

Mechanical Department

20<sup>th</sup> December, 2014

SMT. S. R. PATEL ENGINEERING COLLEGE

# One Day National Seminar Report

## One Day National Seminar on “Futuristic Innovations on Solar Energy”

### Objectives:

To get the knowledge of recent work going on in the world of solar energy.

Enrichment of the project work that could be possible in the world of solar which can help to solve the future energy demand.

To know the more ideas to use solar generated Electricity to use in household by micro grid.

### Speakers:

Dr. T. Harinarayana  
Director, Gujarat Energy Research & Management Institute, Gandhinagar

Dr. Sagar Agravat  
Scientist, GERMI, Gandhinagar

Dr. Indrajeet Mukhopadhyay  
Professor, School of Solar Energy, Gandhinagar

Mr. Piyush Patel  
Head CHP & Solar, Thermax Limited, Pune

Prof. Hitesh Panchal  
Assistant Professor, GPERI.



Organized by

GUJARAT POWER ENGINEERING &amp; RESEARCH INSTITUTE



### DETAIL OF SEMINAR

After the registration and high tea the Inauguration function was started at 09:30 am. This is contained of welcome address, prayer, floral welcome, Introduction about Institute and this National Seminar.

Session 1:

**Keynote Address** by Dr. T. Harinarayana

In this session Expert throw light on the energy scenario in India in current days and also explain the futuristic demand of the electricity and how it could be critical. He also show some solution ‘Two Later Panel’ which reduce the area required by solar panel which will reduce the cost of land for solar power plant. The Other innovative ideas like ‘Solar National Highways’, ‘Use of Agricultural Land’ for power generation, ‘Doing Research According to Industrial Demand’ etc.



***“Micro-Grid for rural electrification in India: Issues and Challenges”*** by Dr. Sagar Agravat

Dr. Agrawat Explained that how people can solve the Energy crisis by adopting the micro grid in to their life like using the solar panel operated Submersible pumps that can be helpful for Irrigation, Use of PV panel to generate Electricity for sustaining the primary load of our day to day Demand . He explained the component of this micro grid system and also Challenges Associated with this field when want to apply in rural area of our country.



***“Innovation for Solar Energy Conversion in Near Future”*** by Dr. Indrajeet Mukhopadhyay

Dr. Indra jeet explained about the demand of revolution in the field of solar PV panels and the problems related to its efficiency which is affected by its dust particle deposition , its low efficiency during peak radiation hours. HE also introduce the concept of ‘3-D Solar cell’ designed to maximize the conversion of sunlight into electricity. We have developed two breakthrough features in our single wafer silicon solar cell that we believe will deliver benefits that have eluded the solar industry to date.



***“Developments in Solar thermal based air- conditioning”***

by Mr. Piyush Patel

Expert that one third of energy consumption is to run the Air conditioning equipment in the developed countries. This great energy consumption can be solved by providing them the solar assisted or operated air conditioning devices. He explained how the Double Effect and triple effect plant is working which is produced by the Thermex. He also explained that how this can be helpful to solve air conditioning equipment an dhow Thermex is working on it to make it more energy efficient.



***“Solar still: Issues and Challenges”*** by Hitesh Panchal

Expert explained the basic working principle of the solar still to produced the distilled water using the solar energy. He explained how it could be redesigned to generate more water applying the principle of multi effect passive as well as active heating to generate more distilled water. He also explained the challenges associated with such solar still.



At end of the day there was a Valedictory Function and Certificate Distribution and participants experience sharing which are really positive from all of them.

**Participated & Submitted By:**

Prof. Vinod P Rajput

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Smt. S. R. Patel Engineering College, Dabhi