



**VIT**<sup>®</sup>  
**Vellore Institute of Technology**  
(Deemed to be University under section 3 of UGC Act, 1956)

**VIRTUAL HANDS-ON TRAINING ON  
HYDROLOGICAL MODELING OF  
WATERSHEDS – WITH INSIGHTS TO  
CLIMATE CHANGE**

**27<sup>th</sup> January 2021**

*Organised by*

**Department of Environmental and Water  
Resources Engineering**

School of Civil Engineering

Vellore Institute of Technology

Vellore – 632014

Tamil Nadu, India

VIT – Recognised as Institution of  
Eminence (IoE) by Government of India



**ABOUT VIT**

VIT, one of the premier institutes in India, established in 1984. VIT is the first educational institution in India to get ISO 9002 certified by the DNV of The Netherlands and accreditation from IEE (UK). Further it has also been accredited by NAAC (UGC). Mission of VIT is to educate students from all over India, including those from the local and rural areas, and from other countries, so that they become enlightened individuals, improving the living standards of the families, industries and society. It provides individual attention, world-class quality education and takes care of character building. VIT was established the aim of providing quality higher on par with international standards dedicated to provide excellence in teaching, research and service. Our Memoranda of understanding to various international universities are our major strength. It also provides an opportunity on students and faculty exchange programme with international universities to encourage joint research collaborations for mutual benefit. The campus has a cosmopolitan atmosphere with students from all parts of the globe. The latest CAL Curriculum offered in VIT covers the latest developments in the respective discipline with focus on student projects and designed based on market needs, whereby employability,

developing skills as entrepreneur and grooming students as young scientists are major priorities. VIT has been ranked 28<sup>th</sup> in Overall Category, 15<sup>th</sup> in Engineering Category, 16<sup>th</sup> in University and 55<sup>th</sup> in Management by the MHRD-NIRF Ranking 2020. VIT is also rising ahead in the number of publications along with H-index of 113.

**ABOUT SCE**

The School of Civil Engineering (SCE) is a part of VIT since its inception. The School has 45 faculty members from various reputed institutes. Besides high-quality teaching and instruction at both UG and PG levels, the faculty members of the school are actively involved in executing a number of R&D and consultancy projects from government agencies including DST, ISRO, BRNS and also from many reputed industries. Apart from the governmental agencies, School of Civil Engineering maintains and cultivate a strong link with the infrastructural industry such as L&T, HCC, DLF, RAMCO, CCL, TATA Consultancy, etc.

**Co-ordinator**

**Dr. L. Vignesh Rajkumar,**

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## ABOUT THE TRAINING

Water Resources on earth is limited and its availability is varied spatially and temporally. Adding to this the impacts of climate change and the rise in demand for water is adding stress on water resources day by day. To overcome or to cope up with these pounding conditions planning and management of water resources is essential. Understanding and assessing the hydrological components both quantitative (water balance) and qualitative (sediments and pollution loads) of a watershed is important for sustainable planning and management.

SWAT (Soil and Water Assessment Tool) has gained an international recognition among scientific community because of its robustness over many other models for watershed modelling that also includes the impacts of climate change. SWAT is a physically based continuous time step hydrological model that works on daily time step to study the impacts of land use on water, sedimentation and agricultural yields, complex watersheds with changing land use and management conditions over large timescales. It is an open access model capable of simulating water balance and nutrient cycle at the watershed scale. It is a useful tool to assess the best management practices of any watershed for conservation of

soil and water resources. SWAT model finds its application in various allied fields of water resources that includes remote sensing and GIS, water resources engineering and environmental engineering and climate change impact studies.

## COURSE CONTENTS

The training focuses on watershed characterization, quantitative and qualitative aspects in the watersheds, watershed modeling, SWAT model introduction, watershed delineation; land use and land cover preparation, model inputs preparation, model calibration and validation, model output analysis, SWAT-CUP calibration approach, Insights from climate change impact analysis from case studies on SWAT model application. Hands on training will be given to the participants on SWAT model using QGIS and QSWAT.

## TARGET PARTICIPANTS

- Students and Research scholars
- Faculty members from academic institutions
- Government/ Non-Government officials

## REGISTRATION FEE *(excluding GST)*

- Rs.250/- (Students and Research Scholars)
  - Rs.300/- (Faculty members)
  - Rs.500/- (Govt. /Non-Govt. officials/Industrial)
- Registration charges include entry to lecture, Hands-on and course materials.

## RESOURCE PERSONS

### Dr. E. Arun Babu

Assistant Professor (Sl. Gr)  
Centre for Water Resources  
Anna University, Guindy  
Chennai - 600025

### Dr. L. Vignesh Rajkumar

Assistant Professor (Senior)  
School of Civil Engineering  
Vellore Institute of Technology  
Vellore – 632014

**VENUE: Microsoft Teams (Online)**

## REGISTRATION

Full Name: -----

Designation: -----

Department: -----

Organization: -----

Address: -----

Mobile number: -----

Email ID: -----

Type of Registration: -----

Online Transaction no: -----

Signature of participant: -----

Signature of HOD/Principal: -----

The above details should be sent through email to the coordinator on or **before 22<sup>nd</sup> January 2021.**

**Registration Link:** Kindly register using this link  
<http://events.vit.ac.in/>