

One-Week Faculty Development Program on Renewable and Clean Energy Conversion Technologies and Materials

(Under TEQIP-III)

(04-01-2021 to 08-01-2021)

SCOPE & JUSTIFICATION:

In this modern era, our society faces a serious energy crisis due to increasing human population. Energy consumption starts from small-scale electronic gadgets to high power consuming electric vehicles. To supply power on demand, researchers focus on alternative renewable energy resources including solar energy, wind energy, hydropower, geothermal energy, and bio-energy. Effectively, energy conversion and storage technologies such as solar cells, fuel cells, secondary batteries, super capacitors, and other self-powered systems are under rigorous investigation. To meet the growing energy demands in a low-carbon economy, the development of new materials that improve the efficiency of energy conversion and storage systems is essential. The efficient energy conversion and storage performance of those technologies rely on material properties of their electrode, electrolyte, and other device components. This FDP is planned to address the importance of Renewable and clean energy conversion technologies and associated materials. Further, the fundamental material properties at macro and micro/nano levels will be discussed. The following Broad Areas/themes were discussed by eminent speakers of the workshop:

- Bio Mass Energy
- Fuel Cells
- Solar Energy
- Li ion Batteries
- Super Capacitors
- Photo-electrochemical Devices
- Smart Grid
- Research in Renewable Energy

Further, workshop is designed to give hands on session on battery testing, super capacitor testing and other sensor testing & instrumentation aspects. The chief patrons Prof. A. Ananda Rao, Hon'ble Vice Chancellor I/c, JNTUA, Anantapur, Anantapuramu and Prof. H. D. Charan, Hon'ble Vice Chancellor, BTU, Bikaner, Rajasthan were addressed the participants in inaugural session on 4th January 2021. Further, Patrons of the program Prof. K. GovindaRajulu, Principal of the college & Prof. Y. N. Singh, Principal, UCET, BTU,

Bikaner, Rajasthan were narrated the importance of Renewable energy on inaugural session. Program Coordinators Dr. K. JitendraGowd, Assistant Professor of EEE, JNTUA CEA & Mr. JanardanKundu, Assistant Professor of EEE, UCET, BTU, Bikaner, Rajasthan have organized the event in successful completion. Participants from different parts of the country (academic institutes, industry and research centers) have registered and attended in online mode. After end of each session, attendance and feedback link is provided in chat box. All sessions were recorded in google meet platform and the same will be circulated to all participants. Many participants were given good about the resource persons presentation which was enclosed along with this report for information.

Resource Persons:

1. Dr. N. Siva Mohan Reddy, Dept of Chemical Engineering, IIT Roorkee, Uttarakand (UP)
2. Dr. Prashanth Kumar Gupta, Dept of Chemical Engineering, IIT Jodhpur, Rajasthan
3. Dr. N. Rajalakshmi, Senior Scientist, Center for Fuel Cell Technology, ARCI, Chennai
4. Prof. V. Sanakr, Dean, Examinations, SRIT, Anantapur, Anantapuramu, AP.
5. Dr. Manohar. K, Dept of Chemical Engineering, National Institute of Technology Warangal
6. Mr. AnujAwasthi, Director & Co-Founder, Kanopy Techno Solutions, c/o SIDBI Incubation Center, IIT Kanpur
7. Dr. Gyan Prakash Sharma, Scientific Adviser, Kanopy Techno Solutions, c/o SIDBI Incubation Center, IIT Kanpur

MoUs

1. MoU has been taken between **JNTUA College of Engineering, Ananthapuramu** and **Southern Region Machinery Training and Testing Institute, Tractor Nagar, Garladinne, Anantapur** on 31st Aug. 2021. The Scope of the MoU is to provide Industrial Training & Visits for faculty and students of EEE Dept., extend the support to deliver guest lecturers to the students, placement of trained students.