

5th International Conference
On
**Advanced Engineering Optimization Through
Intelligent Techniques (AEOTIT)**
(Hybrid mode)

It is planned to publish the peer-reviewed and selected papers of the conference as proceedings with Springer in their prestigious “Lecture Notes in Electrical Engineering” series (<https://www.springer.com/series/7818>). For detailed instructions for authors and editors of conference proceedings, kindly visit the following link: <https://www.springer.com/us/authors-editors/conference-proceedings>. Select papers from the conference will be published by Springer as a proceedings book volume. Springer will conduct quality checks on the accepted papers and only papers that pass these checks will be published. Springer Nature does not charge any money for the publication of Non-Open Access content. Abstracts/extended abstracts and short papers (less than 4 pages) are not considered for publication.’

28-30 November 2024

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Organized by



Department of Mechanical Engineering
Sardar Vallabhbhai National Institute of Technology
(An Institute of National Importance of Government of India)
Surat – 395 007, Gujarat State, INDIA
Website: www.svnit.ac.in

About the Host Institute:

The institute was established as Sardar Vallabhbhai Regional College of Engineering & Technology in 1961 and was upgraded by Government of India as a National Institute of Technology on 4th October, 2002. The institute is one of the pioneering institutions of India and has contributed many outstanding engineers in India and abroad. At present, it is conducting 7 UG programs and 21 PG programs in engineering, 3 PG programs in applied sciences and Ph.D. program in all disciplines of engineering and applied sciences. 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 (Mechanical Engg.), five PG programs (Mechanical Engg., 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 India. It is well known worldwide for textiles, zari and diamond industries. Several large scale industries and establishments are located in the city (e.g. RIL, L&T, ESSAR, NTPC, etc.). The city is situated on the main western railway route between Vadodara and Mumbai. Direct flights operate daily between Delhi and Surat.

About the Conference:

The 4th international conference on **“Advanced Engineering Optimization Through Intelligent Techniques (AEOTIT)”** is scheduled to be held during **November 28-30, 2024**. The objective of this conference is to bring together experts from academic institutions, industries and research organizations and professional engineers for sharing of knowledge, expertise and experience in the emerging trends related to advanced engineering optimization techniques and their applications.

The conference is structured as plenary and keynote speeches followed by parallel sessions. The keynote speeches will be delivered by the eminent personalities at international level invited to introduce the theme of the conference. Each parallel session starts with an invited talk on a specific topic followed by contributed papers.

Papers are invited from the prospective authors from industries, academic institutions, R&D organizations and from professional engineers belonging to the engineering disciplines.

Potential topics to be addressed in this conference include, but are not limited to, the following:

Applications of the following advanced optimization techniques (not limited to) in the disciplines of MECHANICAL, MANUFACTURING, CIVIL, STRUCTURAL, ELECTRICAL, ELECTRONICS, COMPUTER, CHEMICAL BIOTECHNOLOGY, AERONAUTICAL, and AUTOMOBILE engineering:

- Optimization using: Genetic algorithm (GA), Differential evolution (DE), Simulated annealing (SA), Particle swarm optimization (PSO), Artificial Bee Colony (ABC) algorithm, Harmony search (HS) algorithm, Ant colony optimization (ACO), Artificial immune algorithm (AIA), Teaching-learning-based optimization (TLBO) algorithm, Charged system algorithm, Cuckoo search algorithm, Firefly algorithm, Bacteria foraging optimization, Sine-cosine algorithm, Grey wolf optimization algorithm, Ant-lion optimization algorithm, Jaya algorithm, Rao algorithms, Hybrid optimization techniques, and other latest meta-heuristic techniques.
- Multi-objective and many-objective optimization techniques and the applications
- Artificial neural networks (ANNs) based optimization and the applications
- Deep neural networks and their applications
- Application of fuzzy logic in optimization
- Big data analytics, Understanding complex networks, Internet-of-things and cyber-physical systems
- Intelligent transportation systems & smart vehicles
- Intelligent fault detection, fault analysis, diagnostics and monitoring
- Real-time intelligent automation, and their associated supporting methodologies and techniques, including control theory and industrial informatics
- Applications of chaos theory and fractals
- Finite element analysis, Computational fluid dynamics, simulation
- Taguchi's Design of experiments, Orthogonal arrays, ANOVA, Response surface methodology (RSM)
- Multi-attribute decision making methods such as AHP, TOPSIS, ELECTRE, PROMETHEE, VIKOR, GRA, DEA, DEMATEL, R-method, BHARAT method, UTA, OWA, ORESTE, etc. and their fuzzy versions

