



Report of the International E-Conference
On
“WATER SOURCE SUSTAINABILITY”

June 18-20, 2021

Organized by



**INDIAN WATER RESOURCES SOCIETY (IWRS)
AND
DEPARTMENT OF WATER RESOURCES DEVELOPMENT
AND MANAGEMENT**

**INDIAN INSTITUTE OF TECHNOLOGY ROORKEE
ROORKEE -247667 (INDIA)**

June, 2021





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June, 2021

Patrons



Er. U. P. Singh
President, IWRS & Secretary,
Ministry of Textiles, Government of India

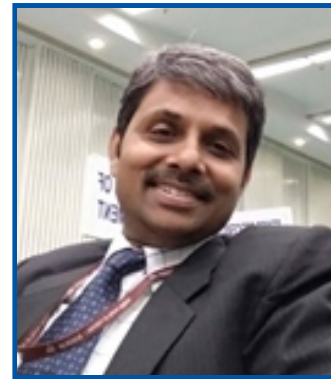


Prof. Ajit K. Chaturvedi
Director, IIT Roorkee

Organizing Committee



Prof. Ashish Pandey
Executive Vice President, IWRS &
Head, Department of WRD&M, IIT Roorkee



Er. D. P. Mathuria
Vice President, IWRS



Prof. Basant Yadav
Secretary, IWRS
Department of WRD&M, IIT Roorkee



Prof. K.S. Kasiviswanathan
Treasurer, IWRS
Department of WRD&M, IIT Roorkee

1. INTRODUCTION & REGISTRATION

Indian Water Resources Society (IWRS), Roorkee in association with the Department of Water Resources Development & Management (WRDM), IIT Roorkee organized a 3-days “International E-Conference on Water Source Sustainability” during 18th – 20th June 2021. Eminent experts from well-known foreign universities and several other prestigious Indian universities participated in the e-conference.

2. INAUGURALFUNCTION

All the guests were honored by Prof. Ashish Pandey, Head, Department of Water Resources Development & Management & Executive Vice President IWRS and Prof. Basant Yadav, Assistant Professor, Department of Water Resources Development & Management & Secretary, IWRS during the inaugural function. The e-conference was inaugurated by Prof. Ajit Kumar Chaturvedi, Director, IIT Roorkee. The Chief Guest of the function Shri U.P. Singh, Secretary, Ministry of Textiles, Govt. of India, New Delhi & President, IWRS and Er. D.P. Mathuria, Executive Director, NMCG, New Delhi & Vice President, IWRS. The Chief Guest emphasized on the importance of water sustainability and every student should learn the importance of water harvesting.

The poster is for the "International e-Conference on 'Water Source Sustainability'". It is organized by the Dept. of WRD&M, IIT Roorkee & Indian Water Resources Society (IWRS) on June 18, 2021. The inaugural function is scheduled for 1300 hrs - 1400hrs. The poster features portraits and names of the Chief Guest, the Director of IIT Roorkee, and the members of the Organizing Committee. At the bottom, it provides a link to join the inaugural function and the event number and password.

International e-Conference
on
"Water Source Sustainability"
Organised by
Dept. of WRD&M, IIT Roorkee & Indian Water Resources Society (IWRS)
June 18, 2021
INAUGURAL FUNCTION
Timings: 1300 hrs - 1400hrs

Chief Guest:
Er. U. P. Singh, IAS (Chief Guest)
President, IWRS &
Secretary, Ministry of Textiles,
Govt. of India

Director, IIT Roorkee:
Prof. Ajit Kumar Chaturvedi
Director, IIT Roorkee

Organizing Committee:

Prof. Ashish Pandey
Executive Vice President, IWRS &
Prof. & Head, Dept. of WRD&M, IIT Roorkee

Er. D. P. Mathuria
Vice President IWRS &
Executive Director (Technical),
NMCG, Ministry of Jal Shakti, Govt. of India

Prof. Basant Yadav
Secretary, IWRS &
Assistant Professor, Dept. of WRD&M,
IIT Roorkee


Prof. K. S. Kasiviswanathan
Treasurer, IWRS &
Assistant Professor Dept. of WRD&M,
IIT Roorkee

Link to join the inaugural Function-
<https://iitroorkee.webex.com/jitroorkee/onstage/g.php?MTID=e073684274277d0ec50e35bbb679566e5>
Event number: 158 879 7038 Event password: WROM&TR

The Chief Guest Shri U.P. Singh, Secretary, Ministry of Textiles, Govt. of India, New Delhi & President, IWRS also announced awards instituted by the IWRS for the years 2019 and 2020 as follows.

For the year 2019, Prof. Vijay P. Singh, Professor, Texas A&M, Univ., USA, was conferred up on the Life Time Achievement Award. Er. K. Vohra, Member (WP&P), CWC; Dr. Dipankar Saha, Former Member CGWB; Dr. V.V. Rao, Group Director, NRSC, ISRO, Hyderabad; Prof. Madan Jha, Professor, IIT Kharagpur; Dr. Palmate Santosh Subhash, Post-Doctoral Fellow, Texas A&M, Univ., USA were been conferred with the Eminent Water Resources Engineer Award, Eminent Water Resources Scientist Award and the best Water Resources Student award respectively.

Life Time Achievement Award-2019



Professor Vijay P. Singh is a University Distinguished Professor, a Regents Professor, and Caroline and William N. Lehrer Distinguished Chair in Water Engineering at Texas A&M University, USA. He received his B.S., M.S., Ph.D. and D.Sc. degrees in engineering. He is a registered professional engineer, a registered professional hydrologist, and an Honorary diplomate of ASCE-AAWRE. He is a Distinguished member of ASCE, an Honorary Member of IWRA, a Distinguished Fellow of AGOS, and an Honorary Member of AWRA, and a fellow of EWRI-ASCE, IAHR, ISAE, IWRS, and IASWC.

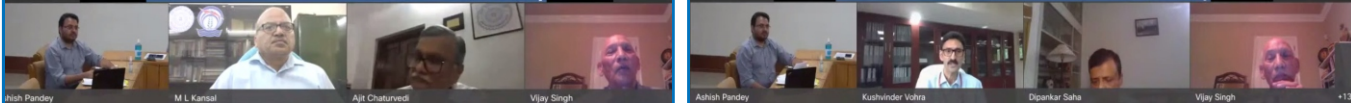
He has published extensively in the areas of hydrology, irrigation engineering, hydraulics, groundwater, water quality, and water resources (more than 1355 journal articles, 31 textbooks, 80 edited reference books, 115 book chapters, and 315 conference papers). He has received more than 100 national and international awards, including three honorary doctorates. He is a member of 12 international science/engineering academies. He has served as President of the American Institute of Hydrology (AIH), Chair of Watershed Council of American Society of Civil Engineers, and President of American Academy of Water Resources Engineers, and is President of International Association for Water, Environment, Energy, and Society. He has served/serves as editor-in-chief of three journals and two book series and serves on editorial boards of more than 25 journals and three book series. His Google Scholar citations are 70,658; h-index of 117; and i10-index of 1015.

Eminent Water Resources Engineer Award- 2019




Sh. Kushvinder Vohra currently holds the post of Member (WP&P), Higher Administrative Grade (HAG) of (Gr. IV) in the Central Water Engineering Service, Central Water Commission. He completed Civil Engineering in 1985 from Thapar Institute of Engineering & Technology, Patiala and also has an LL.B degree from the Delhi University. In his professional career he has been instrumental in numerous important areas like formulation, approval and implementation of schemes such as Pradhan Mantri Krishi Sinchayee Yojana (PMKSY), Special Package for Irrigation Projects in Maharashtra Rajasthan, Feeder – Sifted Feeder and also 99 Major / Medium Irrigation (MMI) projects were prioritized in the country for completion in phases.

He also played a major role in water conflict resolution between Telangana and Andhra Pradesh on the usage of Krishna River water. He is actively involved in the Inter-linking of Rivers programme in preparation of PFR, DPRs of ILR Project, and building consensus amongst concerned States. Numerous papers presented at National / International Forums and published in National / International Journals.




