

HYDRO 2022 INTERNATIONAL



27TH INTERNATIONAL CONFERENCE ON HYDRAULICS, WATER RESOURCES, ENVIRONMENTAL AND COASTAL ENGINEERING

UNDER THE AEGIS
OF



Punjab Engineering College, Chandigarh



The Indian Society for Hydraulics, Pune

December 22-24, 2022

Organised
by

**Department of Civil Engineering
Punjab Engineering College, Chandigarh**

(CENTENARY YEAR CELEBRATIONS)

HYDRO 2022

The Department of Civil Engineering of Punjab Engineering College, Chandigarh is organizing the 27th International Conference on Hydraulics, Water Resources, and Coastal Engineering as a part of its Centenary celebration years of PEC Chandigarh. The conference is aimed at providing a forum to the academicians, scientists, researchers, practitioners, field engineers, and consultants for intellectual discussion and dissemination of information derived from their contributions in the fields of Hydraulics, Water Resources, Environmental and Coastal engineering.

PUNJAB ENGINEERING COLLEGE (PEC) CHANDIGARH

PEC having its roots in Lahore as Mugulpura Engineering College in 1921, moved to its present campus in 1953 as PEC and was affiliated with Punjab University. The institute became Deemed University in 2003 through an MHRD notification and was rechristened as PEC University of Technology in 2009. The original name of the institute i.e. Punjab Engineering College with Deemed to be University in parenthesis is restored in 2017. It is a Grant-in-Aid institution under the administration of the Union Territory of Chandigarh, Government of India. The institute has 146 acres of sprawling and pious campus. The academic and administrative processes are similar to IITs in the country. The institute offers 8 Undergraduate B. Tech., 14 Postgraduate M. Tech. and Ph.D. programs in various disciplines of Engineering and Technology. The faculty of academic departments and centers are involved in cutting-edge research and development works. The institute collaborates very closely with research organizations, industries, alumni, and other academic institutions both in India and abroad. With a history of about 100 years now, the institute has produced many alumni who have earned names and fame both for themselves and the institute.

CIVIL ENGINEERING DEPARTMENT

The Department of Civil Engineering is as old as the institute. Presently, the department has one B.Tech. four M.Tech. Program and awards Ph.D. in civil engineering associated fields with a faculty strength of 21 members. The department also has well-equipped laboratories and state of art facilities in the various specialization of civil engineering. The flagship feature of the department is the Kalpana Chawla Chair of Geospatial Technology funded by the Indian Railways to disseminate the awareness about this advanced digital mapping. The greats of Prof. Satish Dhawan and Prof. Jagdish Lal are associated with the glorious past of the department.

THE INDIAN SOCIETY FOR HYDRAULICS (ISH), PUNE

The Indian Society of Hydraulics (ISH) is a technical, educational, non-profit national organization, established in 1992 to serve as a common platform for engineers, scientists, and technical personnel working in hydraulics and other allied fields. ISH helps technical personnel stay abreast with, the latest development in hydraulics by organizing regular meets, symposiums, gatherings, and seminars. The body also makes it a point to recognize outstanding achievements in the field, by giving away awards to the deserving. The ISH headquarters are located at Central Water & Power Research Station in Khadakwasla, Pune. The conference is being organized under the aegis of the Indian Society of Hydraulics. (Please visit www.ish.net.in for more information and to apply for a Life membership)

CHANDIGARH

The Union Territory of Chandigarh was constituted on November 1, 1966, when the state of Punjab was reorganized along linguistic lines into two new states—predominantly Hindi speaking Haryana and Punjabi-speaking Punjab. Chandigarh, the capital of the northern Indian states of Punjab and Haryana, was designed by the Swiss-French modernist architect, Le Corbusier. The city of Chandigarh, with its well-developed infrastructure and relatively low population density, covers more than half of the union territory. It consists of more than 50 rectangular sectors, which are separated from one another by broad streets carrying the city's fast-moving arterial traffic. The territory has many notable educational and cultural institutions, including Punjab University (founded in 1947), the Postgraduate Institute of Medical Education and Research (PGIMER), the Punjab Engineering College, the Government College of Art, and the Government Medical College Hospital. There also are several specialized art academies. Chandigarh also has a multitude of sports and recreation facilities. In the northeast of the city is a large, artificial lake Sukhna, which has become the main spot in the city for promenading and evening recreation.