In addition to the presentation of papers and keynote addresses during various sessions of the conference, SPECIAL LECTURES will be delivered FREE to the participants during the 3-days of the conference. The special lectures will be based on various latest optimization techniques. These lectures are FREE to only those who have registered for the conference by paying the fees. These special lectures will be delivered during the conference days in a separate hall. Attending these special lectures is not compulsory and the participants who attend the conference to present their papers may attend these lectures also, if they wish. However, there may be

participants in the conference who have come only to attend the conference (and do not have a paper to present). These lectures will be more useful to such participants and the **“Certificate of Participation in the International Conference” will also be given to them.**

IMPORTANT NOTE:

The conference will be conducted in a hybrid mode. The participants (particularly Indians) who wish to present their papers personally can attend the conference physically. However, the participants (whether Indians or foreigners) who wish to present their papers only in online mode are allowed to do presentations as per their choice.

Registration Fees:

- Delegates from academic institutions (faculty/students)/industries and R&D organizations: **Rs. 2000 + 18%GST = Rs. 2360 (Indians)**
- Participants from abroad: **US\$100**

Registration by at least one of the authors and presentation is compulsory for each paper (i.e., registration and presentation are necessary for each paper). The participants are required to send the **registration fees by Online Bank Transfer.**

Account	Director, SVNIT-CCE
Account No	37030749143
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Payment can also be made: <https://www.svnit.ac.in/Data/cce/directorsvnitcce@sbi.pdf>

Important Dates:

The guidelines to prepare the Abstracts are available under the ‘Events’ section of www.svnit.ac.in. Abstracts not following the guidelines will NOT be considered. Authors are required to submit the one-page abstracts as e-mail attachments to aeotit@gmail.com and ravipudijaya@gmail.com on or before October 30, 2024. Acceptance will be informed within 10 days from the date of submission. **The Registration Fees Due: November 15, 2024.**

The accepted papers after peer review will be published in the Springer Proceedings and special issues of few international journals of repute. The proceedings of the previously held AEOTIT conferences were published by Springer (Scopus Indexed). Plagiarism check will be made on the final camera-ready manuscripts, and the similarity content should not be more than 15%. The quality checks will be done by Springer at the final stage and Springer’s decision is final and binding on the authors.

- Last date for submission of one-page Abstracts: October 30, 2024 (However, authors are encouraged to submit the Abstracts at the earliest so as to get the decision about acceptance/revision).
- Last date for submission of full manuscripts: November 15, 2024.
- Notification of acceptance/revision: Reviewing is a continuous process and the notification of acceptance/revision will be intimated within 10 days from the date of submission.
- Conference dates: 28th - 30th November 2024.

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Accommodation:

Reasonable accommodation is available in the institute's main guest house (<http://www.svnit.ac.in/web/campus.php?tag=guesthouse>) at nominal rates in twin shared rooms **for the Indian participants who wish to present the papers offline by visiting the campus**. Also, a no. of hotels at rates ranging from Rs.500–Rs.3500 per day are available in Surat city.

Salient Features of the Conference:

- Select proceedings to be published by Springer
- Special issues to be published by reputed international journals
- Special lectures on advanced optimization techniques
- Keynote speeches by eminent persons from India and Abroad