



The Institution of Engineers (India)

Under the aegis of

Electronics and Telecommunication
Divisional Board

Ludhiana Local Centre

One Day Seminar
on

Future Trends In Robotics & Artificial Intelligence

5 OCT

2026 • MONDAY

TCC Seminar Hall

GNDEC, Ludhiana

Organized by

Department of Electronics and Communication Engineering
Guru Nanak Dev Engineering College, Ludhiana.

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Ludhiana

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About GNDEC, Ludhiana

Guru Nanak Dev Engineering College (GNDEC), Ludhiana, established in 1956, is a reputed institution known for its academic excellence and strong foundation in engineering education. Affiliated with I.K. Gujral Punjab Technical University, the college offers a wide range of undergraduate and postgraduate programs across various disciplines. The institution emphasizes a balanced approach to learning by integrating theoretical knowledge with practical application, research, and innovation. With well-equipped laboratories, modern infrastructure, and experienced faculty, GNDEC provides an environment that fosters critical thinking and technical competence. Committed to industry collaboration and sustainable development, the college encourages students and faculty to engage in research, innovation, and real-world problem-solving, preparing them to contribute effectively to society and the evolving technological landscape.



About Institution of Engineers (India)

The Institution of Engineers (India) [IEI], established in 1920, is India's premier professional body dedicated to advancing engineering knowledge and professional excellence. Through its extensive network of centres and technical activities, IEI promotes innovation, knowledge exchange, professional development and sustainable engineering practices, contributing significantly to the technological progress of the nation.

About Seminar

Robotics is an interdisciplinary field combining mechanical engineering, electrical engineering, and computer science to design and operate intelligent machines. Artificial intelligence plays a major role in modern robotics, enabling robots to perceive, learn, reason, plan, and perform tasks autonomously. Technologies such as Vision-Language-Action (VLA) models and spatial learning are advancing robots' ability to operate in dynamic, real-world environments.

The future of robotics and AI is moving from rule-based automation toward highly autonomous systems. Key developments include Agentic AI, adaptable humanoid robots, Robots-as-a-Service (RaaS), and digital twins, transforming industries such as manufacturing and healthcare. This one-day seminar will explore major technological advancements in AI and Robotics through talks by eminent experts, benefiting students and professionals across engineering disciplines.

Sub Themes

- Artificial Intelligence & Machine Learning
- Autonomous Robotics
- Humanoid Robotics
- Vision-Language-Action (VLA) Models
- Computer Vision & Spatial Intelligence
- Agentic AI & Embodied Intelligence
- Human-Robot Interaction
- Industrial Robotics & Automation
- Healthcare & Assistive Robotics
- Edge AI & Embedded Robotics
- Digital Twins & Simulation
- Robotics-as-a-Service (RaaS)
- Swarm Robotics & Multi-Agent Systems
- Robotics for Smart Manufacturing
- Future Trends, Safety & Ethics in Robotics



Objectives

- To provide participants with an understanding of the fundamentals of Robotics and Artificial Intelligence
- To explore the integration of AI techniques in modern robotic systems
- To familiarize participants with emerging concepts such as Vision-Language-Action (VLA) models, spatial learning, and autonomous systems
- To understand the role of AI in perception, reasoning, planning, navigation, and decision-making in robotics
- To highlight recent advancements including humanoid robotics, Agentic AI, Robots-as-a-Service (RaaS), and digital twin technologies
- To encourage interdisciplinary learning and research in AI-driven robotic applications across engineering domains

Outcomes

Upon successful completion of the seminar, participants will be able to:

- Understand the basic concepts and interdisciplinary nature of Robotics and Artificial Intelligence
- Explain the role of AI in enabling intelligent and autonomous robotic systems
- Identify applications of AI and robotics in industries such as manufacturing, healthcare, automation, and smart systems
- Analyze emerging technologies including VLA models, humanoid robotics, and digital twin integration
- Recognize current trends and future developments in AI-driven robotics
- Apply gained knowledge towards research, innovation, and interdisciplinary engineering applications



Eligibility Criteria

The Seminar targets Faculty members of the AICTE-approved institutions and Research scholars.

National Advisory Committee

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*Ludhiana Local Centre,
IE(I)*

For any further query, you may contact:

Dr. Baljeet Kaur
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+91 98725 44399

Important Dates

- Last date to apply: 1/10/2026
- Note: All outside participants may be provided hostel accommodation on request basis.



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Seminar Hall
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Guru Nanak Dev Engineering College, Ludhiana.

Application Form

1. Name (block letter):
2. Designation:
3. Organization:
4. Address for communication:
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Pin code: Mobile No.:
- E mail:
5. Highest Academic Qualification:
6. Specialization:
7. Experience (in years):
8. Accommodation Required (Yes/No):

Place:

Date:

Applicant's Signature



Seal and Signature of Head of Institution