Eminent Water Resources Engineer Award- 2019



Dr. Dipankar Saha is former Member (Head Quarters) Central Ground Water Board and former Member Secretary, Central Ground Water Authority. He had also served as Head of the National Ground Water Training and Research Institute, Raipur. He also spearheaded the National Aquifer Mapping and Management Programme, as National Coordinator. He is PhD on Ground Water Management from ITISM Dharwad and has authored more than 50 papers in International Peer Reviewed Journals. He is professionally trained from Asian Institute of Technology, Bangkok and from JICA, Tokyo.

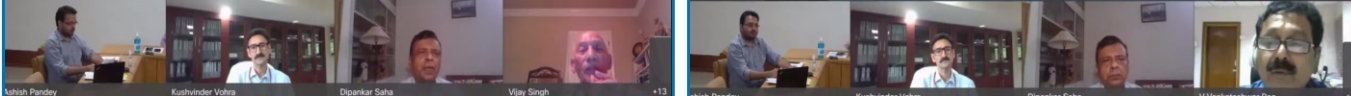
He presented papers in World Bank session at Kathmandu, International Atomic Energy Agency at Ho Chi Minh City, and Vienna, World Water Week – Stockholm, India-UK Water Security Exchange, Wallingford, Oxfordshire, IAHR Congress in Daejeon, Korea, University of Manchester and Public talk in Urocin University. He edited/co-edited following books/journals: a. Clean and Sustainable Groundwater in India published by Springer in 2017. b. Water Governance Challenges and Prospects published by Springer in 2019. c. Guest Editor for Journal of Hydrology Regional. He is the first recipient of National Science Award – 2010 from CGWB under individual category and also the first recipient of the Excellence in Ground Water Award conferred by International Association of Hydrogeologists-India Chapter in 2014. He has published 42 papers in peer reviewed International Journals and delivered more than 200 Key Note Addresses, and invited talks.

Eminent Water Resources Scientist Award- 2019




Dr. V. Venkateshwar Rao has been spearheading geospatial technology applications to water resources assessment, planning, monitoring and management at NRSC as Group Director of Water Resources Group. He has a diversified experience spanning over 30 years in the fields of irrigation water management, hydrological modelling and water resources assessment, water infrastructure monitoring, reservoir sedimentation, flood forecasting, snow melt runoff modeling, glacial lakes & GLOF studies and water informatics.

He has through professional knowledge with very good leadership qualities in geospatial technology research and applications development in water resources area at NRSC, ISRO. He is responsible for providing hydrologic modelling frame works for the country. As Project Director (PD), National Hydrology Project (NHP), he is responsible for providing near real time best possible resolution hydro informatics products for use in decision support in water management. He has embarked on setting up massive field laboratories viz. Flux towers Stations and probes for measurement of ET and Soil Moisture for validation of satellite derived products. Under his guidance, for the first time in the country, Glacial lakes Atlas (GL> 0.25 Ha) has been prepared and Ranking of Glacial lakes has been done for GLOF risk simulation assessment in Indian Himalayan Region.




Eminent Water Resources Scientist Award- 2019




Prof. Madan Kumar Jha Professor (HAG), Land and Water Resources Engg. in the Department of Agricultural and Food Engineering, IIT Kharagpur. His research areas include Basin-wide Groundwater Modeling; Water Harvesting and Artificial Recharge; GW Management using RS, GIS and MCDA; Field Investigation & Seawater Intrusion; Groundwater-Surface Water Interaction. He has received several awards during his illustrious career like Smt. Savitri Chaudhri Memorial INC IAHR Award 2020 for Excellence in Ground Water Science for his contribution in Groundwater Hydrology.

He was featured as top 2% of the scientists across the globe in the field of "Environmental Engineering", based on the research publication output in 2019, by Stanford University Analyst Group; received a Team Award by the Indian Society of Agricultural Engineers in 2017; K. C. Das Memorial Award in 2015; Banabihari Mohanty Memorial Award in 2013 and many more. He has also received numerous prestigious international and national fellowships and scholarships. He has completed several sponsored research and consultancy projects. He has been a member of Editorial board of Scientific Reports and is an associate editor and reviewer of various reputed international journals. He has more than 100 papers published in Peer-Reviewed journals. 21 Bookchapters.

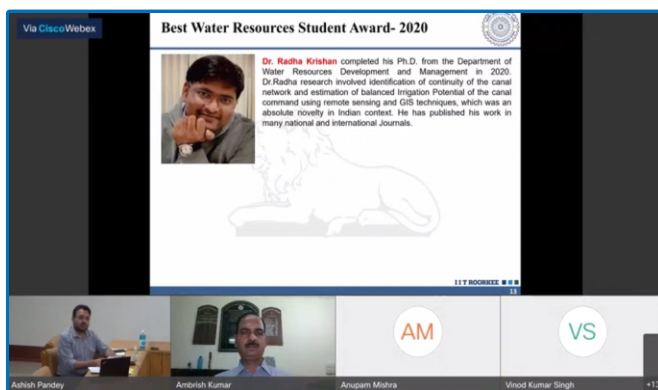
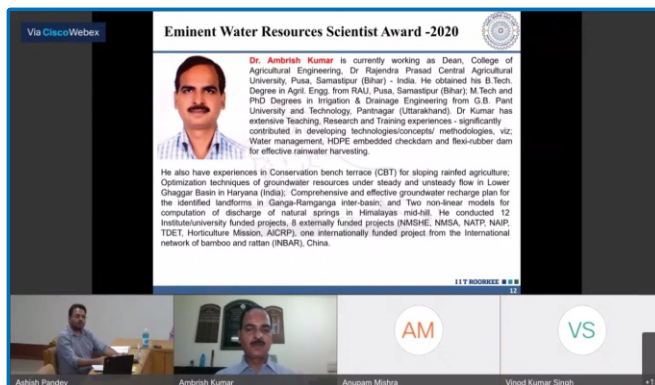
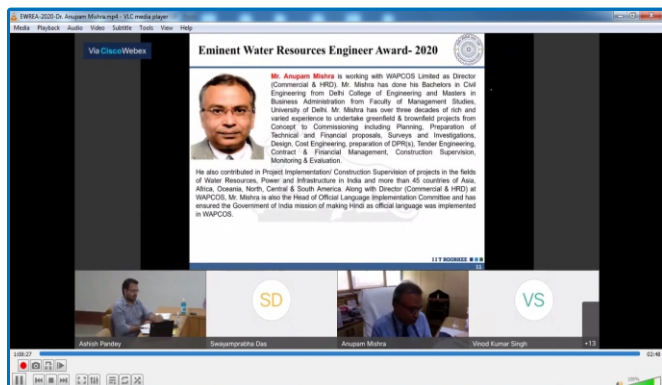
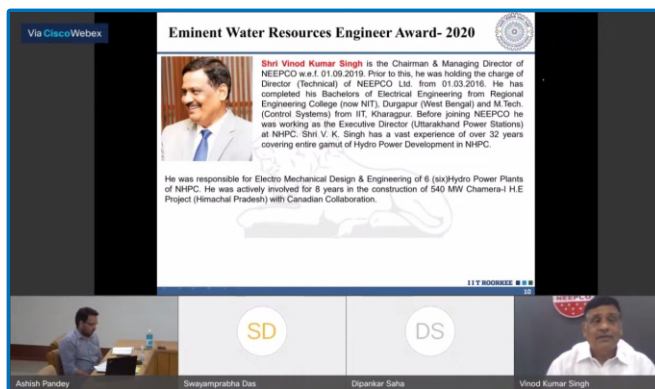
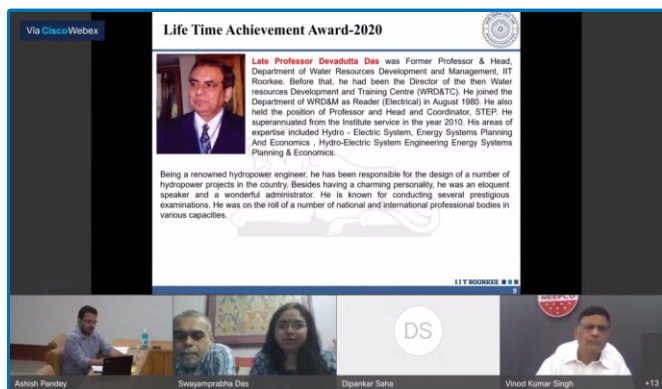
Best Water Resources Student Award- 2019



Dr. Palmate Santosh Subhash completed his Ph.D. from the Department of Water Resources Development and Management in 2019. Currently he is carrying out Postdoctoral research at the Texas A&M AgLife Research Center, El Paso, Texas in USA. Currently working on salinity, carbon and nutrient management in arid region agriculture using system dynamic modeling and UAV-based hyperspectral and thermal sensing. Recently he has been awarded CDRI Fellowship 2021.



