

## Online Short Term Course (e-STC)

on

### *Advanced Computational Techniques in Water Resources Engineering and Management*

*(ACT-WREM-2021)*

**1<sup>st</sup> - 5<sup>th</sup> March 2021**



#### **COORDINATORS**

**Dr. Ray Singh Meena**

**Dr. Joseph Tripura**

#### **ORGANIZED BY**



*Department of Civil Engineering  
National Institute of Technology, Hamirpur  
Himachal Pradesh-177005  
<https://nith.ac.in/>*

## ABOUT THE INSTITUTE

National Institute of Technology Hamirpur is one of the thirty-one NITs of the country, which came into existence on 7<sup>th</sup> August 1986 as Regional Engineering College, a joint and cooperative enterprise of the Govt. of India and Govt. of Himachal Pradesh. On 26<sup>th</sup> June 2002, REC Hamirpur was awarded the status of Deemed University and upgraded to National Institute of Technology. The Institute offers Bachelor, Master and Doctoral programs in Engineering, Sciences, Architecture, Management and Humanities. Various programs serve the purpose of building a comprehensive foundation of knowledge and of enhancing confidence, creativity and innovation in its students.

#### **ABOUT THE DEPARTMENT**

National Institute of Technology, Hamirpur was established in the year 1986 and the Civil Engineering Department is part of the institute since its inception. Civil Engineering is the branch with a lot of diversity right from structural to transportation engineering, environmental to hydrology to hydraulics engineering, geology to geo-technology to earthquake engineering. Being one of the primary Engineering Departments of the Institute, the Department of Civil Engineering offers B. Tech., M. Tech. and Ph.D. degree programs. The Department has been imparting quality education at undergraduate and post-graduate level. The faculty members have been active in teaching, research as well as academic activities.

## PATRON

**Prof. (Dr.) Lalit Kumar Awasthi**  
Director, NIT Hamirpur (H.P.)

#### **CHAIRPERSON**

**Dr. R. S. Banshtu**  
Head, DoCE, NIT Hamirpur (H.P.)

#### **CONVENER**

**Dr. Vijay Shankar**  
Associate Professor, DoCE, NIT Hamirpur (H.P.)

#### **TREASURER**

**Dr. Ray Singh Meena**  
Assistant Professor, DoCE, NIT Hamirpur (H.P.)

#### **ORGANIZING COMMITTEE**

Prof. R.K. Sharma	Dr. Subhadip Biswas
Prof. Raman Parti	Dr. Manendra Singh
Prof. R.K. Dutta	Dr. J.S. Yadav
Dr. S.S. Katoch	Dr. Vimal Kumar
Dr. Pardeep Kumar	<b>Secretarial Assistance</b>
Dr. R.S. Banshtu	Smt. Meera Thakur
Dr. V. K. Bansal	<b>Technical Assistance</b>
Dr. Mamta Awasthi	Sh. Balbir Singh
Dr. Umesh Pandey	Sh. Parkash Singh
Dr. Chander Prakash	Sh. Naresh Kumar
Dr. Sunil Sharma	Sh. Rahul Jamwal
Dr. Amrit Kumar Roy	Sh. Vikrant Singh
Dr. Dharmendra	Sh. Sahil Katoch
Dr. K. Nallasivam	<b>Office Assistance</b>
Dr. Joy Pal	Sh. Hem Raj Sharma

## ABOUT e-STC

Water is a precondition to life on Earth and is essential for sustainable development. Water including sanitation is critical for socio-economic development, food security, and healthy ecosystems, and is vital for reducing the global burden of disease and improving the health, welfare, and productivity of populations. Effective planning and management of water resources are required to meet the increased demand for water in the domestic, irrigation, and industrial sectors. For efficient planning and management of water resources, the prediction of the various hydrological events such as floods, maximum probable precipitation, stream flow, reservoir outflow, seepage under hydraulic structures, and peak flows in a river, etc. is required. Computational techniques are very effective to solve various issues and problems related to water resources engineering and management. The major issues in water resources engineering can easily be dealt with by understanding the concepts in the courses like hydrology, hydraulics, fluid mechanics, computational techniques, and the application of various mathematical models and software.

