



J.J.COLLEGE OF ENGINEERING AND TECHNOLOGY

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(Sowdambikaa Group of Institutions)



VOLUME 1, ISSUE 6

JULY - 2023



Institution Making Students Ready for “Industry 4.0”

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

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J.J.C.E.T NEWS



DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

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Department of EEE

OUR MILESTONES

VISION



To provide students with high quality education so that they are well-prepared to become high caliber Electrical and Electronics Engineers, and it aspires to grow to the level of gaining global recognition.

- To develop competent technocrats who strive continuously in pursuit of professional excellence in the field of Electrical and Electronics Engineering.

To develop and sustain a culture of research while promoting values, ethics and professionalism.

- To offer well-balanced curriculum to help students acquire professional competencies and to arrange placements for students.
- To develop state-of-art infrastructure and research for effective teaching-learning process.
- Strengthening of soft skills especially for rural students through co-curricular and extra-curricular activities.

MISSION





STUDENTS ACHIEVEMENTS



CONGRATULATIONS!!!
A.Kasthuri, 3rd year student of our department for being Elected as an Ambassador for IEEEXTREME 17.0.

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Career Development Center

We heartily congratulate our **MECH, EEE & CIVIL** Students for being selected in **ITC Ltd., Trichy**. They attended Campus Drive organized by CDC on **22-06-2023**. Based on their Performance, they were selected by the interview panel.

ITC Ltd, Trichy

Designation: Junior Technical Associate **Salary:** 4.8 LPA

Sathiyamoorthy P	Nithish Narayanan	Balachandran K P	Aravindh Selva P
Balamaniandan M	Dheenadhayalan L	Prathiusa S	

L.Deenadhayalan. Final year student selected in **ITC Ltd.**, during Campus Drive organized by CDC on **22-06-2023** Trichy as Junior Technical Associate.



FACULTY ACHIEVEMENTS



Our faculty Mr.S.P. Suresh Raj AP/EEE attended NPTEL South Zone SPOC meeting at IIT Madras, Campus. He represented J.J. College of Engineering and Technology.

Our faculty **P. RathiDevi** has published a Research Paper in International Transactions of Electrical Energy Systems (HINDAVI) on the title **“Optimizing PV Power Output with Higher-Voltage Modules: A Comparative Analysis with Traditional MPPT Methods”**.



RECENT TRENDS

BATTERY TECHNOLOGY

The purest source of sustainable energy are, as is common knowledge, wind, and solar energy. Nevertheless, because batteries are essential to their operation, numerous electrical firms and departments are working to develop better batteries. This is one of the most influential trends in the electrical and electronics engineering sector.

Five new battery technologies that will change the future are:

1. NanoBolt Lithium Tungsten Battery:

Working on battery anode materials, researchers at N1 Technologies, Inc. added tungsten and carbon multi-layered nanotubes that bond to the copper anode substrate and build up a web-like nano structure. That forms a huge surface for more ions to attach to during recharge and discharge cycles. That makes recharging the NanoBolt lithium tungsten battery faster, and it also stores more energy.

2. Zinc-manganese oxide batteries:

Investigating conventional assumptions, a team based at DOE's Pacific Northwest National Laboratory found an unexpected chemical conversion reaction in a zinc-manganese oxide battery. If that process can be controlled, it can increase energy density in conventional batteries without increasing cost. That makes the zinc-manganese oxide battery a possible alternative to lithium-ion and lead-acid batteries, especially for large-scale energy storage to support the nation's electricity grid

3. Organosilicon electrolyte batteries:

A problem with lithium batteries is the danger of the electrolyte catching fire or exploding. Searching for something safer than the carbonate based solvent system in Li-ion batteries, University of Wisconsin-Madison chemistry professors Robert Hamers and Robert West developed organosilicon (OS) based liquid solvents. The resulting electrolytes can be engineered at the molecular level for industrial, military, and consumer Li-ion battery markets.

4. Gold nanowire gel electrolyte batteries:

Also seeking a better electrolyte for lithium ion batteries, researchers at the University of California, Irvine experimented with gels, which are not as combustible as liquids. They tried coating gold nanowires with manganese dioxide, then covering them with electrolyte gel. While nanowires are usually too delicate to use in batteries, these had become resilient. When the researchers charged the resulting electrode, they discovered that it went through 200,000 cycles without losing its ability to hold a charge. That compares to 6,000 cycles in a conventional battery.

5. Tank Two String Cell™ batteries:

A barrier to the use of electric vehicles (EVs) is the slow recharging process. Seeking a way to turn hours into minutes, Tank Two looked at modularizing a battery. Their String Cell™ battery contains a collection of small independent self-organizing cells. Each string cell consists of plastic enclosure, covered with a conductive material that allows it to quickly and easily form contacts with others. An internal processing unit controls the connections in the electrochemical cell. To facilitate quick charging of an EV, the little balls contained in the battery are sucked out and swapped for recharged cells at the service station. At the station, the cells can be recharged at off-peak hours.

OUR MAJOR RECRUITERS





OUR COLLABORATORS



Networking
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