For the year 2020, Prof. Devdutta Das, (deceased), Former Professor & Head, (Deptt. of WRD&M, IIT Roorkee) was conferred up on the Life Time Achievement Award. Er. V. K. Singh, Chairman & Managing Director, NEEPCO Limited; Er. Anupam Mishra, Director (Commercial & HRD); Dr. Ambrish Kumar, Dean, CAE, Dr. Rajendra Prasad Central Agril. Univ., Pusa, Bihar; Dr. Radha Krishan, Post-Doctoral Fellow, CSE, University of Glasgow, Scotland were conferred with the Eminent Water Resources Engineer Award, Eminent Water Resources Scientist Award and the best Water Resources Student award respectively.



3. PRELIMINARY SESSIONS

Total 46 Keynotes address on various e-conference themes were delivered by eminent scientists/professors/ water professionals from India and abroad in 7 Plenary Sessions as detailed below:

PARALLEL SESSION-I (June 18, 2021)

CHAIRMAN-Dr. M. ArizAhammed, IAS, Principal Secretary Government of Assam

Co-Chairman- Prof. S.K. Mishra, Professor, Department of WRD&M, IIT Roorkee

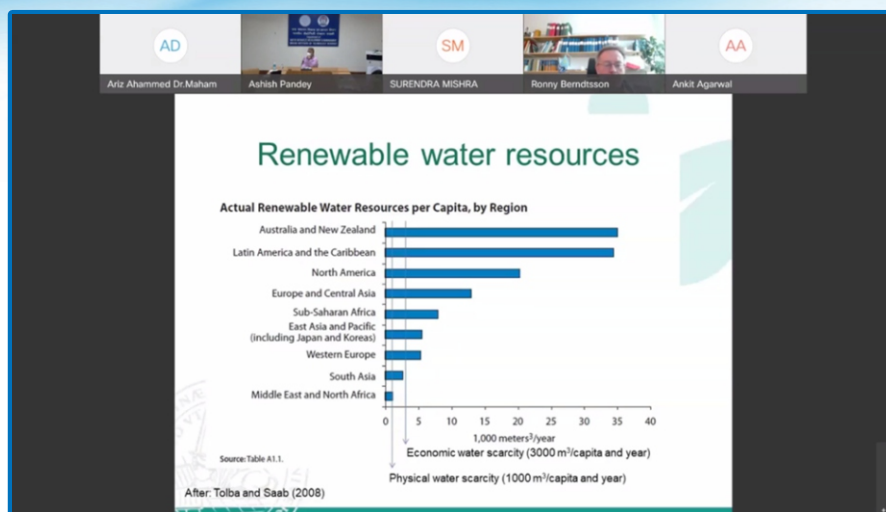
- 1. Sustainable irrigation water management**
Prof. Ronny Berndtsson, Deputy Director, Lund University, Sweden.
- 2. Need for Modernisation of irrigation infrastructure**
Shri Kushvinder Vohra, Member (WP&P), CWC, New Delhi.
- 3. Climate smart technologies for sustainability of water resources in urban and rural areas.**
Dr. Manoj P. Samuel, Executive Director, Centre for WRD&M, Kozhikode, Kerala, India
- 4. Remote Sensing Applications in Water Security**
Dr. V.V. Rao, Group Director, NRSC, Hyderabad, India.

PARALLEL SESSION-II (June 18, 2021)

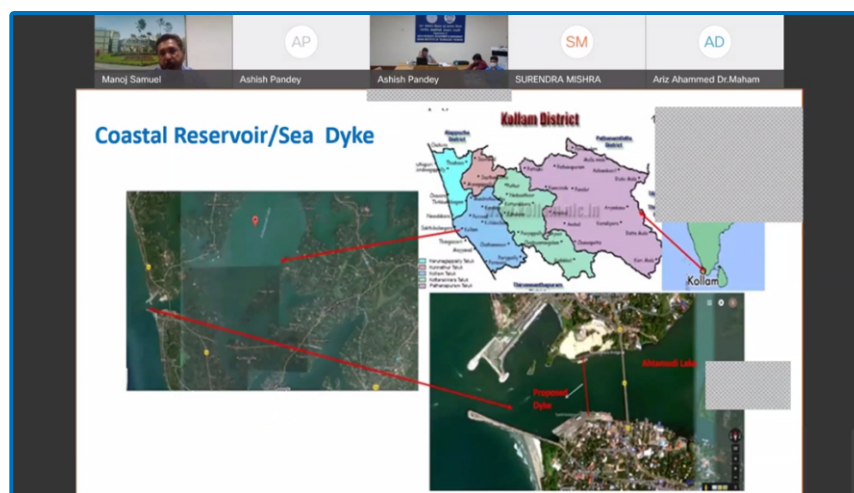
CHAIRMAN-Dr. C.S. Jha, Outstanding Scientist and CGM, NRSC, ISRO, Hyderabad.

Co-Chairman-Dr. V.M. Chowdary, Head and DGM, RRSC-N, ISRO, New Delhi

- 1. Treated Wastewater: A gold mine or nuisance?**
Mr. J.P. Gupta, IAS, Chief Commissioner of State Tax, Ahmedabad, Gujarat
- 2. Water: How Secure are we under Climate Change?**
Prof. Vijay P. Singh, University Distinguished Professor, Deptt. of Biological & Agricultural Engg., Texas A&M University, Texas, USA
- 3. Implications of Climate Change and Urbanization to Sustainability of Urban Water Supplies**
Prof. Ed McBean, Canada Research Chair in Water Supply Security, University of Guelph, Canada
- 4. Sustainable Water Resources Management: the impacts of spatial and temporal scale**
Prof. Stacy L. Hutchinson, Kansas State University, Manhattan, USA
- 5. Sustainable irrigation water management**
Dr. Neelam Patel, Sr. Adviser (Agriculture), NITI AAYOG
- 6. Sustainable irrigation water management**
Dr. Dipankar Saha, Former Member CGWB, India
- 7. Sustainable Management of Groundwater in India: A Pipe Dream or Realistic Future?**
Prof. Madan K. Jha, IIT Kharagpur, India



Presentation of Keynote paper by Prof. Ronny Berndtsson, Deputy Director, Land University, Sweden during a plenary session.



Presentation of Keynote paper by Dr. Manoj P. Samuel, Executive Director, Centre for WRD&M, Kozhikode, Kerala, India, during a plenary session.

PARALLEL SESSION-III (June 19, 2021)

CHAIRMAN: Prof. R. Singh, IIT Kharagpur

Co-Chairman: Dr. Sanjay Kumar, NIH Roorkee

- 1. Decoupling increase in precipitation extremes from changes in urban storm water flooding**
Prof. Ashish Sharma, Civil and Environmental Engineering, UNSW, Australia
- 2. Sustaining Water Sources Under Climate Change – A Regional Scale Approach**
Prof. Eldho T.I., IIT Bombay, India
- 3. Water governance and capacity building**
Shri A.K. Kharya, Chief Engineer (NWA), Pune, India

PLENARY SESSION –IV (June 19, 2021)

CHAIRMAN: Shri G. Asok Kumar, Additional Secretary and Mission Director, National Water Mission, Ministry of Jal Shakti, Govt. of India

Co-Chairman: Prof. Deepak Khare, Department of WRD&M, IIT Roorkee

- 1. Sustainable Irrigation Management**
Shri A. B. Pandya, Secretary General, ICID, New Delhi, India
- 2. Assessment of Water Resources, Water Allocation and Water Compliance Monitoring Using Earth Observations**
Dr. Wim Bastiaanssen, CEO & Founder Irri Watch, Professor Earth Observations & Water Management TU Delft
- 3. Application of low cost, remote sensing data for precision irrigation scheduling advisory**
Dr. J. Bastiaan Mohrmann, Owner/director, RuFus-Rural Futures GmbH Geusaugasse, Austria
- 4. The role of soils in regulation and provision of blue and green water**
Prof. Saskia Keesstra, Wageningen Environmental Research, Netherlands
- 5. The impact of drip irrigation in soil erosion and runoff generation in agriculture land in the Mediterranean**
Prof. Artemi Cerdà, Departament de Geografia. Universitat de València, Spain
- 6. Impact of climate variability and anthropogenic changes on availability of stream flows of Tapi basin, India**
Prof. P. L. Patel, S V National Institute of Technology, Surat, Gujarat, India
- 7. Rejuvenating Water Wisdom: A Route to Resilience**
Dr. R.N. Sankhua, Chief Engineer (South), NWDA, Ministry of Jal Shakti, Govt of India

