CGC UNIVERSITY MOHALI

Shaping Tomorrow, Today

Our Legacy

Alexandria Higher Institute of Engineering and Technology (AIET), Alexandria 21311, Egypt

Sant Longowal Institute of Engineering and Technology, Sangrur, Punjab, India, 148602

# International Conference on Advanced Mathematics, Computational Intelligence, and Engineering Applications (AMCIEA-2026)

## HYBRID MODE




## 28th -29th October 2026

# About the Conference

The International Conference on "Advanced Mathematics, Computational Intelligence, and Engineering Applications" aims to connect the researchers, industry experts, academicians and scholars together to explore the currently ongoing and forthcoming developments in mathematical sciences and computational technologies. The conference also focuses to encourage the collaboration between the experts from different areas of research as well as application such as mathematical sciences, healthcare, cybersecurity, data science, quantum computing, finance, education and widely more to meet the demand of today's world. The primary objectives of this conference are to provide deep insights on the interdisciplinary fields for diversification of traditional approaches, generating new opportunities and solving the unique challenges encountered in various fields.

The purpose of AMCIEA-2026 is to create a multidisciplinary forum that encourages collaboration and the exchange of knowledge, techniques and methodologies. Exchange and discuss the latest trends in different research and industry areas to bridge a gap between current knowledge and future opportunities. It also focuses to fill the gap between theoretical mathematics and real-world applications which will boost the opportunities for interdisciplinary collaboration and project development. The conference highlights successful development of new mathematical models, algorithms and computational techniques.

The young scientists/engineers/Field experts and research students will get opportunities to exchange their ideas/research with esteemed experts around the globe. So, to provide participants a podium, the CGC University, Mohali, Punjab, India in collaboration with Alexandria Higher Institute of Engineering and Technology, Alexandria, Egypt has taken an opportunity to organize International Conference on “Advanced Mathematics, Computational Intelligence, and Engineering Applications” (AMCIEA-2026).

# About the CGC

CGC University, Mohali was established in 2025 under the Chandigarh Educational Society through the C.G.C University, Mohali Act, 2025 notified by the Government of Punjab. The University has been officially included in the list of State (Private) Universities recognized by the University Grants Commission (UGC) under Section 2(f) of the UGC Act, 1956.

Prior to becoming a full-fledged university, the institution was known as Chandigarh Group of Colleges, Jhanjeri – an institution with a legacy of 25+ years in higher education. During this period, it earned the prestigious NAAC A+ accreditation with an outstanding CGPA of 3.46/4.0, reflecting excellence in teaching, research, and institutional performance.

With experienced faculty, advanced infrastructure, innovative pedagogy, and strong industry linkages, CGC University, Mohali continues its commitment to delivering high-quality and affordable education. The University focuses on holistic student development, practical learning, and strong career outcomes, making it one of the most promising higher education destinations for students across India.

## About Academic Partners

**1. Alexandria Higher Institute of Engineering and Technology**

The Alexandria Higher Institute of Engineering and Technology was established by Ministerial Decree No. 1103 dated 9/24/1997. It is the first private engineering institute in Alexandria. The bachelor's degree awarded by the institute is equivalent to the bachelor's degree awarded by Egyptian public universities in the corresponding specializations, and the certificate is accredited by the Minister of Higher Education. The Institute is in the heart of Alexandria city. The Institute seeks to prepare distinguished engineers capable of innovation, technological creativity, and competition in the labor market by offering distinguished programs in engineering disciplines that keep pace with scientific and research progress and improve professional performance in line with the developments of the times to achieve sustainable development to serve society and develop the environment. The Institute, as an educational and research institution, aspires to achieve excellence and leadership in engineering education at all local, regional, and international levels to keep abreast of engineering development and develop the educational and professional capabilities of its students to serve society and develop the environment.

**2. Sant Longowal Institute of Engineering and Technology**

Consequent upon the decision, taken by Govt. of India in 1985, to tender a valuable, yet humble tribute to the everlasting memory of the revered saint, Sant Longowal Institute of Engineering and Technology took its shape. The institute was established by Ministry of Human Resource and Development (MHRD), Govt. of India in the year 1989 and was formally inaugurated on 20th December 1991.

Accepting the new challenge of new education policy, Sant Longowal Institute of Engineering & Technology (SLIET) was established, with a vision to act as an international podium for the development and transfer of technical competence in academics. It is committed to provide best possible technical education and to cater to the technical manpower requirements with emphasis on practical training in industry.

