

# MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE (UGC - AUTONOMOUS)

## Report on Guest Lecture on "State of the Art Silicon Photovoltaic Technology" Organized by Dept. of EEE 21 February 2015



**Submitted by:** Mr. A. Srinivasulu, Assistant Professor, Department of Electrical & electronics Engineering

A Guest lecture on the topic "State of the Art Silicon Photovoltaic Technology" was conducted by the **DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING, MITS, Madanapalle** under **TEQIP- II** on 21/02/2015. The resource person was **Dr.A.KARTHIGEYAN** Asst. Professor (S.G) Dept. of Nano Technology, SRM University, Chennai.

The programme started with an inaugural session at 10:00 AM in which the HoD of EEE Department Dr.K.V.R.B.Prasad gave opening remarks about the event. Dr. Kamal Basha, Assoc.Prof expressed about the importance of the topic, research in this area and advised the students to make use of this of the program. Later the event Anchor miss L.Jayasree introduced the Resource Person to the gathering, later Resource person briefly spoken about the topic and scope of the research in this area.

In the first session of the day the resource person had given the valuable information regarding the current situation in the field of photovoltaics technology in INDIA as well as around the World . The speaker gave an important basics information in this photovoltaics. He focussed mainly on Solar Energy as a substitute for conventional sources of energy. He explained the energy scenario in world with emphasis on India. With good examples the resource person explained the energy generation and distribution and utilization of developing and developed countries. He gave brief idea about solar parks around the world today. And about the solar panels installations roof top installation for both household and for commercial buildings, He had presented the statistics about different renewable energy sources like wind, solar cells, etc. And the availability of fossil fuels in coming years. Besides that he also discussed about the cost comparison of energy sources 2015 followed by types of photovoltaics systems, solar insulation and mainly he stressed on the topics like basics of solar cell

Principles of Photovoltaics, basics of semi conductors, types of solar cells like single crystalline, multi crystalline, thin films, and space solar cells. And about p-n junction diodes and its operating conditions and characteristics of solar cell, their ends the first session.

In the second session he briefed about the first generation, second and third generation of photovoltaic's systems. He talked about the requirements of materials used in solar cells. He emphasised that the government is providing soft loans and subsidies for investments in the area of renewable energy sources. He later explained the energy loss and electrical resistance, and reducing reflection by texturing and process of light trapping and ideal solar cell. He also briefly explained about silicon wafer solar cell technology and standard test conditions

Finally he concluded the session with brief discussion on photovoltaic technology and the job opportunities outside.