The primary aim of this e-STC is to enhance technical and professional competency as well as organizing skills of the faculty members in the field of water resources engineering. The course will promote interaction with professionals working in specific areas of research in Academic Institutions, Research Labs, and Industries. Also, exposure will be provided to the audience from renowned speakers on the latest developments in Academia, Research, and Industry. This program will bring a positive transformation among the faculty members, research scholars, and participants from industries towards research work, and enable the participants to develop competence in understanding recent advances in the proposed topic of the course.

## TOPICS TO BE COVERED

Artificial Neural Networks and Fuzzy Logic, Finite Difference methods, Support Vector Machine, Reservoir Operation, Multidimension data mining, Hydrological modelling, Remote Sensing and GIS, Flood Routing Techniques, Sediment Transport, Numerical Methods, Probabilistic and Statistical Methods, Computational Fluid Dynamics, etc.

## RESOURCE PERSONS

- Prof. D. Nagesh Kumar, IISc Bangalore
- Prof. Subashisa Dutta, IIT Guwahati
- Prof. Rajib Kumar Bhattacharjya, IIT Guwahati
- Prof. Ramakar Jha, NIT Patna
- Prof. Mahesh Kumar Jat, MNIT Jaipur
- Dr. Suresh A. Kartha, IIT Guwahati
- Dr. Manish Kumar Goyal, IIT Indore
- Dr. Deepak Swami, IIT Mandi
- Dr. Sagar Rohidas Chavan, IIT Ropar
- Dr. K.K. Khatua, NIT Rourkela
- Dr. Mrityunjay Sahu, Barifloloabs Private Limited
- Dr. Dwarika Nath Ratha, Thapar University
- Dr. Dr. B.B. Sharma, NIT Hamirpur
- Dr. V.K. Bansal, NIT Hamirpur
- Dr. Vijay Shankar, NIT Hamirpur

## IMPORTANT DATES

- Last date (Online Registration): 28-02-2021
- Confirmation by E-mail: 28-02-2021
- e-STC Duration: 01-03-2021 to 05-03-2021

## ELIGIBILITY

This program is open to faculty members, scientists, research scholars, PG & UG Students and industrial personnel.

## HOW TO APPLY

The interested candidates must deposit the non-refundable registration fee through SBI collect with the following procedure:

- a. Go to SBI collect and choose Himachal Pradesh as the state of Institution and type of Institution as an educational institute.
- b. Choose NIT Hamirpur from Name of the Institutions and Select payment category as WORKSHOP FDP STC CONFERENCE  
<https://www.onlinesbi.com/sbicollect/icollecthome.htm>
- c. Generate the payment slip and attach it with the registration form available at the following link.  
<https://forms.gle/MgCJPBns9XBjQXrU9>

## Notes:

- Applications will be accepted on first-cum-first serve basis.
- Ensure the link is open before you pay the fee.
- Venue: Through Google Meet. The link for the online course will be shared through email later.

## REGISTRATION FEE

### Registration Fee: Through SBI Collect

- a. Rs. 200 for students
- b. Rs. 500 for participants from Academia/R&D Labs
- c. Rs. 1000 for participants from Industry

## e-CERTIFICATION

E-certificates will be provided to the participants, with at least 80% attendance, upon successful completion of the program.

## CONTACT DETAILS

### Dr. Vijay Shankar

Email: [vsdogra@nith.ac.in](mailto:vsdogra@nith.ac.in)

Mob.: +91-9418464896

### Dr. Ray Singh Meena

Email: [rsmeena@nith.ac.in](mailto:rsmeena@nith.ac.in)

Mob.: +91-9861820182

### Dr. Joseph Tripura

Email: [jtripura@nith.ac.in](mailto:jtripura@nith.ac.in)

Mob.: +91-9678976101