

## ABOUT JNTUK

Jawaharlal Nehru Technological University Kakinada was formed in the year 2008. University College of Engineering, Kakinada was established in 1946 and has been playing a significant role since 1946 in imparting technological education in the state of Andhra Pradesh. It is located in the coastal districts of Andhra Pradesh, with nearly 264 affiliated engineering colleges. The college won appreciation for judicious and effective utilization of TEQIP-II funds and has been under TEQIP-II, with academic milestones, to enhance PG education and research.

## ABOUT VLITS

Vignan's Lara Institute of Technology & Science is presently an Autonomous institution which was established in 2007 with the objective of delivering quality technical education to meet international standards. It is located in Vadlamudi, Guntur District, in the state of Andhra Pradesh. It is approved by the All India Council for Technical Education, New Delhi, and affiliated to Jawaharlal Nehru Technological University Kakinada, Kakinada. The institution boasts accreditation from the NBA for five undergraduate programs (CSE, IT, ECE, EEE, and Mechanical) and has achieved NAAC A<sup>+</sup> grade. Additionally, the UGC has granted the institution autonomous status for 10 years from 2023-24. Furthermore, the college prides itself on its well-qualified and experienced faculty, comprising Ph.D. and M.Tech holders, supported by dedicated technical staff.

## Advisory Committee

### Chief Patrons

Dr. C. S. R. K. Prasad  
Hon'ble Vice-Chancellor, JNTUK

Dr. Lavu Rathaiah  
Chairman, Vignan Group of Institutions

### Patrons

Dr. K. V. Ramana  
Rector, JNTUK

Sri Lavu Srikrishnadevarayalu  
Member of Parliament  
& Vice-Chairman, Vignan Group of Institutions

### Co-Patron

Dr. V. Ravindranath  
Registrar, JNTUK

## Technical Committee

### Chief Chairperson

Dr. P. Subba Rao, Director, FDC, JNTUK

### Chairperson

Dr. K. Phaneendra Kumar, Principal, VLITS(A)

### Co-Chairperson - Board of Studies, JNTUK

Dr. A. Gopala Krishna, BoS Chairperson, MED, JNTUK,  
Kakinada.

### Co-Chairperson - Board of Studies, VLITS(A)

Dr. P. Bhaskara Rao, HoD, Dept. of ME, VLITS(A)

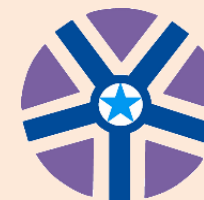
## Organising Committee of VLITS(A)

Dr. G. Nageswara Rao, Professor  
Dr. P. B. G. S. N. Murthy, Professor  
Dr. B. Jagan Mohan Rao, Professor  
Dr. M. Mohammed Asif, Assoc. Professor  
Dr. M. Venkataiah, Assoc. Professor  
Dr. Balijepalli Rama Krishna, Assoc. Professor  
Dr. Y. Siva Sankara Rao, Assoc. Professor  
Mr. E. Ramu, Asst. Professor  
Mr. N.M.K. Sarath Kumar, Asst. Professor  
Mr. Manohar Velaga, Asst. Professor  
Mr. B. K. Pavan Kumar, Asst. Professor  
Ms. V. Mercy, Asst. Professor  
Mr. R. Sairam, Asst. Professor

## One Week Faculty Development Programme (Offline) on

## Advances in Materials & Manufacturing Processes

23<sup>rd</sup> - 27<sup>th</sup>, June 2025



## Organised by

Directorate of Faculty Development Center  
Jawaharlal Nehru Technological University  
Kakinada (JNTUK)

In association with  
Department of Mechanical Engineering  
Vignan's Lara Institute of Technology &  
Science (A)

Vadlamudi, Guntur- 522213  
Andhra Pradesh, India.

## Co-ordinators

Dr M. Madhusudhanprasad, A.P.M.E, JNTUK  
Dr. N. Srinivasababu, P.M.E, VLITS

## ABOUT FDP

The Faculty Development Program (FDP) on **Advances in Materials and Manufacturing Processes** aims to empower faculty with modern techniques and tools, integrating material science, manufacturing, and data-driven technologies. The program will cover the fundamentals of Machine Learning (ML), Artificial Neural Networks (ANNs), and their applications in manufacturing processes. Participants will explore Convolutional Neural Networks (CNNs) and Recurrent Neural Networks (RNNs) for applications like defect detection, process monitoring, and predictive maintenance. Various optimization algorithms for solving maximization and minimization problems will be introduced. The program is designed to bridge the gap between experimental research and intelligent algorithms, helping participants to enhance their teaching, research, and industrial collaboration capabilities.

## TOPICS WHICH INCLUDE

- Fundamentals of Machine Learning (ML) and Artificial Neural Networks (ANNs).
- Applications of CNNs and RNNs in manufacturing and process optimization.
- Overview of optimization algorithms for engineering design problems.
- Prediction techniques using experimental and research data.
- Python programming for implementing ML, optimization, and prediction models.

- Process parameter optimization in Fused Deposition Modeling (FDM).
- Modeling and analysis of composite materials for mechanical applications.
- Application of deep learning in machining process optimization.
- Techniques for data refinement to improve model accuracy.
- Expert lectures, hands-on sessions, and interactive discussions with domain specialists.

## COURSE OUTCOMES OF THE FDP

**CO1:** Demonstrate an in-depth understanding of Machine Learning, Artificial Neural Networks, Convolutional and Recurrent Neural Networks with relevance to manufacturing systems.

**CO2:** Select and apply appropriate optimization and prediction algorithms for solving maximization and minimization problems based on experimental data.

**CO3:** Perform analytical computations for output estimation from research inputs and implement basic optimization and prediction routines using Python.

**CO 4:** Optimize process parameters in FDM technology and conduct modeling and performance evaluation of blow-molded polymer components.

**CO5:** Apply deep learning techniques to machining process optimization and refine experimental datasets for enhanced predictive modeling accuracy.

## RESOURCE PERSONS

Dr. J. Anuradha, Professor, VIT Vellore

Dr. A. Gopala Krishna, Professor, JNTUK

Dr. N. Nalini, Sr. Asst. Professor, VIT Vellore

Dr. D. Nagaraju, Professor, VIT Vellore

Mr. T. N.B. Prakash, Asst. Professor, VFSTR

Dr. K. Durga Rao, Asst. Professor, VFSTR

## FREE REGISTRATION

**Last Date: 20<sup>th</sup> June 2025**

<https://sites.google.com/jntuk.edu.in/fdp4cet-19>

**SCAN TO REGISTER**



## ACCOMMODATION AND TRAVEL

No accommodation is provided for participants. The participants have to make their own travel arrangements to reach the Institute.

## Contact Details

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