

## About the Department

The Department of Electrical & Electronics Engineering was started in the year 1946 at the inception of the college and offering B. Tech, M. Tech and PhD programs in major areas of electrical engineering. The Department is equipped with state of art facilities to impart the academics and research. The High voltage laboratory is first of its kind in south India having the facilities of high voltage DC, AC and impulse generation and measuring systems. The department produced many stalwarts and eminent personalities and the alumni occupied highest positions in academic and industrial organizations at public and private sectors. The U.G and P.G programs offered by the department were accredited with NBA. The department was included in the funding of TEQIP I, II and III phases.

### Patron

**Dr. M. H. M. Krishna Prasad**

Principal, UCEK(A), JNTUK, Kakinada

### Co-Patrons

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Vice-Principal (Academics), UCEK(A), JNTUK

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Vice-Principal (Administration), UCEK(A), JNTUK

### Chairman

**Dr. Ravindra Kollu**

Head of the Department, EEE, UCEK(A), JNTUK

### Event Organizers

**Dr. R. Srinivasa Rao** (Organizer)

**Mr. B. Naresh** (Co-organizer)

**Dr. N. Sumathi** (Co-organizer)



## About Karyashala

Science and Engineering Research Board (SERB), a statutory body under the Department of Science and Technology Government of India, has inaugurated an Inter-Ministerial Initiative 'Accelerate Vigyan (AV) Scheme' to provide a big push to high-end scientific research and prepare scientific manpower which can venture into research careers and knowledge-based economy. AV aims to expand the research base in the country, with three broad goals-consolidation/aggregation of all scientific training programs, initiating high-end Orientation Workshops, and creating opportunities for Research Internships. Under AV scheme, is an attempt to boost Research & Development in the country by enabling and grooming potential PG and Ph.D. level students by developing dedicated research skills in selected areas/disciplines/fields through High-End orientation workshops 'KARYASHALA'. This will be especially important for those researchers who have limited opportunities to access such learning capacities/facilities/infrastructure.

## About the Institution

University College of Engineering(A), Kakinada is established in the year 1946 and it is a constituent college of JNTU Kakinada. The college is playing vital role in imparting technical education and research in all the major areas of engineering. The college offers UG, PG and PhD programs in major branches of engineering and it is accredited with NAAC and NBA. This institution has funding from TEQIP I, II and III phases.



## High End Workshop on

# Application of Artificial Intelligence and Machine Learning Techniques for the solution of Large-Scale Renewable Energy Integrated Power System Problems

(Under the Karyashala Scheme – A SERB Scheme)

**26, September – 02, October 2022**

Sponsored by SERB, DST, Govt. of India, under the Accelerate Vigyan Scheme

### Event Organizer

Dr. R. Srinivasa Rao

### Event Co-organizers

Mr. B. Naresh and Dr. N. Sumathi



## Organized by

**Department of  
Electrical & Electronics Engineering**  
UNIVERSITY COLLEGE OF ENGINEERING KAKINADA (A)  
Jawaharlal Nehru Technological University Kakinada  
Kakinada, A.P., India.  
[www.jntuk.edu.in](http://www.jntuk.edu.in)

## Objective of the Workshop

The objective of the workshop is to impart knowledge of AI and ML techniques to Faculty/PhD scholars/PG Students for solving large scale multi-dimensional renewable energy integrated power system optimization problems. This workshop provides a platform to learn practical implementation of AI and ML algorithms on real world complex problems of their domain. In the workshop, comprehensive sessions on the fundamental concepts of AI and ML algorithms are planned and application of AI and ML techniques to the solution of large scale multi-dimensional renewable energy integrated power system optimization problems will be demonstrated using MATLAB programming tool.

## Topics to be Covered

Broadly following topics are covered in the workshop:

- Introduction to Artificial Intelligence (AI) Machine Learning (ML) techniques
- AI application for
  - PV solar integrated power grid problems
  - Electric vehicles charging
  - DG integration in distribution system
  - load forecasting
  - Economic load dispatch problem
  - Optimal allocation of generators
  - Unit commitment problem
  - State estimation problem
  - PMUs allocation
  - Load Frequency Control problem
  - Harmonic mitigation

## Course Outcomes

On completion of the course, participants are expected to be capable of implementing AI and ML techniques to simulate the problems of power system optimization and solar PV integration using Python/MATLAB programming tools. The participants are also expected to guide UG and PG students to implement AI and ML techniques in their project and research works.

## Resource Persons

All the sessions of the workshop will be handled by faculty experts from IIT/NITs and leading academic institutions having the expertise AI and ML Techniques and its applications for integration of renewable energy sources to Power System.

## Who can Attend

Karyashala is open to postgraduate and PhD students from Institutes, Colleges, and Universities in India. Applicants pursuing PG/PhD programmes in any specialization of EEE, CSE, ECE and related departments are eligible. Students who have recently completed their PG programs are also eligible. Preference will be given to the students having interest in AI and ML Techniques and its applications to the solution of large-scale renewable energy integrated Power System problems.

## Eligibility of Applicants

Faculty, PG and PhD scholars of EEE, CSE, ECE and related departments are eligible

## Accommodation and Food

Free accommodation and food will be provided to all the selected candidates for the entire workshop duration.

## Travel Support

Selected participants will be offered travel support (Train 3rd AC/Sleeper class/Bus fare as per GOI rules) to attend the workshop. (Ticket/Fare copy submission is must)

## Important Information

- 1) Total numbers of seats are limited to 25.
- 2) There is no registration fees.
- 3) The shortlisted candidates will get a selection notice by E-mail and are expected to attend the workshop offline at UCEK, JNTUK.
- 4) A test will be conducted at end of the workshop and certificates will be issued to all participates who attended all the sessions and scored 60% in the test.
- 5) Applicants must be fully vaccinated (with two dose) against COVID 19.
- 6) All protocols related to the safety from COVID shall be strictly followed during the workshop

## Important Dates

Last date for Registration: 20-09-2022  
Notification of Selection: 22-09-2022  
Workshop Period : 26, Sept. to 02, Oct. 2022

## How to apply

Interested Faculty and students can register by completing the online google form:

<https://forms.gle/nepjyvYBbKjXKcUA>

The applicants shall attach Endorsement cum No Objection Certificate issued by the Principal/Head of the Department/Thesis Supervisor and Undertaking from the applicant as a single PDF file in the google form. The formats of NOC and undertaking form can be downloaded by clicking the following link given in the google form

## Venue

Seminar Hall, Department of Electrical & Electronics Engineering University College of Engineering Kakinada (A). JNTU Kakinada-03, A.P., India.

## Duration of Workshop

The workshop will be organized in face to face mode from 26 September 2022 to 2 October 2022 (7 Days)

## For any query, please contact

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For more details about workshop, please visit  
<https://www.jntucek.ac.in>, [www.jntuk.edu.in](http://www.jntuk.edu.in)