The institute is an autonomous body, fully funded by Govt. of India and controlled by SLIET society, registered under Societies Registration Act, 1860. The institute awards its own Certificates, Diplomas, Undergraduate and Postgraduate approved and recognized by AICTE, New Delhi. Ph.D. programmes have also been started after it attaining status of Deemed to be University.

It was formulated that the institute, besides catering to the needs of formal education would undertake an arduous task to prepare the skilled and qualified manpower for self-employment. Further, the institute would take up a strategic research and development activities which along with entre- preneurship will help in extending the efforts of the institute in imparting education to the un- employed and working population by updating and upgrading their technical skills. The institute was thought to cater to then existing 3-tier system to modern industry, which incorporates workers, technicians and engineers.

The institute has a sprawling area of 451 acres of land provided by Punjab Government. Surrounded by lush green land, the campus of the institute extends a beautiful and well-developed area with many topographically featured picturesque landscape, numerous buildings of various nature and stature and metal road network. The campus presents a spectacle of harmony and natural beauty. It is embedded with all the amenities required for a complete township.

**The conference will be conducted in HYBRID MODE.**

**Conference email id: amciea@cgcuniversity.in**

# Themes

The topic " Advanced Mathematics, Computational Intelligence, and Engineering Applications " encompasses several key themes that highlights the intersection of pure mathematics, applied mathematics, scientific computing, data science and emerging computational paradigms. Here are Tracks:

## Track 1: Advanced Mathematics & Computational Modeling

1. Linear and abstract algebra and their applications in data structures.
2. Numerical analysis, scientific computing, and high-performance simulations.
3. Differential equations, dynamical systems, and chaos theory.
4. Optimization theory, mathematical programming, and operational research.
5. Stochastic processes, probability theory, and statistical modeling.
6. Mathematical logic and foundations of computer science.

## Track 2: Computational Intelligence & Machine Learning Paradigms

1. Neural networks, deep learning architectures, and transformers.
2. Evolutionary computing, genetic algorithms, and swarm intelligence.
3. Fuzzy logic systems, approximate reasoning, and uncertainty modeling.
4. Reinforcement learning and multi-agent systems.
5. Knowledge representation, automated reasoning, and expert systems.
6. Explainable AI (XAI), fairness, and transparency in algorithms.
7. Hybrid intelligent systems and neuro-fuzzy computing.

## Track 3: Data Science, Cryptography & Information Security

1. Big data frameworks, mining, and predictive analytics.
2. Mathematical foundations of cryptography and coding theory.
3. Post-quantum cryptography and lattice-based security.
4. Blockchain technology and decentralized ledger mathematics.
5. Information theory, signal compression, and source coding.
6. Network security protocols, intrusion detection, and digital forensics.
7. Privacy-preserving data mining and federated learning.
8. Quantum information theory and quantum communication.

### Track 4: Emerging Technologies & Interdisciplinary Sciences

1. Quantum computing algorithms and hardware-software co-design.
2. Computational biology, bioinformatics, and epidemiological modeling.
3. Human-Computer Interaction (HCI) and intelligent user interfaces.
4. Edge, fog, and cloud computing for real-time engineering.
5. Computational physics and chemistry: molecular scale modeling.
6. Sustainable and green computing technologies.
7. Augmented and virtual reality (AR/VR) in engineering design.
8. Neuromorphic engineering and brain-machine interfaces.

### Track 5: Engineering Applications & Industrial Innovations

1. Smart manufacturing, digital twins, and Industry 4.0.
2. Robotics, mechatronics, autonomous systems, and intelligent navigation.
3. Finite element analysis (FEA) and structural health monitoring.
4. Control strategies for modern power system stability.
5. Renewable energy integration and smart grid optimization.
6. Aerospace systems, fluid dynamics, and avionics.
7. Signal processing for telecommunications and IoT.
8. RF and microwave communication systems, antennas, satellite, navigation systems and propagation.
9. Optical communication systems, fibre-optic networks, and free-space optical links.
10. Advanced materials modeling and nanotechnologies.

