20th One Week Short Term Training Program

On

Advanced Engineering Optimization through Intelligent Techniques (AEOTIT)

25 – 29 November 2019

Coordinator
Dr. R. Venkata Rao
Professor

Call for Participation

Organized by

Department of Mechanical Engineering

Sardar Vallabhbhai National Institute of Technology (SV NIT)

(An Institution of National Importance of Govt. of India)
Surat – 395 007
Gujarat State, India

About the 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 on 4th October, 2002. SVNIT is one of the pioneering engineering institutions of the country which has contributed many outstanding engineers in India & abroad. It is conducting six UG programs, seventeen PG programs (in addition to M.Sc. programs) and a Ph.D. program in all disciplines of engineering and applied sciences. Special attention is given to interdisciplinary research. The institute has an excellent placement record with a number of top ranking companies visiting the campus every year.

About the Department:
The Department of Mechanical Engineering came into existence in the year 1961. The department has qualified and dedicated faculty members with the specialization in various areas. At present the department is conducting a UG program in Mechanical Engineering, five PG programs (Mechanical Engineering, Turbo-machines, Manufacturing Engineering, CAD/CAM, and Thermal System Design) and a research program leading to Ph.D. degree.

About Surat:
Surat is a top ranking industrial city of 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 Ichchanath on Surat-Dumas road at a distance of about 10 Km from Surat railway station.

About the Training Program:
The one week short term training program on **'Advanced Engineering Optimization through Intelligent Techniques'** is scheduled to be held **during 25-29 November 2019.** The main objective of this training program is to promote the application of optimization methods in the engineering sciences. The training program provides a forum in which the participants obtain information about recent advances of optimization sciences and learn about the needs of engineering sciences and successful applications of optimization methods. It tries to close the gap between optimization theory and the practice of engineering.

The proposed training program presents all traditional and advanced methods of optimization of relevance to applications in engineering sciences. It also highlights successful applications of optimization in various areas and contains sessions for the participants without a strong background in the field, which offer material aimed at educating potential users of optimization methodologies.

Eligibility for Participation:
The training program is open to **engineering college and polytechnic teachers and research scholars (M.Tech. and Ph.D.).** As the training program is of interdisciplinary nature, **engineering faculty members and research scholars of Civil, Mechanical, Electrical, Electronics, Computer, Applied Mechanics, and Chemical engineering disciplines can attend the program**. **Faculty members with Science and Mathematics background also can attend.** Industry personnel can also attend this training program. **The candidates from far**

away distances will be informed on the same day of receiving the soft copy of their applications so that they can book their train reservations. The candidates who had already attended this program on previous occasions are NOT eligible to apply.

Topics to be Covered:
- Constrained and unconstrained deterministic linear and non-linear programming methods
- Genetic algorithm (GA), Particle swarm optimization (PSO), Artificial Bee Colony (ABC), NSGA-II, GWO, Hybrid methods of optimization, Performance comparison of various latest optimization algorithms, etc.
- Teaching-learning-based optimization (TLBO) algorithm (developed by the Coordinator in 2011)
- Jaya algorithm and its versions (developed by the Coordinator in 2016)
- Rao algorithms (developed by the Coordinator in 2019)
- Multi-objective optimization
- Neural network based optimization
- Fuzzy concept in optimization
- Design of Experiments, Taguchi's Methods, Response Surface Methodology
- Multi-attribute decision making methods such as AHP, TOPSIS, PROMETHEE, SAW, WPM, MOORA, ELECTRE, DEMATEL, Grey Relational Analysis, etc.
- Various interdisciplinary real world case studies
- Guidelines on how to publish research papers in reputed international journals

Registration Fee:
The registration fees is Rs. 5000 for faculty members, research scholars (M.Tech. and Ph.D.) and those from industry. Selected participants are eligible for free boarding (breakfast, lunch, dinner, snacks, etc.). However, the candidates have to bear their own travelling and accommodation expenses. The non-refundable registration fees should be sent in the form of a DD in favor of "Director, SVNIT- CCE" payable at Surat. In case, if a candidate is not selected for the training program, then the DD sent by him/her will be sent back to his/her address before the beginning of the training program. *However, as it is a self-financing program, maximum number of applicants may be offered the admission*. The accommodation may be arranged on request in Narmad Bhawan guest house on twin-sharing basis (Rs. 200 per day).
Please refer to: http://www.svnit.ac.in/web/campus.php?tag=guesthouse.

Program Faculty:
The coordinator and the senior faculty members of SVNIT Surat will impart the training. This program was conducted by the Coordinator 19 times in the past during 2008-2019 and the program was well appreciated.

Last Date of Registration:
The candidates can send their signed and scanned registration forms to the Coordinator first through e-mail (aeotit@gmail.com or ravipudirao@gmail.com). They will be informed the decision about their selection on the same day. Hard copy of the registration form along with the DD should reach the Coordinator on or before 22nd November 2019. No spot registration is allowed. The candidates selected for the program have to attend ALL sessions without missing any single class (100% attendance is MUST).

REGISTRATION FORM

One Week Short Term Training Program
On
Advanced Engineering Optimization through Intelligent Techniques
25 – 29 November 2019

- **Full Name :**

- **Designation :**

- **Department & Institution with address:**

- **Male/Female:**   **Cell phone:**   **Open/SC/ST/OBC:**

- **E-mail:**   **Date of birth:**

- **Academic qualifications:**

- **Experience (Yrs): (i) Teaching:**   **(ii) Research:**   **(iii) Industry:**

- **Research publications, if any:**   **(i) Journals:**   **(ii) Conferences:**

- **Demand Draft Details: (DD should be in favor of "Director, SVNIT- CCE" payable at Surat)**
  Bank: **DD No.:**   **Amount:**   **Date:**

- **Accommodation required: Yes / No**

Signature of the applicant:

Signature of the Head of the Institution:
(Supervisor in the case of research scholars)

Correspondence Address
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