PLENARY SESSION –V (June19, 2021)

CHAIRMAN: Prof. K.N.Tiwari, IIT Kharagpur

Co-Chairman: Prof. Manoj K. Jain, DoH, IIT Roorkee

- 1. Challenges and policy framework in water scarcity, budgeting, quality, and sustainability for the State of Punjab, India**
Prof. Ramesh Kanwar, Charles F. Curtiss Distinguished Professor of Water Resources Engineering, Iowa State University, Ames, Iowa, US
- 2. Predicting microbial water quality of streams**
Prof. Pramod Pandey, Extension Specialist, University of California, Davis, USA
- 3. Principles for Redressal of Disputes on Sharing of Water Resources of A Region - Keys For Capacity Building and Governance**
Dr. Vijay Kumar Dwivedi, Assessor at Mahanadi Water Dispute Tribunal, Ministry of Jal Shakti, Govt. of India

PLENARY SESSION –VI (June 20, 2020)

CHAIRMAN: Prof. N.K. Goel, DoH, IIT Roorkee

Co-Chairman: Prof. Thanga Raj Chelliah, Department of WRD&M, IIT Roorkee

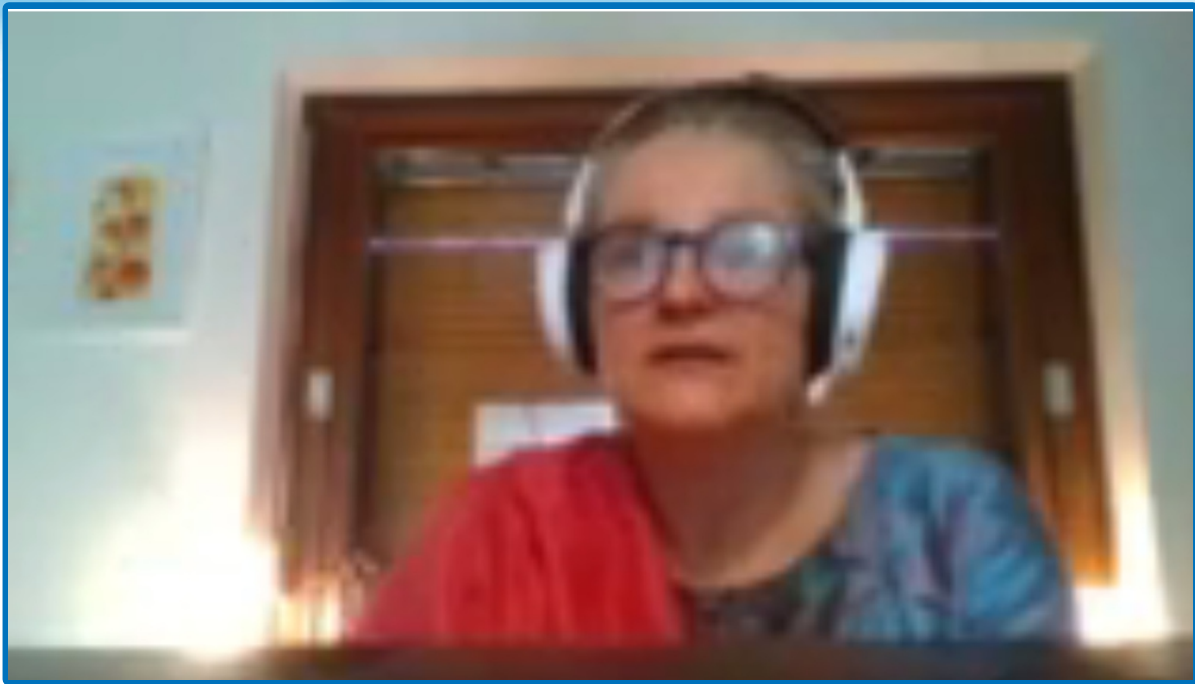
- 1. Estimation of the Function of Paddy Field for Reduction of Flood Risk**
Prof. Yutaka Matsuno, Department of Environmental Management, Kindai University, Japan
- 2. Quality-based Water Resource Management: Computer-aided Assessment and Strategies**
Prof. Chihhao Fan, Professor & Chair, Dept. Bioenvironmental Systems Engineering, National Taiwan University, Taiwan
- 3. Water Harvesting and Management in Gujarat: An Overview**
Prof. N. K. Gontia, Dean, Junagadh Agricultural University, Gujarat India

PLENARY SESSION –VII (June 20, 2020)

CHAIRMAN: Prof. Baldev Setia, National Institute of Technology Kurukshetra

Co-Chairman: Prof. Arun Goel, National Institute of Technology Kurukshetra

- 1. Sustainability of water sources in urban and rural areas**
Prof. Nicola Fohrer, Director, Institute for Nature and Resource Conservation, University of Kiel, Germany
- 2. Scalable light-based bioprocesses for sanitation and water resource recovery**
Prof. David Weissbrodt, Weissbrodt Group for Environmental Life Science Engineering, TU Delft
- 3. Drinking Water Issues under for Urban & Hilly Rural Areas**
Prof. M.L. Kansal, Dept. of WRDM, IIT Roorkee, India
- 4. Water Demand Management - Geospatial Technology**
Dr. P.V. Raju, Head, Water Resources Monitoring & Assessment Division, NRSC, Hyderabad
- 5. Sustainable irrigation water management**
Dr. R.P. Pandey, Scientist-G & Head, Environmental Hydrology Division, IIT Roorkee, India



Presentation of Keynote paper by Prof. Nicola Fohrer, Director, Institute for Nature and Resource Conservation, University of Kiel, Germany during a plenary session.



Presentation of Keynote paper by Prof. David Weissbrodt, Weissbrodt Group for Environmental Life Science Engineering, TU Delft during a plenary session.

PLENARY SESSION



International e-Conference on "Water Source Sustainability"

Organized by
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Plenary Session - 2

Date & Time: June 18, 2021; 17:30 - 20:30 (IST)

Keynote Speakers

 Chairman								 Co-Chairman
								

Link to join the Plenary Session - 2

<https://us02zoom.us/j/905000718>

<https://us02zoom.us/j/905000718>

<https://us02zoom.us/j/905000718>

**International e-Conference
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Plenary Session - I

Date & Time: June 18, 2021; 14:30 - 17:00 (IST)

Chairman			Keynote Speakers				Co-Chairman
							
Dr. N.K. Sharma Director General, Ministry of Water	Prof. Ramji Bhartiya Dr. J.C.S.P. Singh Professor IWRS Institute	Prof. Ravindra Kumar Dr. P.N. Singh Associate Professor	Dr. Kishore Kumar Member, IWRS New Delhi	Dr. Manoj Kumar Executive Director, IWRS Roorkee, Uttarakhand	Dr. V.K. Singh Senior Scientist, IWRS, Hyderabad	Prof. S.K. Mishra Dr. Ramesh	

Link to join the Plenary Session - I

<https://indianwaterresourcesociety.org/indian-water-resources-society-conferences/2021/june-18-2021/>
 Event number: 188 457 2021 Event password: 805826178

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Penary Session - 3

Date & Time: June 19, 2021; 12:00 - 13:15 (IST)

Keynote Speakers

 Chairman Prof. Tapanjyoti Dasgupta IT Manager	 Prof. Adrian Baines Ball and Environmental Phys. UNSW, Australia	 Prof. Gholam T. El Samir	 Dr. S. K. Mishra Chief Engineer, WSSPD, Pune, India	 Co-Chairman Dr. Deepak Kumar IAS, Rohtak
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Link to join the Penary Session - 3