## Submission of Papers

Papers are invited for the oral presentations. The full-length paper should be typed in MS Word, Times New Roman 12-point font, single spacing with one-inch margins on all sides. The correspond author should be marked with asterisk (*) sign. The name of the presenting author should be underlined. The paper must include the affiliations of all authors along with email address. Papers will be selected for oral presentations based on peer reviewed by subject experts. The presenting/registered authors will receive the presenting/participation certificate. Authors are suggested to send only original and unpublished work within the scope of the conference topics.

Only one paper per registered participant will be considered for publication, however, one can be a co- author of more than one paper.

# Submission of Papers

| | |
|---|---|
| Last Date for Project Submissions (Student/Innovation Track) | 25th sept 2026 |
| Last Date for Full Paper Submission | 30th sept 2026 |
| Last Date for Workshop proposals | 25th sept 2026 |
| Last Date for tutorials proposals | 25th sept 2026 |
| Acceptance Notification | 15th Oct 2026 |
| Last Date of online Registration | 20th Oct 2026 |
| Conference Date | 28-29 Oct 2026 |

# Registration

The authors presenting the papers and others who are interested to participate in the conference must register themselves before the last date of registration. Only the registered persons will be given the certificate. The registration fee for various categories is as follows:

### Registration Fee (for Participation Only)

| UG/PG Student | Research Scholar / Academician | Corporate / Industry | Foreign Delegates |
|---|---|---|---|
| **1000 (INR)** | **1000 (INR)** | **1000 (INR)** | **50 (USD)** |

### Registration Fee (for Full Paper Submission)

| UG/PG Student / Research Scholar | Academician | Corporate / Industry | Foreign Delegates |
|---|---|---|---|
| **3,000 (INR)** | **8,000 (INR)** | **10,000 (INR)** | **100 (USD)** |

Late registration fee of Rs. 300 (for Indians) and $10 (for foreign) delegates-extra will be charged.

## Chief Patron

**The Father of Education**

**S. Rashpal Singh Dhaliwal**

Chancellor, CGC University, Mohali, Punjab, India

## Patron

**Mr. Arsh Dhaliwal**

**Managing Director,**

CGC University, Mohali, Punjab, India

## University Leaders

**Dr. Sushil Prashar**

**Executive Vice President**

CGC University, Mohali, Punjab, India

**Dr. Vinay Goyal**

**Vice Chancellor**

CGC University, Mohali, Punjab, India

**Prof. (Dr.) Anupamdeep Sharma**

**Pro VC Examination & Registrar**

CGC University, Mohali, Punjab, India

**Dr. Anish Gupta**
**Pro VC-Academic & International Relations**
CGC University, Mohali, Punjab, India

**Prof. (Dr.) Sandeep Singh**
**Dean Research & Director IQAC**
CGC University, Mohali, Punjab, India

## Conference Committee

**Dr. Vikasdeep Singh Mann**
**Associate Dean Research & Industries Associated Programs**
**Advanced Centre of Research and Innovation (ACRI)**
CGC University, Mohali, Punjab, India

**Dr. Pavan Kumar Shukla**
**Dean Engineering, School of Engineering & Technology,**
CGC University, Mohali, Punjab, India

**Prof. Sajjan Singh**
**Principal, School of Engineering & Technology,**
CGC University, Mohali, Punjab, India

**Prof. Anamol Gautam**
**Professor, HOD Applied Science**
**School of Engineering & Technology,**
CGC University, Mohali, Punjab, India

**Dr. Gourav Kalra**
**Associate Professor, Coordinator CCE-CSE, School of Engineering & Technology,** CGC University, Mohali

## Conference Chair

**Dr. Narbda Rani**
**Assistant Professor, School of Engineering & Technology,**
CGC University, Mohali

## Conference Co-Chair

**Dr. Somia Ahmed**
**Head of Scientific Research Unit, Assistant Professor, Program of Mechatronics Engineering, Alexandria Higher Institute of Engineering and Technology,**
Alexandria 21311, Egypt

**Prof. (Dr.) V.K. Kukreja**
**Dean Student Welfare, Sant Longowal Institute of Engineering and Technology,**
Longowal, Sangrur, Punjab, India

## Conference Convenor

**Dr. Amit Verma**
**Associate Professor, CSE, ACRI,**
CGC University, Mohali

**Dr. Mukesh Kumar**
**Associate Professor, SAC, ACRI,**
CGC University, Mohali

## Conference Co-Convener:

**Dr. Yogesh Kapil**
**Assistant Professor, Department of Mathematics**
Sant Longowal Institute of Engineering and Technology
Longowal, Sangrur, Punjab, India