HYDRO 2022 International Conference
on
Hydraulics, Water Resources, Environmental, and Coastal Engineering

Themes

Papers on the following Themes / Sub-themes are invited from Academicians, Scientists, Practicing Engineers, Researchers, Consultants, and others associated with Hydraulics, Water Resources, Environment, and Coastal Engineering:

- 1. Environmental Hydraulics (EH)**
 - (a) EIA Water Resources Projects
 - (b) Hydrodynamics of Flow-biota Interactions
 - (c) Water Recycling and Reuse
 - (d) Environmental Flows in Natural Rivers
 - (e) Pollutant Transport in Rivers
 - (f) Groundwater Contamination
 - (g) Sea Water Intrusion
- 2. Geospatial Technologies in Water Resources Engineering (GTW)**
 - (a) Satellite derived data for Hydrologic Applications
 - (b) Applications of GPS in Water Resources Engineering
 - (c) GIS and RS Applications in Water Resources Management
- 3. Soft Computing Techniques in Water Resources Engineering (STW)**
 - (a) Hydro-Informatics
 - (b) Rainfall and Streamflow Prediction
 - (c) Optimization of Water Resources Systems
 - (d) Data-Driven & AI based Hydrological Modelling
- 4. Flood Forecasting and Mitigation Measures (FFM)**
 - (a) Early Warning System
 - (b) Flood Vulnerability, Hazard and Risk Maps
 - (c) Urban Flood Modelling and Management
 - (d) Flood Mitigation: Structural and Non-structural Measures
 - (e) Dam Hazard Classification
 - (f) River Training and Protection Works
- 5. Coastal / Harbor and Ocean Engineering (COE)**
 - (a) Coastal Disasters: Tsunamis, Cyclones and Storm Surges
 - (b) Sea Level Rise
 - (c) Coastal Structures and Oceanography
 - (d) Wave-Structure Interaction
- 6. Experimental and Computational Fluid Mechanics (ECF)**
 - (a) Turbulent Thermal Convection
 - (b) Singularities in Surface Waves
- 7. Fluvial Hydraulics (FH)**
 - (a) Fluvial Geomorphology
 - (b) Sediment Dynamics
 - (c) Turbulence-Sediment Interactions
 - (d) Reservoir Sedimentation and Dredging
 - (e) Local Scouring around Hydraulic Structures
 - (f) Numerical Models and Machine Learning tools for Alluvial River Problems
- 8. Hydrology and Hydrologic Modelling (HHM)**
 - (a) Ground Water Modelling and Management
 - (b) Water Resources and Watershed Management
 - (c) Surface Water Hydrology
 - (d) Drought Assessment and Mitigation
 - (e) Risk, Reliability, and Design of Hydrologic System
- 9. Climate Change Impact on Water Resources (CCW)**
 - (a) Climate Change Assessment and Downscaling Issues
 - (b) Climate Change Impact and Adaptive Measures
 - (c) Climate Variability on Hydro-Climatic Variables
 - (d) Impact of Climate Change on Indian Rivers
- 10. Hydraulic Structure and Hydropower project (HSH)**
 - (a) Dam Safety and Monitoring
 - (b) Rehabilitation of Old Dams
 - (c) Operation and Maintenance of Dams
 - (d) Risk in Hydropower Development and Management
 - (e) Design of storage and diversion dams
 - (f) Streamflow Turbines
 - (g) Canal Operation and related Structures
- 11. Challenges in Management of Water Resources**
 - (a) Constitutional status of water
 - (b) State Specific Action Plans on water
 - (c) Dynamics of National Water Policy
 - (d) Issues of Rives Water Sharing

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IMPORTANT DATES

Abstract Submission closes	31-07-2022
Abstract Acceptance	30-08-2022
Full-length paper submission closes	30-10-2022

REGISTRATION FEES

Student Author	Rs. 2,000/-
Student Author (ISH Members)	Rs. 1,500/-
Authors from Academics/Research institutes	Rs. 5,000/-
Authors from Academics/Research Institutes (ISH member)	Rs. 4,000/-
Delegate from Central/State government	Rs. 5,500/-
Delegate from Industry	Rs. 6,000/-
Foreign Delegate	US\$ 300
Foreign Student Delegate	US\$ 100
Sponsorship (two delegates)	Rs. 30,000/-
Sponsorship (four delegates)	Rs.50,000/-

AWARD AND RECOGNITION BY ISH PUNE

(queries related to awards may be sent to ish_office@rediffmail.com)

- a) Outstanding professionals and researcher's awards
 - ISH Life Time Achievement Award
 - ISH Journal best reviewers Award
 - Jal Vigyan Puraskar (Best Paper in ISH Journal of Hydraulic Engineering)
 - G.M. Nawathe Award (Best Paper in HYDRO Conference)
 - S.N. Gupta Memorial Lecture
 - Prof. R.J. Garde Research Award
 - Prof. U. C. Kothiyari -ISH Best Ph.D. Thesis Award
 - Prof. U. C. Kothiyari -ISH Best M. Tech Award
- b) The best paper presented by a student in each of the themes of the conference may be awarded first and second prize of Rs. 4000/- and Rs. 3000/- respectively and a certificate.

Date	: 22 – 24 December 2022
Venue	: Deptt. of Civil Engineering, Punjab Engineering College, Chandigarh, India
Contact	: Prof. Mohit Kumar (+91 8699361668) and Dr. Har Amrit Singh Sandhu (+91 9463594149)

email: hydro2022@pec.edu.in

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