One week Short Term Training Programme (STTP)

On

"APPLICATION OF SOFT COMPUTING TECHNIQUES IN CIVIL ENGINEERING"

Under TEQIP-III

March 12-16, 2018

Organized by

Dr. S M Yadav
Coordinator

Department of Civil Engineering

S.V. National Institute of Technology, Surat-395007

Under TEQIP-III

ABOUT INSTITUTE

The institute was initially established as Sardar Vallabhbhai Regional College of Engineering & Technology in 1961 and was upgraded as a National Institute of Technology with the status of 'Deemed University' on 4th October 2002. Sardar Vallabhbhai National Institute of Technology (SVNIT) is one of the pioneering engineering institutions of the country which has contributed many outstanding engineers in India and abroad. It is conducting six UG programs, seventeen PG programs, three-five years M.Sc. programs and Ph.D. program in all disciplines of engineering and applied sciences. Special attention is also given to interdisciplinary researchers. The institute has an excellent placement record and growing by high pace in research as well.

ABOUT THE DEPARTMENT

The Department of Civil Engineering is one of the pioneering departments of the Institute. The department has highly qualified faculty members engaged in teaching, research and development with the aim of achieving excellence in their fields. Department offers Post Graduate and Doctoral Programs in the following areas:

1. Water Recourses Engineering
2. Environmental Engineering
3. Transportation Engineering and Planning
4. Urban Planning

The major strength of the department is due to its multidisciplinary activities like R&D, Consultancy, and Testing etc.

ABOUT THE STTP

Soft Computing is an emerging collection of methodologies which aim to exploit tolerance for Imprecision, uncertainty and partial truth to achieve robustness, tractability and total low cost. This is a branch of computational intelligence research that employs a variety of statistical, probabilistic and optimization tools to learn from past examples and used for prior training to new data, identify patterns or predict novel trends. Soft computing techniques have a self-adapting characteristic paving a way for the development of automated design systems. A synergistic partnership exploiting the strengths of these individual techniques can be harnessed for developing hybrid computing tools. Among the forerunners in the field of soft computing is the Artificial Neural Network (ANN). Inspired by the functioning of a human brain, they have immense potential in modeling functional relationships which either too complex or unknown in nature. Fuzzy Logic was inspired by how a human being makes decisions in dealing with the knowledge that is inexact, imprecise and vague in nature; Fuzzy logic (FL) in a way emulates a human expertise in solving a particular problem. Genetic Algorithms (GAs) are stochastic search and optimization tools, which aim at finding the optimal solution to a problem which has many sub-optimal solutions. They require little information about the problem to be solved and can effectively work with complex constraints and discrete variables. The decision-making methods developed for dealing with uncertainties and applied to solve problems of Civil engineering. Complex problems in science, engineering, technology or management are characterized by multiple criteria. Usually, they are hardly measurable, conflicting or interacting with each other. Decision-making (DM) problems based on multiple criteria are objects of Multicriteria Decision making (MCDM). MCDM techniques application to Civil Engineering problems in the field of construction and solid waste management will be discussed in the training programme.

RESOURCE PERSON

Experts will be from reputed institutes such as NITs, esteemed institutes and field engineers for the proper blend of academia and industry.

COURSE CONTENT

Introduction and application of MCDM techniques, LPP, Fuzzy logic, ANN and GA. Introduction of JAYA and TLBO algorithm, Application of cellular Automata algorithm in Civil engineering. Real-time monitoring using SCADA system.

WHO SHOULD ATTEND

- Engineering college teachers (both degree and polytechnic) and management college teachers from AICTE approved institutions, research organizations
- Students studying in M.Tech. /M.E. and research scholars.
- Professionals from Industry, consultants and Engineer/practitioners
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REGISTRATION FEE

The registration fee for participants is as follows.

Academic	Rs.3000/-	The registration fee includes study material, working lunch, dinner and evening tea.
Student Delegate	Rs.2000/-	
Industry delegate	Rs.4000/-	

The payment of the registration fee should be in the form of Demand Draft/local cheque in favor of **"Director, SVNIT-CCE".**

Last date for Registration [Completed Registration form may reach institute along with DD/Chaque]: March 10, 2018.

All the registered candidates will be given the participation certificate.

IMPORTANT INSTRUCTIONS

- **Number of seats are limited.** The last date to confirm the participation through e-mail is **March 11, 2018**. However, as application received, a confirmation mail will be sent immediately. Participation confirmation will be done through email only.
- *Travel and accommodation expenses have to be borne by participants themselves.* Limited accommodations for outside participants may be provided in institute Hostel/Guest House on payment basis.
- *Students of all categories also have to submit completely filled registration form signed by Head of the institute.*

ABOUT SURAT CITY

Surat is a top ranking industrial city in the country with clean wide roads. It is well known worldwide for textiles, Zari and Diamond industries. Several large-scale industries and establishments are located in the city. Surat is situated on the main western railway route between Vadodara and Mumbai. The institute is located at Ichchhanath on Surat-Dumas road at a distance of about 9 km from Surat railway station. Being coastal city and on the bank of Tapi River, the weather is good round the year and it is excellent in the month of March. By auto, it may cost from Surat railway station @ Rs. 100-120.

For information and correspondence, please contact:

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Registration Form

Full Name (in block letters):

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Designation: ……..
Affiliation with Addresses ……..
……..
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Contact Number: (O) ……..
(M)……..

E-mail: ……..

Details of Registration Fees:
Amount R s ._____Only

DD/Cheque No: …… Dated: ……
Accommodation required: YES / NO
Have you ever attended any STTP on soft Computing? Yes/No.

If Yes, the institute where the STTP was organized:

Signature of the Participants

Signature with Seal of Sponsoring Authority

Kindly send the Completed Registration form to the Coordinators through post/E-mail.