[https://zoom.us/join?secret=985647168&pwd=985647168&from=joinUrl](https://zoom.us/join?secret=985647168&pwd=985647168&from=joinUrl参加会议的链接是：https://zoom.us/join?secret=985647168&pwd=985647168&from=joinUrl)
 Tel: +91-0522-2201000 Ext: 1000 Email: jayaraman@iwrs.org.in






International e-Conference on “Water Source Sustainability”

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Dept. of WR&DM, IT Roorkee & Indian Water Resources Society (IWRS)

Plenary Session - 4

Date & Time: June 19, 2021; 14:30 - 17:00 (IST)

Chairman



Dr. V. K. Arora
 Director, IWRS
 New Delhi, India

Keynote Speakers



Dr. S. K. Singh
 Director, IWRS
 New Delhi, India

Co-Chairman



Dr. R. K. Singh
 Director, IWRS
 New Delhi, India



Dr. S. K. Singh
 Director, IWRS
 New Delhi, India



Dr. S. K. Singh
 Director, IWRS
 New Delhi, India



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 New Delhi, India



Dr. S. K. Singh
 Director, IWRS
 New Delhi, India



Dr. S. K. Singh
 Director, IWRS
 New Delhi, India

Link to join the Plenary Session - 4

<https://bit.ly/3wvz8vz> or <https://www.zoom.us/j/92012121212>

Event number: 158 007 1028 Event password: 902012121




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Plenary Session - 6

Date & Time: June 28, 2021; 12:00 - 13:15 (IST)

Chairman		Keynote Speakers		Co-Chairman
				
Prof. N.K.S. Saxi IIT Roorkee	Prof. Nobuo Nakano Dept. of Environmental Management, Kyushu University, Japan	Prof. Chaitanya Das Professor & Head State Environmental Science College, Bardhaman University, West Bengal	Prof. H.K. Gupta Dean, Jaipuraj Engineering Technology Institute	Prof. Thorger Rey Dahlsson Head, IOWS, DTU, Copenhagen

Link to Join the Plenary Session - 6:
<https://indianwaterresourcesociety.org/join-us-at-the-plenary-session-6-on-water-source-sustainability/>
 Event number: 136-381724 Email password: IWRS@ITR






International e-Conference on "Water Source Sustainability"

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Dept. of WRO&M, IIT Roorkee & Indian Water Resources Society (IWRS)

Plenary Session - 7

Date & Time: June 26, 2021; 14:30 - 17:00 (IST)

Keynote Speakers



Chairman

Prof. Barbara Wells
IIT, Kharagpur



Prof. Anura Puri
Department of Environmental & Life Sciences, IIT, Bombay



Prof. David Woodhead
Department of Engineering & Life Sciences, IIT, Bombay



Prof. W. J. Kemp
Dept. of WRO&M, IIT, Roorkee



Dr. P. P. Raj
Dept. of WRO&M, IIT, Roorkee



Dr. R. P. Pandey
Department of WRO&M, IIT, Roorkee



Prof. Anil Kumar
Department of WRO&M, IIT, Roorkee



Prof. Anurag
Department of WRO&M, IIT, Roorkee



Prof. Anurag
Department of WRO&M, IIT, Roorkee



Prof. Anurag
Department of WRO&M, IIT, Roorkee

4. TECHNICAL SESSIONS

Total 111 technical papers on various e-conference themes were presented by the eminent scientists/professors/water professionals/students in 8 technical sessions as per the details below:

TECHNICAL SESSION I - Parallel Session-I (June 19, 2021)

CHAIRMAN-Prof. M.L. Kansal, IIT Roorkee

Co-Chairman- Dr. Amit Kumar, NIT Jaipur

- 1. Solar Desalination - A solution for fresh water crisis**
Ram Kiran
- 2. Studies of the effects of Industrial Effluents on Water Sources of SHDCUL region, Dehradun**
Baljinder Singh and P.S. Kashyap
- 3. Assessment of water quality of the Mansar Lake using Physico-chemical parameters and NSF- WQI indicator, UT Jammu & Kashmir, India**
Indu Bhushan and Arvind Kumar Yadav
- 4. Morphological analysis of Chaliyar using GIS and Remote Sensing**
Devi Sasi, SubaidaEthyAboobacker
- 5. Water quality index mapping using geospatial approach – A case study of Paralakhemundi municipality, Gajapati, Odisha**
Prafulla K. Panda, Pratyush K. Behera and Ananya Nayak
- 6. Morphometric Analysis of Halasuru watershed in Bangalore urban, India using Geographical Information System**
Aekesh Kumar, Mahendra Prasad Tripathi, Dhiraj Khalkho and Shreeya Baghel
- 7. Groundwater Quality Evaluation and Mapping using Analytical Hierarchy Process with GIS of a Semi-critical block of Chhattisgarh**
Aekesh Kumar, Mahendra Prasad Tripathi, Dhiraj Khalkho and Shreeya Baghel
- 8. The Effects of Emergent Vegetation in Hydrodynamic Free-Surface Flow: A Research Review**
Lav Kumar Gupta, Manish Pandey and P. Anand Raj
- 9. Nitrate pollution remediation from water using Zr(IV) loaded chitosan-melamine-glutaraldehyde terpolymer**
Nishad Choudhary and A Soumya
- 10. Surface modified magnetite nanoparticles for dye removal: Kinetics and thermodynamics**
Ritu Singh and Monalisha Behera
- 11. Environmental tracers in identification of the groundwater salinity – case studies from northwest India**
Gopal Krishan, Bhishm Kumar, M Someshwar Rao, Brijesh Kumar Yadav and Mitthan Lal Kansal

- 12. Assessment of water quality used by poultry butchers for the presence of hygiene indicator bacteria and antibiotic resistance of Salmonella spp**
Sadaf Tagar and Naveed Ahmed
- 13. Exploring challenges in Effective Wastewater Treatment for Dairy Industries**
Anjali Bansal and Arun Kumar
- 14. Removal of Nanoparticles from wastewater using Microbial Fuel Cell**
Divya Vempati and Arun Kumar
- 15. Assessment of Groundwater for its use as Drinking and Irrigation Purpose in Bodhgaya, Gaya, Bihar**
Suraj Kumar, Dr. N.S. Maurya and Dr. Sumant Kumar
- 16. Geospatial scrutiny of watersheds using geostatistical tools over Rajampet Mandal, Andhra Pradesh**
Jagadish Kumar Mogaraju
- 17. Assessment of Pollution Status of two Wetlands connected to Canoli Canal, Kozhikode Southwest India**
Soorya K. M., Renjith K R, Vivek B, Ithas K., Digila Rani M. and Jayakumar P
- 18. Study of Surface Water Bodies and its Treatment using Biocoagulants**
Sadique Ansari, Devanshu Singh and Mukul Kumar

TECHNICAL SESSION I-Parallel Session -2 (June 19, 2021)

CHAIRMAN- Prof. R. D. Singh, WRDM, IIT Roorkee

Co-Chairman- Dr. Arpit Chauksey, IIRS, Dehradun

- 19. HECHMS and Geo-HMS Based Flood Hazard Modeling of an Industrial Complex**
Dhananjay Singh, Surendra Kumar Mishra, Prabeer Kumar Parhi
- 20. Impact of climate change on a streamflow in a mountainous watershed**
Srishti Gaur and Rajendra Singh
- 21. Flood Inundation Mapping using Hec-Ras: Chaliyar River Basin, Kerala.**
Shruthi H Babu, Drissia T K and Avinash Vasudeo
- 22. How does change in CO₂ concentration and ensemble of model data with various methods for climate change influence water requirement, rice production and phenology?**
Ranjeet Kumar Jha, Prasanta K Kalita and Praveen Kumar
- 23. Impact of rainfall trend variability on groundwater in Kurukshetra district Haryana state of India**
Divyansh Rathore and Ajay K. Prabhakar
- 24. Study of Meteorological Drought Using Standardized Precipitation Index in Chaliyar River Basin, Southwest India**
Mohd. Izharuddin Ansari, L. N. Thakural, Quamrul Hassan, S. Anbu Kumar and Mehtab Alam

25. Spatio-Temporal analysis of rainfall variability for the districts of NCT Delhi

Mohd. Izharuddin Ansari, L. N. Thakural, Quamrul Hassan and Mehtab Alam

26. Assessment of Weekly Climatic Water Balance and Water Availability Period of Pattambi- A Case Study of Rice Growing Region in Kerala

