100 due to global warming, despite the beneficial aspects of increased CO₂. The warming of Indian sub-continent is reported to be between 1 °C and 2 °C by 2030, leading to prospects for more severe droughts and/or floods with changes in precipitation and evapotranspiration rates.

Today's cropping yield is most vulnerable to climate variability, calling for modernization of existing irrigation with well-designed and incorporated drainage systems. There is a need for increasing water storage (of all sizes) to make agriculture and the large population of farmers more resilient to climate change impacts.

Energy plays a vital role in the overall growth of a nation. Since energy resources are limited, the focus is on renewable sources of energy. Hydropower is one of such proven and clean sources of energy with annual global hydropower generation having reached about 3,900 TWh, providing 16.6% of global electricity. Hydropower being the most economic and preferred source of electricity notwithstanding, its share has been declining steadily since 1963; from 50% in 1962-63 to about 15% of installed capacity in January 2017.

Thus, the scope of this conference is fairly wide and includes any combination of theoretical/ conceptual/applied, analytical/computational, and/or experimental/field approaches used for furtherance of the understanding in various facets involving intelligent hydro-informatics, river basin water management for urban and rural area, irrigation, hydropower, environment, health, disaster, governance, coastal management, capacity building, and so on.

This conference will provide an opportunity to policy makers, academicians, researchers, and students to share their experiences and knowledge by presentation of fundamental/applied scientific advances made in the field of water resources engineering and management for sustainable development.

Conference Themes

1. Intelligent hydro-informatics

- Applications of ANN, fuzzy logic, genetic algorithms, and other evolutionary methods
- Geographic Information Systems (GIS) and Remote Sensing Applications
- Intelligent decision support systems

3. Intelligent urban and rural water management

- Urban hydrology and storm water management
- Smart cities and urban water supply management
- Smart water technologies
- Drinking water management in rural and hilly areas

5. Sustainable hydropower management

- Risk and uncertainties in hydropower development & management
- Sediment management
- E-flows
- Conflict resolution

7. Water, Environment, and Health

- Water pollution
- Water supply and sanitation
- Water quality and environment protection
- Wastewater quality and management

9. Water governance and capacity building

- Water laws & policy: problems, prospects and consumer perspective
- Knowledge engineering and management
- Education and training
- Internet-based applications

2. Intelligent river basin management

- Issues and challenges of large river basin management
- Hydraulics and waterways
- Floods and drought management

4. Sustainable irrigation water management

- Irrigation rehabilitation and modernization
- Precise irrigation methods
- Command area development and management
- Optimal cropping pattern and yield maximization

6. Intelligent & sustainable coastal water management

- Saline-water Intrusion
- Modelling and monitoring
- Mitigation of saline-water intrusion

8. Global warming and impact of climate change on society

- Climatic variability and extremes
- Detection of climate change
- Impact of climate change on arid and semi-arid regions

Call for Abstract: Abstracts of papers (not exceeding 150 words) on the above session themes of the Conference are invited latest by November 15, 2017 and the acceptance will be notified by November 30, 2017. The authors of the accepted abstracts are requested to submit the full length papers latest by January 15, 2018. The abstract of the papers can be uploaded through <http://www.easychair.org/conferences/?conf=stiwm2018>.

Registration Fees and Mode of payment: The Registration fee for the conference will be Rs. 12,000 for Indian delegate and Rs. 4000 for Indian student and, US\$ 300 for foreign delegate and US\$ 100 for foreign student. The fee may be paid in the form of Demand Draft drawn in favour of Secretary, Indian Water Resources Society Roorkee payable at Roorkee. Alternatively, it can be paid by direct transfer in the following account.

A. DETAILS OF ACCOUNT HOLDER

NAME OF ACCOUNT HOLDER	INDIAN WATER RESOURCES SOCIETY
COMPLETE BANK ACCOUNT NUMBER	10660279735
BANK NAME	STATE BANK OF INDIA
BRANCH NAME WITH COMPLETE ADDRESS	SBI BRANCH, INDIAN INSTITUTE OF TECHNOLOGY, ROORKEE
THE BRANCH'S IFSC CODE	SBIN0001069
MICR CODE OF BANK	247002094

How to Reach IIT Roorkee: Roorkee is well connected to Delhi by rail and road. It is situated on National Highways 58 and 73 and is on Amritsar-Howrah main rail route. Some trains which are convenient for travelling between Delhi and Roorkee are New Delhi-Dehradun-New Delhi Shatabdi Express and Dehradun-New Delhi-Dehradun Janshatabdi Express. The nearest airport is located at Jollygrant, Dehradun. However, New Delhi is the preferred airport. National Highway 58 from New Delhi to the higher reaches of the Himalayas passes via Roorkee. Roorkee is, therefore, well connected to all the major cities in the region by road. There are frequent bus services to this place from the Maharana Pratap Inter State Bus Terminal (Kashmere Gate) Delhi.