## International Advisory Committee:

**Dr. Abhishek Bhattacharjee**
Ph.D., Princeton University, B.Eng,
McGill University
Joined Yale Faculty 2019
Assistant Professor of Computer Science
AKW 213, 51 Prospect Street, New Haven,
CT 06511

**Dr. Belgin Sever**
Associate Professor,
Anadolu University Faculty of
Pharmacy
Department of Pharmaceutical
Chemistry
26470 Eskişehir/Turkey

**Dr. Prabhanjan Ananth**
Assistant Professor
Glen and Susanne Culler Endowed
Chair in CS
1119 Harold Frank Hall

**Dr. Akansha Mehta**
Researcher
Alexander Dubcek
University of Trencin, Slovakia

**Dr. Anurag Khandelwal,**
PhD University of California, Berkeley
Joined Yale Faculty January 2020.
Assistant Professor of Computer Science
AKW 205, 51 Prospect Street, New Haven,
CT 06511

**Dr. Enas Mohamed Ali Quteishat**
Dean, Faculty of Law, Sohar
University, Solar, Sultanate
of Oman

**Dr. Gagangeet Aujla**
Associate Professor
Computer Science Department
Durham University

**Dr. Amritpal Singh**
PDF (Computer Science Department)
Durham university,
Stockton, Durham, United Kingdom

**Dr. Andres Moreno**
Professor
Catedrático in Organic Chemistry
at Universidad de Castilla-La Mancha,
SPAIN

**Dr. Maninder Singh**
Postdoctoral Associate,
Dept of Electrical and Computer Engineering,
Lyle School of Engineering,
Southern Methodist University, Dallas, Texas

**Dr. Ankit Gupta**
Researcher
VSB-Technical University of Ostrava,
Czech Republic

**Dr. Somia Ahmed**
Head of Scientific Research Unit
Assistant Professor
Program of Mechatronics Engineering
Alexandria Higher Institute of Engineering and Technology
Alexandria 21311, Egypt

**Dr. Mohamed Al-Amir**
Associate Professor
Head of Electronics and Communications Engineering Program
Alexandria Higher Institute of Engineering and Technology
Alexandria 21311, Egypt

**Ahmed Qtaishata**
Department of Information Technology,
Sohar University Sohar, Sultanate of Oman

## National Advisory Committee

**Dr. Deepak Garg**
Vice Chancellor,
SR University, Warangal Urban,
Telangana, India- 506371

**Prof. (Dr.) Rangan Kumar Guha**
Professor, HOD (Mathematics),
Sant Longowal Institute of Engineering and Technology, Longowal,
Sangrur, Punjab, India

**Dr. Partha Pratim Roy**
Associate Professor,
Computer Science & Engineering,
Indian Institute of Technology,
Roorkee, Uttarakhand- 247667

**Dr. Sudesh Thakur Raunija**
ISRO Scientist
Semi-conductor Laboratory
Department of Space, Govt. of India,
SAS Nagar, Punjab-160071

**Prof. (Dr.) Sandeep Sharma**
HOD, CSE Department,
Guru Nanak Dev University, Amritsar

**Dr. Rishav Singh**
Associate Professor, Department of
Computer Science & Engineering,
Indian Institute of Technology, Patna

**Dr. Satyajit Thakor**
School of Computing and Electrical
Engineering
Indian Institute of Technology Mandi
Mandi, Himachal Pradesh, India-175075

**Dr. Harjot Kaur**
Associate Professor
CSE Department
Guru Nanak Dec University,
Regional Campus, Gurdaspur, Punjab

**Prof. (Mrs.) Rajeevan Chandel**
Low Power VLSI Design, Modeling &
Simulation
NIT Hamirpur (H.P.)-177005

**Dr. Amandeep Kaur**
Assistant Professor
Indian Institute of Information
Technology and Management
Gwalior-474015 (M.P.)

**Dr. Jaspreet Singh**
Professor
Department of CSE
Chandigarh University, Mohali

**Dr. Ram Janay Choudhary**
Scientist-G
UGC-DAE Consortium for scientific
Research
Indore, M.P

**Dr. Shweta Chauhan**
Assistant Professor
Center for Artificial Intelligence
Madhav Institute of Technology and
Science, Gwalior (M.P.) India

**Dr. Amit Kumar**
Associate Professor
Department of ECE
National Institute of Srinagar, J&K,
India