Kari Venkata Sai and Asha Joseph

27. Assessment of Runoff Potential of Jhal watershed using SCS Curve Number method and geo-spatial techniques

Divyanshu Ganjir, Pramod Tiwary and M.P. Tripathi

28. Assessment of Climate Change and Rainfall Variation Over Western Part of Jharkhand Using Geospatial Technique

Nancy Kumari and Pratibha Warwade

29. Estimation of Runoff and Base flow in Parasai-Sindh watershed of Semi-Arid Tropics, India

Reena Kumari, Babloo Sharma, Pratibha Kumari, Ramesh Singh and R.M. Singh

30. Performance analysis of constructed wetland treating secondary effluent under cold climatic conditions in Hamirpur (H.P.), India

Adarsh Singh, Dr. Surjit Singh Katoch, Akash Rawat and Mukul Bajpai

32. A high-resolution flood risk analysis for India

Anand Kulkarni, Sumeet Kulkarni, Ravikumar Ganti and Shivmala Jagtap

TECHNICAL SESSION I-Parallel Session-3: (June 19, 2021)

CHAIRMAN-Dr. Ravi Galkate, NIH Bhopal

Co-Chairman- Dr. R. K Jaiswal, NIH Bhopal

33. Enhancing Water Resources Optimization by Internet of Things (IoT) and Sensors Technologies

Ashok Matani

34. Rainwater harvesting: an option for dryland agriculture in North Eastern Ghat Zone of Odisha

Subrat Kumar Behera and Dilip Kumar Bastia

35. Strategic Human Resources in Water Sources Development

Anand Verdhen

36. Green School Model for Effective Water Management in India

Meenal Arora

37. Evaluation of Swat Model for Simulating the Water Balance Components for the DudhKoshi River Basin in Nepal

Vijay Kumar Yadav, Manish Kumar Nema and Deepak Khare

- 38. Development and assessment of rainwater harvesting suitability map using GIS and RS techniques in Central Kashmir of Great Himalayas**
Syed Rouhullah Ali and Junaid N. Khan
- 39. GIS and IoT-Based Applications In Watershed Management: A Systematic Review**
Surekha Ramineni, Lavanya Vikram, Monalisa Bhardwaj and Tejaswini H
- 40. Livelihood and its impact on Water Resources: A Case Study of Agriculture and Dairy industry in Banaskantha District of North Gujarat**
Kaushal Gadariya and Deepak Yogi
- 41. Reviewing Water Management Practices for Demand Reduction in Indian Cities**
Kriti Trivedi and Divyanshi Vyas
- 42. Performance and Viability of a Cost-Effective Rapid Sand Filter For Filtering Rainwater Collected from Roof-Tops**
Sakshi Gupta and Deepak Khare
- 43. Water Budget Monitoring of the Upper Ganga Basin of the Northwest Himalayan region using remote sensing data and GIS**
Gagandeep Singh and Ashish Pandey
- 44. Effectiveness of Combination of Leaves in Removal of Zinc and Iron Metals from Wastewater**
Vaibhaw Garg, Jitendra Kumar Sharma, Mokshada Gautam and Ashish Solanki

TECHNICAL SESSION I-Parallel Session -4: (June 19, 2021)

CHAIRMAN-Prof. Ashok Mishra, IIT KGP

Co-Chairman: Dr. Rajesh Singh, NIH Roorkee

- 45. Estimate Water productivity in Minor irrigation project Madhya Pradesh, India for improvement**
Mahesh Prasad Tripathi, Rajendra Kumar Nema, Manoj Kumar Awasthi
- 46. Two- Components Flow Regulating Drip Emitter- Design, Simulation and Optimisation**
Raj Kumar M, Ahir P.B, Manoj K Mondal and Kamlesh N Tiwari
- 47. An Automated Wireless Irrigation System: With and Without Internet Connectivity**
Raj Kumar M, Mrinmoy Das, Manoj K Mondal and Kamlesh N Tiwari
- 48. Sensor based soil moisture management for automation in drip irrigation system**
Dhiraj Khalkho, Sandeep Kumar Singh, M P Tripathi and Jeet Raj
- 49. Internet of Things and Internet of Drones in Agriculture towards Water Resources Optimization**
Ashok Matani
- 50. Assessment of Productivity based Efficiencies for Optimal Utilization of Water Resources in a Command**
Rahul Kumar Jaiswal, Chanchal Kumari, Ravi Galkate and Anil Kumar Lohani

51. Minimizing Water Consumption in Agriculture by Effective Design of Rotavator to Prevent Soil and Water Pollution towards Increased Crop Productivity

Ashok Matani and Ankush Bhishnurkar

52. Evaluation of Soil Wetting Patterns In Drip Irrigation

Uddipta Ghosh, Irungbam Vimalkumar, Ranajit Kumar Biswas, Debasish Das and Debargha Banerjee

53. Rehabilitation Of Irrigation Canal System In Lateritic Soils

Manoj Chauhan and Shobha Ram

54. Effect of Rain–Hose Spray Irrigation System for Water Use Efficiency and Economical Parameters for Paddy Production at Thiruvananthapuram District

Chithra Ganesh and Binu John Sam

55. Performance Assessment of a Canal Irrigation Scheme: A Case Study of Chalakudy River Diversion Scheme Command Area of Central Kerala.

Gilsha Bai, K P Rema, Asha Joseph and K K Sathian

56. Estimation of the Effect of Alternate Wetting and Drying (AWD) Water-Conserving Irrigation Technique in Rice Crop

Anuradha Sahu and Aanchal Chandrakar

57. High Discharge Drip Irrigation Design for Summer Sesame

Parthsarathi Pandya, H. D. Rank and R. J. Patel

58. A novel approach for simulating crop coefficient models for sustainable irrigation management

K Chandrasekhar Reddy

59. Sustainable Development through irrigation: A Case Study

Vasant More and Suryakant Giri

60. Enhancing productivity of oilseed crops using water harvesting modeling techniques in rainfed area of Chhattisgarh state of India

Sanjay K. Dwivedi, Pramod Pandey, Vinay K. Pandey and R.K. Satyaraj Guru

61. IoT based automated irrigation management technique for climate smart agriculture

Gt Patle and Tshering Sherpa

TECHNICAL SESSION II-Parallel Session -I: (June 20, 2021)

CHAIRMAN-Prof. Brijesh K. Yadav, IIT Roorkee

Co-Chairman-Dr. Gopal Krishan, NIH Roorkee

62. Temporal Variations of Mean Snow Line Elevation and Minimum Snow Cover Area in Mago Basin of Arunachal Himalaya

Tarak Golom, Arnab Bandyopadhyay and Aditi Bhadra

- 63. Portable Sip Up - A use and throw solution for safe drinking water**
Meraj Ahmad, Syed Mujtaba Syed Maqsood, Saurabh Yadav, Ritwik Kulkarni, Rajkumar Satankar, Sandeep Gupta, Amrita Kaurwar, Lovelesh Dave and Anand K Plappally
- 64. Geostatistical Analysis of Ground Water Fluctuations for Chaliyar Basin, Southwest India**
Mohd. Izharuddin Ansari, L. N. Thakural, Quamrul Hassan, Sirajuddin Ahmed and Mehtab Alam
- 65. Water quality assessment and risk analysis of Sukhna Lake, Chandigarh, India**
Vaishali Sahu and Amit Poonia
- 66. Microplastics Pollution in Aquatic Environment – An Overview**
Nagireddi Jagadeesh and Baranidharan S
- 67. Feasibility Study of Engineered Wetland Concept as Eco-Friendly Technique In Treating Wastewater**
Priyanka Kale and Sudarsan J S
- 68. Life Cycle Assessment of Water Treatment Plant: A case study**
Bhagyashri Sathe and Vitthal Salkar
- 69. Remote Sensing and Artificial Intelligence of Water Quality Studies – A Case Study on Semi Urbanized lake**
Ramaraj M, Sivakumar R and Sri Vishnu Prasanth B R
- 70. Qualitative Analysis of Water pollution & its impact on Human beings w.r.t India using NVIVO software**
Dr. Preeti Surkutwar, Dr. Kavita Adsule and Dr. Geeta Rao
- 71. Production, Nutrient Concentration and Nutrient uptake of Turmeric (Curcuma Longa L.) Influenced by Irrigation scheduling and Nutrient Sources at Aerichaplaquept Zone, India**
Sandeep Kumar Tripathi, Babloo Sharma, Reena Kumari and R Ray
- 72. A regional case study for flow of Lead (Pb) and Chromium (Cr) through solid waste management system**
Mayank Gupta, Amit Kumar and Sudhir Kumar
- 73. Assessing the Sea Water Intrusion vulnerability in Devbhumi Dwarka district of Gujarat, India using GALDIT model**
Niraj Kathrani and Anurag Kandyia
- 74. Treated wastewater: a gold mine or nuisance**
P. Gupta
- 75. Influence of stemflow measurement on interception estimation for Eucalyptus plantation**
Chitra Shukla, K.N. Tiwari and S.K. Mishra
- 76. Technological & Performance Evaluation of Sequencing Batch Reactor for wastewater treatment**
Janvi Hirani

