One Week
Short Term Training Programme
Online Mode

Computational Intelligence through Multi Objective Optimization Models and Evolutionary Algorithms (CIMOOMEA)

9th to 13th November, 2024

Under
Centre for Continuing Education (CCE)

Organized
By
Department of Mathematics

Coordinator

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Organizing Committee

Patron: Prof. Anupam Shukla,
Director, SVNIT, SURAT

Coordinator: Dr. Jayesh M. Dhodiya
Associate Professor, DoM
Prof. V.H.Pradhan
Professor, DoM

Registration Fee

The registration fees for the program shall be Rs.1180/- for faculty from academic institutions, Staff and Research Scholars; Rs.590/- for Degree/P.G. Students/ Science/ Diploma.

The non-refundable registration fees should be paid online through the internet (NEFT).

Last Date of Registration

Last date of Registration 7th November 2024.

Address for Correspondence

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Bank details for online transfer of registration fees:

Bank Account Name: Director, SVNIT-CCE SBI Account No.: 37030749143 Bank Name: State Bank of India
IFCS Code: SBIN0003320
Branch: SVRCET Branch
Online Google Form Registration link:

Online Link for Registration

REGISTRATION FORM

***CIMOOMEA* (Fill Online)**

Name: (in CAPS, as desired on certificate)

_____

Sex: Male / Female _____

Date of Birth (dd/mm/yyyy): ____/____/_____

Designation & Affiliation: _____

_____

Highest qualification: _____

Experience: Teaching: _____ yrs. Industry: ____ yrs.

Mailing Address: _____

_____

_____

Tel: _____

E-mail: _____

Payment Details:

Transection ID: _____

For more details and updates visit www.svnit.ac.in

About SURAT

Surat, situated on the bank of holy river Tapti, is a top ranking industrial and yet green city of the country with a network of flyovers with clean and of Mathematics and English Subject wide roads. It is well known worldwide for textile, Zari & Diamond industries. Several large-scale industries & establishments, such as RIL, L&T, ESSAR, etc. are located in and around Surat. It is situated on the main Western Railway route between Vadodara and Mumbai, at a distance of 129 km from Vadodara and 263 km from Mumbai. Further, daily flights connect Surat with New Delhi and Mumbai. The Institute is located at Ichchhanath on Surat-Dumas road at a distance of about 10 Km from Surat railway station and airport.

About SVNIT

The Institute, one of the pioneering engineering institutions of the country, was established in 1961 as Sardar Vallabhbhai Regional College of Engineering & Technology and was given a status of National Institute of Technology, in 2002. The Institute has been granted the status of 'Institute of National Importance' w.e.f. Aug. 15, 2007. At present, there are Six undergraduate courses, eighteen postgraduate courses, Three M.Sc. Five Years Integrated Programmes in Mathematics, Physics and Chemistry and Ph.D. programmes in all disciplines of engineering and applied sciences. It has an excellent placement record with a number of top-ranking companies visiting the campus.

ABOUT CCE

Centre for Continuing Education (CCE) was established in Feb-2017 at SVNIT with Prime objective to imparting skill developing training programs to faculty, research scholars, UG/PG students, industry professional through planning and organizing Workshop/STTP/Expert talks on the concept of Self-Sustainability approach as per MHRD Guide-lines.

About the Department

Department of Mathematics is engaged in teaching & research in the subject of Mathematics. All the Sixteen faculties of the department are holding Ph.D. degree. Department offers Ph.D. Program in Mathematics, B.Tech. in Mathematics and Computing and 5 years Integrated M.Sc. Programme in Mathematics. Faculty members have covered a vast area such as Classical and Numerical Techniques in fluid Dynamics, Fluid flow through Porous Media, Magnetic Fluid Dynamics, Special functions, Integral Transforms, Approximation theory, Mathematical and Computational Biology, Bioinformatics/ Biomathematics, Data mining, Finite element method. Over the years, department has been organizing several seminars, symposium, training programmes & conferences at national and international level. Number of research papers is being published in the various National and International journals of repute. Department has accomplished several research projects sponsored by DST/ DBT/UGC/CSIR/INSA/SGU. More than 81 research scholars have been conferred Ph.D. degree and eighteen scholars have been awarded M.Phil. degree in Mathematics from this department.

About the Program

The study of computational intelligence is a new area of research, which has gained popularity nowadays. It aims to investigate the possibility and ability of computers and other machines to think, reason, and performing tasks in a manner similar to humans. Computational intelligence is a subfield of artificial intelligence focusing on developing algorithms and systems with multi objective optimization Mathematical Models to process information and, learning from it, to make necessary decisions in response to acquired knowledge. By merging these disciplines, we can create solutions which are both computational quite faster and precise than earlier. It uses the fundamentals of statistics, engineering, mathematics, and computer science to build artificial systems, which are capable of handling challenging issues. Numerous techniques are covered by this field, such as Fuzzy theory and Fuzzy logic, Evolutionary algorithms, Nature inspired algorithms, Neural Networks, Uncertainty Theory, etc. By using heuristics rather than conventional algorithms, soft computing techniques like fuzzy logic will enable the construction of systems with capabilities akin to those seen in biological nerve systems.

Topics to be covered:

- Multi-objective Optimization Models
- Classical Techniques to Solve Multi Objective Optimization
  - -Fuzzy Programming Technique
- Evolutionary Algorithms
  - - Genetic Algorithm
  - - Hybrid Genetic Algorithm
  - -Non-dominated Sorting Genetic Algorithms
  - - Jaya Algorithm
  - -Quasi Oppositional Multi Objective Jaya Algorithm
- Applications of Multi-Objective Optimization to generate Computational Intelligence in Engineering and Industry

Eligibility for Participation

The training program is open to faculty members from engineering institutes (degree & diploma), Universities & Science colleges, and research scholars, PG Students (M. Tech. and M.Sc.). However, selection of participants will be based on First Come First Serve basis. List of selected participants will be displayed on institute website on 7/11/24.