REGISTRATION AND CERTIFICATION

- **Maximum seats: 25 (selection based on merit and first come, first serve basis).**
- **No Registration Fee.**
- **Online registration form link: https://forms.gle/f1Cj2U9vSzftveAg7**
- **Please fill the above Google form with the requested details and upload the scanned copies of the certificate, resume, and declaration form along with NOC (from the Project supervisor/HoD/Head of the institution) by 14th June 2024.**
- **The applications will be screened, and the candidates will be selected on merit. The selection committee's decision will be final in the selection of candidates.**
- **The selected candidates will be informed by email on or before 15th June 2024.**
- **The selected candidates have to acknowledge participation in the workshop through return email (on or before 16th June 2024), failing which the waitlisted candidates may be called to attend the workshop.**
- **Certificates will be provided to the participants on successful completion of the workshop.**
- **Selected participants will be accommodated in Institute guest house/hostel rooms (if available) with catering facilities under the funds approved by SERB (as per norms).**
- **The participating students will be eligible for TA reimbursement for their journey to and fro from NITK to the candidate's hometown/parent institute, as per the GoI norms.**

IMPORTANT DATES

Last date of registration: 14/06/2024
List of selected students: 15/06/2024
Last date to accept the offer: 16/06/2024

Participants: Eligibility Criteria

1. **Only regular PG level (i.e., Masters or Ph.D.) students pursuing degree programme from AICTE approved University / Institution within India are eligible to apply.**
2. **Relevant areas of specialization include (but are not limited to): Energy storage and generation devices/VLSI/AI and ML/Material Science and Engineering/Nanotechnology and related domains.**
3. **The applicants should produce a declaration form and a "No Objection Certificate (NOC)" from the Supervisor/Head of the Department/Head of the Institute, with a consent to undergo training in the workshop if selected.**

CHIEF PATRON

Prof. B Ravi
Director, NITK Surathkal

CHAIRMAN

Prof. N S V Shet
Head, E&C. Engg., NITK Surathkal

CO-CHAIRMAN

Prof. Ashvini Chaturvedi
Professor In-Charge (Continuing Education), NITK Surathkal

ADDRESS FOR CORRESPONDENCE

Dr. Sushil K Pandey, Assistant Professor, Dept. of Electronics & Communication Engineering, NITK Surathkal, Mangalore, Karnataka - 575 025
Email: aienergyworkshop@nitk.edu.in
Contact Number: +91-7052502636
Website: https://www.nitk.ac.in/
Alternative Contacts:
Mr. Ashish Kumar Yadav (+91-7065911652)
Mr. Jasil TK (+91-9544109556)

SERB Sponsored

One Week High-End Workshop on

Application of Artificial Intelligence in Smart Energy Generation and Storage Devices

(19th to 25th June 2024)

WORKSHOP ORGANIZER
Dr. Sushil Kumar Pandey, Assistant Professor

COORDINATORS
Dr. Shyam Lal, Associate Professor
Dr. Nikhil K S, Assistant Professor

Organized by:

Department of Electronics and Communication Engineering, National Institute of Technology Karnataka, Surathkal, Mangalore, 575025 Karnataka, India

***Venue*: Seminar Hall, Digital Library, NITK Surathkal, Mangaluru – 575025**

Accommodation: A limited number of rooms in NITK Guesthouses/Hostels are available on a First Come and First Served basis. THE HOST INSTITUTION SHALL BEAR the boarding and lodging within the NITK premise only (from the SERB fund). If unavailable, the participants need to make self-arrangements for their stay outside the NITK premises, which the organizers do not bear. TA will be reimbursed for the train or bus's lowest fare.

About the Institute

National Institute of Technology Karnataka (NITK), Surathkal (formerly KREC), is one of the Institutes of National Importance in our country funded by MHRD, the Government of India. Since its inception in 1960 as the Karnataka Regional Engineering College, the Institute has established itself as a premier center engaged in imparting quality technological education and supporting research and development activities. NITK has carved a niche for itself among the best technical institutes in India and is consistently ranked among the top 12 technological institutions.

About the Department

The Electronics and Communication Engineering (ECE) Department was established in the year 1979. The Department offers an undergraduate program in Electronics and Communication Engineering, PG program in VLSI design, PG program in Signal Processing and Machine Learning (SPML), and a PG program in Communication Engineering and Networks (CEN). In addition to these, it also offers MTech (Research) and PhD programs in the three streams of VLSI design, SPML, and CEN. The department is continuously fulfilling its role of producing qualified Electronics Engineers suited for the current industrial growth scenario. Many of our Ph.D. graduates have taken up faculty positions in other NITs and IITs.

About the Karyashala Scheme

KARYASHALA is a program offered by the Science and Engineering Research Board (SERB), Government of India, via Accelerate Vigyan scheme to boost Research & Development in the country by enabling and grooming potential PG-level students (masters and Ph.D. students) by developing dedicated research skills in selected areas/disciplines through high-end workshops. This program aims to provide opportunities to acquire specialized research skills.

About the Workshop

Artificial intelligence (AI) is revolutionizing the smart energy sector by optimizing energy generation, distribution, and storage processes. AI optimizes the operation of energy storage devices such as batteries by predicting energy demand, managing charging and discharging cycles, and maximizing lifespan. This improves the reliability and efficiency of energy storage systems. Thus, a workshop on the Application of Artificial Intelligence in Smart Energy Generation and Storage Devices will be beneficial to potential Ph.D./M.Tech students. This workshop aims to explore the latest advancements and practical applications of artificial intelligence in the field of smart energy generation and storage. Overall, this session will provide a great platform for attendees to enhance their knowledge of AI in the area of smart energy generation and storage devices.

Objectives of the Workshop:

a. **To provide an overview of AI techniques relevant to smart energy generation and storage.**
b. **To showcase the real-world applications and case studies of AI in the energy sector.**
c. **To facilitate hands-on sessions and interactive discussions to deepen understanding.**
d. **To foster collaboration and networking opportunities among participants.**

Course Contents:

- **Present and future of energy generation and storage devices.**
- **Artificial Intelligence (AI) for the development of materials for energy generation and storage devices.**
- **Importance of AI to improve the lifetime of energy devices.**
- **Use of AI for smart fabrication processes for energy devices.**
- **AI-based testing and fault-tolerance of energy storage devices.**
- **Performance analysis for energy devices.**
- **Novel electrode materials for lithium-ion batteries and supercapacitors.**
- **Smart energy generation for low-power devices.**
- **Two-dimensional materials for next-generation solar cells.**

Resource Persons

Subject experts from prestigious academic institutions (like IITs, NITs, etc.), R&D organizations, and industries will deliver the workshop content. The coordinators and student volunteers will mentor the hands-on sessions.