77. Uncertainty analysis for a proposed uranium tailings pond in Northern Karnataka, India.

Bhavya Ravinder and Elango Lakshmanan

78. Vulnerability of coastal aquifers to saltwater inundation, effect on groundwater quality and influence of MAR structures in quality control

Haritha V K and Elango Lakshmanan

79. An experimental Investigation of Aeration Performance of Montana Flume

Ashwini Tiwari, N.K. Tiwari, Umesh Ghanekar and Subodh Ranjan Vajesnayee

TECHNICAL SESSION II-Parallel Session -2: (June 20, 2021)

CHAIRMAN-Dr. R. P. Pandey, NIH Roorkee

Co-Chairman- Dr. Omkar Singh, NIH, Roorkee

80. Can Constructed Wetlands be sustainable for water reuse with respect to antibiotics?

Radhika Sharma and Arun Kumar

81. Understanding adaptation strategies to climate change

JunaProbha Devi, Chandan Mahanta and Anamika Barua

82. Application of HEC-HMS for flood modelling in Meenachil river basin

Riyola George and Asha Joseph

83. Status of glacier-stored freshwater sustainability in Arunachal Pradesh

Chandan Mahanta, Ashim Sattar, Abhishek Dixit, JunaProbha Devi, Vishnu U Krishnan, Satheesh Barre, Arup Kumar Sarma, Rajib Kumar Bhattacharjya, SudipMitra, Rishikesh Bharti, Archana M Nair, Ajay Dashora, Arindam Dey, Ravi K and T. G. Sitharam

84. Impact of Climate Change in Sustaining Water Resources and Measures Adopted in Minimising its Effects for a Sustainable Future

Deepshikha Singh and Sudeshna Chakraborty

85. Impact of extreme rainfall events on water springs in Uttarakhand (India)

Vinay Rathi, Shobha Ram, Avinash Agarwal and Rajesh Nema

86. A Stochastic Model-based Monthly Rainfall Prediction over a Large River Basin

Sabyasachi Swain, S. K. Mishra, Ashish Pandey, DeenDayal

87. Simulation model for assessment of hydrologic response in a developing urban catchment: A case study in Aurangabad, India

Dr. Akram Pathan and Dr. Milind Waikar

88. Quantitative Morphometric Analysis and its Influence on Hydrological Parameters of the Sub Basin Pennar, Anantapur District, Andhra Pradesh, India

Sankara Anusha, M.P. Tripathi and A. Mani

89. Application of ANN model for Estimation of Runoff Yield at Kalidevi Watershed of Dhar, Madhya Pradesh

Satish Kumar Sharma, Dr Mahesh Kumar Hardaha and Dr Deepak Hari Ranade

TECHNICAL SESSION II-Parallel Session -3: (June 20, 2021)

CHAIRMAN-Dr. A. K.Lohani, NIH, Roorkee

Co-Chairman-Dr. P. K. Singh, NIH, Roorkee

90. Current and Future Problems in Water Supply Management

Piyush Raja

91. Sustainability through Rainwater Harvesting and Wastewater Recycling

Rahul Chakravarty, Suman Kalita, Arnab Sarma

92. Water Sources Sustainability and Storm Water Management Approaches for Efficient Water Supply and Sustainable Food and Livelihood Security-A Case Study in Semi-Arid Tropics, Bundelkhand Region, Central India

N. Singh and R Singh

93. Water Supply management

Venkata Rajasekhar Chittibomma

94. Performance assessment of large canals in Sindh using water security metrics

Dileep Kumar, Waqas Ahmed Pathan and Dr Kamran Ansari

95. Design of Centralized and Decentralized Wastewater Treatment System for Jaysingpur city-A case study

Milind Chougule and Guru Munavalli

96. Hydraulic Assessment and Calibration of Water Distribution System - A Case Study

SharvariPatil and Bhushan Kavathekar

97. A Comparative Analysis of Wastewater Treatment By Using Duckweed And Pistia Batch Reactor

Achyuth K N, Asha G and Manoj B R

98. Reliability Analysis of Water Distribution Network A Case of Bole and Yeka Sub-City Of Addis Ababa, Ethiopia

Tadesse Gindo, Prof. M L Kansal, Shweta Rathi and Bahar Adem

99. Kinetic Study For The Adsorption Of Methyl green On Activated Carbon From olive waste wood

Rimene Dhahri and Younes Moussaou

100. Performance Evaluation of Wastewater Treatment Plant using AAS-based Quantification of Heavy Metals in Effluents of Industrial and Healthcare Sector

Pranjal Pandey, Akanksha Aryan, MadhuriKumari and R.K Tomar

101. Estimation of Ground Water in Arkavathi River Basin Using QGIS and QSWAT

Archana Kumar, Deepak Dille, Roopa K, Preetam, S Patil, Rakesh N

TECHNICAL SESSION II-Parallel Session -4: (June 20, 2020)

CHAIRMAN: Prof. R. N Mishra, IIT Rookee

Co-Chairman: Dr.P.K.Mishra, IIRS, Dehradun

102. Estimation of ground water storage before and after the construction of underground metro rail corridor, Chennai

Lilly R, and Ravikumar G

103. Urban Design Strategies for Water Resource Management

Gayathri Ranagith and Aparna Sathish

104. Sustainable management of river water for the development of rural areas of India

Ravi Prakash Mishra, Diksha Dhiman and Vikas Verma

105. Urban Planning and Energy Consumption in Storm Water Management: Case Study of Ahmedabad

Sakshi Sharma, Mona Iyer, Palak Patel, Sachin Shankaramurthy and Rajan Rawal

106. Urban Form and Energy Consumption in Wastewater Management: Case Study of Ahmedabad

Srushti Thakur, Mona Iyer, Palak Patel, Sachin S. and Rajan Rawal

107. Evaluating the Impacts of Landuse/Landcover changes on Hydrologic components of Harangi and Hemavathi Watersheds using SWAT model

Deepthi B P, Pushpa Tuppad and K S Lokesh

108. Monsoon rains amidst the COVID-19 (Coronavirus) pandemic—A potential concern

Vikas

109. Economic sustainability of Non-Revenue Water Reduction Program: A case study in Bengaluru, India

Renukumar K.S. and Pushpa Tuppad

110. Development Policy Framework Towards Riverfront Development (RFD)- A Study on Mulla and Mutha River front Pune, Maharashtra, India

Padma Parija and Sudarsan J.S

111. IoT applications in water resources optimization towards effective smart city management

Dr Ashok Matani and Dr. S. K. Doifode

Technical Sessions

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International e-Conference
on
"Water Source Sustainability"

Organized by
Dept. of WR&AR, IIT Roorkee & Indian Water Resources Society (IWRS)

Technical Session - I : Parallel Session - II
Theme: Sustaining Water Sources Under Climate Change

Date & Time: June 19, 2021; 09:00 - 11:30 (IST)



Chairman
Prof. R. G. Singh
Dept. of WR&AR, IIT Roorkee



Co-Chairman
Dr. Anil Chaudhary
IWRS, Solapur

Link to join the Technical Session - I: Parallel Session - II
<https://www.zoom.us/j/92066666666>
 Host number: 920 666 6666 Host password: 9206666666

International e-Conference
on
"Water Source Sustainability"

Organized by
Dept. of WRC&M, IIT Roorkee & Indian Water Resources Society (IWRS)

Technical Session - I - Parallel Session - III
Theme: Water Demand & Supply Management

