



ONLINE FACULTY DEVELOPMENT PROGRAMME (FDP)

ON

Application of Hybrid Machine Learning Techniques in Flood and Sediment Modelling

(7th September - 18th September 2026)

Organized by

Electronics & ICT Academy, NIT Warangal

In Association With

Department of Civil Engineering, NIT Warangal

Sponsored by Ministry of Electronics and Information Technology (MeitY), GoI.



Preamble:

"Electronics & ICT Academy – Phase II" was set up at NIT Warangal with financial assistance from MeitY, GoI. This academy's role is to offer Faculty Development Programs in standardised courses and emerging areas of Electronics, Information Communication Technologies, training & consultancy services for Industry, Curriculum development for Industry, CEP for working professionals, Advice and support for technical incubation and entrepreneurial activities.

About the FDP:

The Faculty Development Programme (FDP) on "Application of Hybrid Machine Learning Techniques in Flood and Sediment Modelling" aims to introduce participants to advanced AI-based approaches for solving complex problems in flood and sediment modelling. The programme covers hybrid machine learning algorithms such as GWO-CatBoost and WOA-Stacking for flood prediction, sediment transport, scour depth estimation, and boundary shear stress modelling. Through expert lectures, case studies, and hands-on sessions, participants will gain practical knowledge of integrating hydraulic principles with data-driven models. This FDP provides an excellent platform for researchers, faculty members, and professionals to enhance their skills in applying hybrid AI techniques for sustainable river and water resources management.

Major Course Content:

- Overview of Hybrid Machine Learning Techniques
- Fundamentals of GWO-CatBoost and WOA-Stacking Algorithm
- Sediment Flow Modelling
- Flood flow Modelling in rivers
- Hybrid AI Models for Flood and Scour Depth Prediction
- Boundary Shear Stress Modelling
- Case Studies and Hands-on Sessions

Faculty conducting this programme:

The program will be conducted by Academicians in the relevant field from IITs/NITs/IIITs and Speakers from industries are also invited to deliver as part of the course.

Registration Fee Particulars:

Faculty and Research Scholars	Rs.500/-
Industry Participants	Rs.2250/-

Participants need to pay the Registration Fee Online using the following details

Online Transfer Details	
Account Name:	Electronics & ICT Academy NITW
Account No :	62423775910
IFSC :	SBIN0020149
Bank and Branch:	State Bank of India, NIT Campus, Warangal

How to apply:

Participants are required to fill the online registration form by clicking on the following link:

<https://forms.gle/yKGubu3x2CXMxuL47>

Selection Criteria:

Selection will be done based on first-come-first-serve basis to a maximum number of 50 (fifty). Candidates will be issued satisfactory certificates on successful completion of the course.

Important Dates:

Last Date for Registration	28.08.2026
Selection List by E- mail	01.09.2026
Duration	07.09.2026 to 18.09.2026

About NIT Warangal:

National Institute of Technology, Warangal, is the first among 17 RECs set up as a joint venture of the Government of India and the state government. Over the years, the college has established itself as a premier Institute imparting technical education of a very high standard, leading to B.Tech degrees in various branches of engineering, M.Tech., and Ph.D. programmes in various specializations. All B. Tech and M. Tech programmes of NIT Warangal are NBA accredited.

About Department of Civil Engineering, NIT Warangal:

The Department of Civil Engineering offers a Bachelor of Technology (B.Tech) program in Civil Engineering, seven Master of Technology (M.Tech) programs, and a PhD program. The Department has been a recognised QIP center since 1978. It is equipped with well-established laboratories and modern facilities. The faculty members are experienced and actively involved in teaching, research, capacity building initiatives, and industry extension services. Additionally, faculty members serve on various policy-making and professional bodies. The Department maintains collaborations with reputed industries and R&D organizations.

Coordinators:

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Resource Persons

01 **Prof S Dey**
IIT Jodhpur

02 **Prof K V Jayakumar**
IIT Dharwad

03 **Prof Pranab Mohapatra**
IIT Gandhinagar

04 **Prof Rohith A N**
IIT Delhi

05 **Prof KK Khatua**
NIT Rourkela

06 **Prof R Jha**
NIT Patna

07 **Prof Satish Regonda**
IIT Hyderabad

08 **Prof Chandan**
NIT Surathkal

09 **Prof Vivek Gupta**
IIT Mandi

10 **Dr Ramya**
CWPRS, Pune

11 **Prof Basudeb Biswal**
IIT Bombay

12 **Prof Ellora Padhi**
IIT Roorkee

13 **Prof Uma Mahesh**
NIT Warangal

14 **Prof Manish Pandey**
IIT Kharagpur

15 **Prof Bhabani S Das**
NIT Patna

16 **Dr Karan Gupta**
Tech director, Stvenant LLP

17 **Prof V Sahana**
IIT Kharagpur

18 **Dr RN Sankhua**
Central Water Commission

19 **Prof Jew Das**
NIT Warangal

20 **Mr. Shubham Shaurabh**
Scientist, NIH Roorkee