

### About SENSE:

SENSE at VIT was established for imparting state-of-the-art knowledge in Electronics and Communication Engineering and allied areas. The school has set up laboratories with excellent infrastructure in the areas of Electronics, Communication, VLSI, Embedded, Sensors and Nanotechnology. Faculties are actively involved in R&D activities and are working on research projects funded by government organizations like DRDO, ISRO (RESPOND), and DST.

### About the event:

The rapid evolution of Radio Frequency (RF), millimeter-wave (mm-Wave), and Terahertz (THz) technologies has opened new frontiers in high-speed communication, advanced imaging, and non-invasive sensing. These frequencies, spanning from GHz to THz, offer an unprecedented combination of high data rates, fine spatial resolution, and the ability to penetrate materials in ways previously not possible. As the demand for next-generation wireless technologies such as 5G/6G, radar systems, and health diagnostics grows, it is essential that educators and researchers stay ahead of the curve.

### Course Content:

- Design and analysis of MIMO/SIW antennas/Filtenna.
- 3D additive manufacturing techniques for antennas.
- Smart antenna system architectures used in 5G NR.
- Adaptive and digital beamforming techniques
- AI/ML algorithms for beam selection and optimization
- Full-wave antenna simulation using CST Microwave Studio/ beamforming algorithm on MATLAB (Hands on)

**Resource Persons:** Experts from Reputed Institutions and Industry in India and Abroad.

**Eligibility:** The training program is open to Industry personnel, Engineering Faculties, Research Scholars and PG students.

### Registration Fee :

- Rs. 500 + 18% GST (For Faculty),
- Rs. 300 + 18% GST (For PG and Research Scholars)
- Rs. 700 + 18% GST (For Industry Persons),

**Payment Link:** <https://events.vit.ac.in/>

### Advisory Committee:

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### Coordinators

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## Five days Faculty Development Program (FDP)

on

## AI-Enabled Smart Antenna Systems: RF Front-End Design to AI-Driven Beamforming for 5G and Early 6G (Hybrid Mode)

27<sup>th</sup> April- 1<sup>st</sup> May 2026



Organized by

**Department of Communication Engineering**

**School of Electronics**

**Engineering (SENSE) Vellore**

**Institute of Technology**

**Vellore-632014**