Date & Time: June 15, 2021; 09:00 - 11:30 (IST)



Chairman
Dr. Ravi Gadhavi
NRI Bhopal



Co-Chairman
Dr. S. K. Jaiswal
NRI Bhopal





Link to join the Technical Session - I, Parallel Session - II
<https://www.zoom.us/j/92909292929>
Event number: 159 175 1136 Email: iwrs@iitroorkee.ac.in

International e-Conference
on
"Water Source Sustainability"

Organized by
Dept. of WRR&R, IIT Roorkee & Indian Water Resources Society (IWRS)

Technical Session - I, Parallel Session - IV
Theme: Sustainable Irrigation Water Management

Date & Time: June 18, 2021; 09:00 - 11:30 (IST)



Chairman
Prof. Ashutosh Mishra
IIT Roorkee



Co-Chairman
Dr. Rajesh Singh
IIT Roorkee

[Link to join the Technical Session - I, Parallel Session - IV](https://www.waterresourcesociety.org/2021/07/07/Theme-Sustainable-Irrigation-Water-Management/2021/07/07)
[Event number: 108 21st 001](https://www.waterresourcesociety.org/2021/07/07/Theme-Sustainable-Irrigation-Water-Management/2021/07/07) [Event password: 9007667816](https://www.waterresourcesociety.org/2021/07/07/Theme-Sustainable-Irrigation-Water-Management/2021/07/07)

The poster is titled "International e-Conference on 'Water Source Sustainability'" in a large, stylized font. Below the title, it states "Organized by Dept. of WRC&M, IT Roorkee and Indian Water Resources Society (IWRS)". The main theme is "Technical Session - II : Parallel Session - I Theme: Water, Environment & Health". The date and time are "Date & Time: June 28, 2021; 09:00 - 11:30 (IST)". Two speakers are listed: "Chairman: Prof. Bipin Kumar Yadav, IT Roorkee" and "Co-Chairman: Dr. Gopal Krishna, NIM Roorkee". At the bottom, there is a link to join the technical session: "Link to join the Technical Session - I: <https://bit.ly/3u3v3v3>" and a QR code. The background features a faint image of a classical building and a blue sky with clouds.

International e-Conference
on
"Water Source Sustainability"

Organized by
Dept. of WRC&M, IT Roorkee and Indian Water Resources Society (IWRS)

Technical Session - II : Parallel Session - I
Theme: Water, Environment & Health

Date & Time: June 28, 2021; 09:00 - 11:30 (IST)

Chairman

Prof. Bipin Kumar Yadav
IT Roorkee

Co-Chairman

Dr. Gopal Krishna
NIM Roorkee

Link to join the Technical Session - I: <https://bit.ly/3u3v3v3>
Event number: 133 780 3384 Event password: 4000000000



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International e-Conference
on
"Water Source Sustainability"

Organized by
Dept. of WRC&M, IIT Roorkee & Indian Water Resources Society (IWRS)

Technical Session - II : Parallel Session - III
Theme: Water Demand & Supply Management

Date & Time: June 28, 2021; 09:00 - 11:30 (IST)

 Chairman Dr. A. K. Lohani <small>IIT Roorkee</small>	 Co-Chairman Dr. P. K. Singh <small>IIT Roorkee</small>
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Link to join the Technical Session – II, Parallel Session – III:
<https://zoom.us/j/9285858999?pwd=MTZkdUJwZWVlYkFMcEo0dDZkdzBldz09>
 Email number: +91 171 3276 Email password: IWRS2021

International e-Conference
on
"Water Source Sustainability"

Organized by
Dept. of WR&M, IIT Roorkee & Indian Water Resources Society (IWRS)

Technical Session - II - Parallel Session - IV
Theme: Sustainability of Water Sources in Urban and Rural Areas and Water Governance and Capacity Building

Date & Time: June 26, 2021; 09:00 - 11:30 (IST)



Chairman
Prof. R. N. Wiers
IIT Roorkee



Co-Chairman
Dr. P. K. Mishra
IIT Roorkee

<https://conferences.iwrsociety.org/WR&M/IITRoorkee/2021/06/26>
www.iwrsociety.org/WR&M/IITRoorkee/2021/06/26
 Email number: 158 463 1766 Email password: 16060676

5. VALEDICTORY FUNCTION

During the valedictory function, Prof. Ashish Pandey, Chairman of the Conference welcomed the gathering. Prof. Basant Yadav, Organizing Secretary of the Conference presented a brief report of the conference and also the draft recommendations of the conference.

Prof. A.K. Chaturvedi, Director, IIT Roorkee emphasized the use of emerging technologies for addressing the water resources problem and appreciated the outcome of the e-conference. He emphasized upon the sharing of these recommendations with the stake holders for their effective implementation in the field. Shri Vinay Kumar Dadhwal, Director, Indian Institute of Space Science and Technology, Govt. of India, Thiruvananthapuram was the Chief Guest of the Valedictory function. The Chief Guest emphasized on the exploitation of water and the issues related to water sustainability. Shri D. P. Mathuria, Executive Director (Technical), NMCG, New Delhi addressed the gathering and discussed the various flagship programs of the government of India.

The poster is titled "International e-Conference on 'Water Source Sustainability'" and is dated "June 20, 2021". It features a blue header with a white building illustration. Below the title, it says "VALEDICTORY FUNCTION" and "Timings: 1700 hrs - 1750 hrs". Two portraits are shown: Dr. V. K. Dadhwal (Chief Guest) and Prof. Ajit Kumar Chaturvedi (Director, IIT Roorkee). Below them is the "Organizing Committee" section, listing Prof. Ashish Pandey (Executive Vice President, IWRS & Prof. & Head, Dept. of WRD&M, IIT Roorkee), Er. D. P. Mathuria (Vice President IWRS & Executive Director (Technical), NMCG, Ministry of Jal Shakti, Govt. of India), Prof. Basant Yadav (Secretary, IWRS & Assistant Professor, Dept. of WRD&M, IIT Roorkee), and Prof. K. S. Kasiviswanathan (Treasurer, IWRS & Assistant Professor Dept. of WRD&M, IIT Roorkee). At the bottom, it says "Organised by Dept. of WRD&M, IIT Roorkee & Indian Water Resources Society (IWRS)" and provides a link to join the inaugural function: <https://iitroorkee.webex.com/jitroorkee/onstage/g.php?MTID=e4ce8af30b8788bc2e62b46bf47b06065>, with event number 158 392 7520 and event password WRDMIITR.

6. RECOMMENDATIONS

Based on deliberations during plenary and technical sessions, important recommendations were brought out and these are given below:

1. Emphasis should be given on the policy framework in water scarcity, budgeting, quality, and sustainability. Water governance and capacity building is an important area where a lot of work need be done following the principles for redressal of disputes on sharing of water resources in a region.
2. Remote sensing-based approaches can be used in various sectors specially with the high computation abilities of modern computers. Such technological intervention can be helpful in many areas such sustainable irrigation water management (spatial and temporal scale), precision irrigation scheduling advisory, supporting the modernization of irrigation infrastructure, water security (surface and groundwater)
3. Climate change is an imminent threat and it must be addressed holistically. Climate smart technologies should be used for sustainability of water resources in urban and rural areas. Further, regional scale approach must be followed to make sure sustainability of water sources.
4. Quality-based Water Resource Management using the high-end technologies and advance computing powers to address the issue of water resources assessment and management.
5. The application of treated wastewater should be promoted in various sectors (Domestic and agricultural) so that the pressures on freshwater system could be reduced. Advance modelling

approaches should be developed to address the issue of water quality in water bodies and associated health risks.

6. The hilly regions (Himalayas) are vulnerable and have experienced frequent flash floods causing extensive damages to the lives and properties in recent times. Further, drinking water is a significant issue in hilly rural area. An integrated research and development approach must be followed for addressing these issues.
7. Research should be done to make sure the surface water source sustainability in thermal power plants.

7. ACKNOWLEDGMENT

The organizing committee is very much thankful to faculty members of the Department of Water Resources Development and Management, IIT Roorkee, the delegates who attended the e-conference and actively participated in deliberations. The organizers acknowledge the contributions made by each individual either directly or indirectly for successful organization of this e-conference. It is expected that such cooperation would continue in future also.

GLIMPSE OF THE INTERNATIONAL E-CONFERENCE

