



About NIT-Tiruchirappalli:

National Institute of Technology (formerly-Regional Engineering College) was started as jointly by Indian Govt. and Tamilnadu Govt. in 1964 and registered under societies registration Act XXVII, 1975. NIT bestowed as autonomous in finance and administration, hence granted Deemed University Status by UGC/AICTE and Indian Govt. in 2003. Institute offers 10 UG courses, 21 PG courses in science, Engineering & Technology besides M.S and Ph.D (about 250 Scholars) in all departments. R&D activities funded by consultancies, DST, CSIR, ISRO, DRDO, DEITY, UGC and AICTE reached exponential growth. The faculty is inducted through a process of open advertisement throughout the country. The institute is an example of cultural unity with students drawn from most of the states in the country.

CO-ORDINATORS

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**NATIONAL INSTITUTE OF
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ONE DAY WORKSHOP ON RECENT TRENDS IN COLD STORAGE SYSTEM 18th December 2019



Organized by

DEPARTMENT OF EEE & ICE

**NATIONAL INSTITUTE OF
TECHNOLOGY**

TIRUCHIRAPPALLI-620015.

Scope of the Workshop:

India is the second-largest producer of horticultural commodities in the world. However, about Rs.133 bn worth of commodities are wasted due to lack of adequate cold storage facilities. But the major challenges for setting up of cold storages with present technologies are; Cost of running by grid or gen-set in the absence of grid power. Solar energy based cold storage system is now becoming technologically and economically sound alternative to grid power and can be deployed in far of remote places. Phase Change Material (PCM) has great potential in energy storage and helps to reduce the mismatch between the energy supply and demand in the cold storage system. By considering the above factors, a prototype Solar Photovoltaic powered Cold Storage System with PCM has been designed, fabricated and tested for its energy efficiency and cost-effectiveness in NITT with support of IIFPT, Thanjavur. This project is Fully funded by DST, Govt. of India with Project Number: TMD/CERI/BEE/2016/044(G) dt.22-12-2016. Solar energy runs the cold storage system as well as charging the PCM during the daytime. The charged PCM maintains the temperature of the cold room during night-time or in the absence of solar energy. This system will be highly useful for the farmers and retailers reducing the post-harvesting losses and increasing the shelf life of the horticultural commodities with minimum operating cost compared to the conventional cold storage system.

This course is intended to address the design, operational and control aspects of prototype PCM based Solar Photovoltaic powered Cold Storage System. The workshop methodology includes classroom lectures as well as lab visit.

Resource Persons

1. **Dr. V. Mariappan**, Associate Professor/ MECH / NITT
2. **Dr. S. SenthilKumar**, Associate Professor/EEE/NITT
3. **Dr. M. Loganathan**, Professor & Head, Department of Academic and Human Resource Development, IIFPT, Thanjavur.
4. **Dr. V. R. Sinija**, Professor and Head, Incubation Centre, IIFPT, Thanjavur.

Workshop Deliverables

- **Solar Cooling Technologies for Cold Storage Systems**
- **Basic structures, Maintenance and Management of cold storage**
- **Study of cold storage of horticultural commodities and other Perishables**
- **Technical Session on Innovative Hybrid Cold Storage System**
- **Operation of Cold Storage system - Experimental demonstration**

Who can apply?

Industrial People, wholesale retailer, farmers, faculties, research scholars from Govt. /Aided Self-Financing Engineering colleges and other institutions.

***No Registration Fee**

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Registration Form

1.Name :

2.Qualification :

3.Designation &
Department :

4.Experience :

5.Organization :

6.Communication
Address :

7.Contact Number :

8.Email :

Signature of the Applicant

Signature of sponsoring authority with seal