By Roadways: Traveling from Delhi, Roorkee is located towards north approximately 170 kilometers. Take the highway NH58, and it passes through Roorkee. The city of Haridwar is located further on the same highway about 29 kilometers from Roorkee. The main bus depot of Roorkee is located on NH58. Several buses run from various cities in North India.

By Airways: Nearest airport to Roorkee is Dehradun's Jolly Grant airport which has Air India, Spice Jet and Jet Airways services from New Delhi. But most preferable airport nearest from Roorkee is the New Delhi International Airport which is about 180 kilometers away.

By Railways: Easiest way to get to Roorkee is by train. There are several trains serving Roorkee daily from various cities around. The high speed trains Shatabdi and Jan Shatabdi also stop at Roorkee on their route Delhi - Dehradun. By train, it takes less than 3 hours and 30 minutes to reach Roorkee from Delhi, so it is the fastest and most economical way of travel.

Sponsorship Opportunities: The conference provides a unique opportunity for sponsoring organizations to promote their products/services to the focused international and national audiences/stake holders besides having an excellent opportunity to interact with engineers/scientists/ academicians/ managers. The sponsorship can be offered in any one of the following categories:

Platinum Sponsor

USD 15,000/INR 5,00,000

- Full registration for ten delegates
- Company name and logo on conference, web Page, promotion material like proceedings volume, banner, stationary items etc.
- A full page advertisement in the Post Session Proceedings
- 10 min. time slot for technical presentation in the session of your choice (except inaugural, plenary & valedictory sessions)
- Distribution of Literature/Brochures

Silver Sponsor:

USD 7500/INR 3,00,000

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

Golden Sponsor

USD 10000/INR 4,00,000

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

Supporter

USD 5000/INR 2,00,000

- Full registration for three delegates
- Company name and logo on conference proceedings volume.
- A full page advertisement in the Post Session Proceedings
- Distribution of Literature/Brochures

About IIT Roorkee: Indian Institute of Technology Roorkee is the successor of University of Roorkee and thus it is the oldest technical institution of the country established as the Roorkee College of Engineering in 1847 and rechristened as Thomason College of Civil Engineering in 1857. It was elevated to the first Technical University of Independent India on November 25, 1949. In the year 2001, it was declared as the Institute of national importance and converted into Indian Institute of Technology Roorkee (IITR) on September 21, 2001.

About Department of Water Resources Development & Management: The Department of Water Resources Development and Management (WRD&M) of IIT Roorkee is a premier place of learning of international standing in post-graduate education, training and research in the discipline of water resources development and management. Since its creation in 1955 under the stewardship of ECAFE (now ESCAP) of the United Nations, the department has imparted post graduate education and training in water resources development and management to 2234 water resources professionals from 41 countries of Asia, Africa and Latin America. The department has creditably undertaken numerous national and international sponsored research and consultancy projects on hydraulic & hydrological modelling, remote sensing & GIS based studies for river basin geomorphology & flood-plain changes, stream bank protection & erosion control, flood estimation & management, hydro-power development, irrigation water management, river engineering including inland navigation, planning & design of hydraulic structures for water resources management. Besides regular post-graduation programmes, the department has been conducting many short-term national and international training courses on different themes of water resources management for purposes of capacity building of water resources professionals from India and abroad. The department has successfully completed major R&D projects on action research for effecting improvement in specific under-performing large irrigation systems in India under sponsorships of Ford Foundation, IWMI, etc.

About Indian Water Resources Society (IWRS): Indian Water Resources Society (IWRS) was founded in 1980 as a society registered under the Societies Registration Act. IWRS Registered office is located in the Department of Water Resources Development & Management, IIT Roorkee. In addition, it has local centers in most of the major cities. Subject to approval by the executive committee, membership of IWRS is open to any professional/person who is interested in water sector. Presently, IWRS has about 7651 life members; 397 fellow members; and 50 institutional members; and its main objective is advancement of knowledge in technical and policy aspects of water resources development and management. It serves as a platform for free and frank discussions amongst those concerned with water related issues.

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