

## **CENTRE FOR RESEARCH ON ENERGY AND ENVIRONMENT (CREE)**

Economic growth and prosperity of any country is essentially determined by the quantity and quality of energy used. Energy crisis and environmental degradation are the two future challenges to be tackled worldwide. Nearly 70% of the world energy demand is met through fossil based fuels. Due to its depleting nature and emission characteristics, increased attention is being given to renewable and green energy sources like solar, wind, hydel, tidal, wave, biomass etc. Active research on the development and harnessing of energy from renewable sources is going on throughout the world. Realizing the need for energy and environmental related research activities, a separate Centre for Research on Energy and Environment has been created in our College to focus attention on the various aspects of energy and environmental research activities. Already some research activities related to energy and environment is underway by different departments of the college. This centre focuses attention on consolidating the efforts taken already and further exploring the possibilities of continued research on promoting renewable energy and ensuring environmental quality. The centre is headed by Dr. Nafeesa K, in charge of the centre.

*Name: Dr. Nafeesa. K, Professor EEE Department, Centre in Charge of Centre for Research on Energy and Environment (CREE), Office Number:0494-3051239, E-Mail:nafeesakm@gmail.com*

### **Members**

1. Mr. Vijilesh Krishnan, Assistant Professor, Department of AEI
2. Ms. Jayasree T K, Assistant Professor, Department of Arch.
3. Mr. Mohamed Suhail, Assistant Professor, Department of CE
4. Ms. Neena Susan Alex, Assistant Professor, Department of CSE
5. Mr. Prasanth G, Assistant Professor, Department of ECE
6. Ms. Sajina M K, Assistant Professor, Department of EEE
7. Mr. Shiju Kumar P S, Assistant Professor, Department of IT
8. Mr. Sinith P, Assistant Professor, Department of ME
9. Mr. Jabir Abdul Jabbar, Assistant Professor, Department of MBA
10. Ms. Sabeena S, Assistant Professor, Department of MCA
11. Mr. Anoop K, Assistant Professor, Department of EEE

## Activities of the Centre in 2015-16

1. Sanction was accorded to form Centre for Research on Energy and Environment (CREE) on 01.04.2015.
2. A talk on E – Waste Management was conducted on 15.12.2015 at MCA Seminar Hall. Resource Person : Mr. Kabeer B Haroon (MD, Clean Kerala Company Ltd).
3. A detailed proposal of Rain Water Harvesting Project in the EC and ME block of the college was submitted to reduce pumping of water during rainy season to the existing tank. The excess water will be recharged to the well situated near the EC block. The work is in progress.
4. CREE organized an “Innovative Idea Competition” & “Project Competition”. Theme was “ Energy – Environment & Sustainability” in association with AEEE on 29.02.2016, at EEE Seminar Hall of MESCE Kuttippuram. This programme was sponsored by Kerala State Council for Science Technology and Environment (KSCSTE).

Winners of the competition are

### Idea Competition

1 <sup>st</sup> Prize	EFFICIENCY IMPROVEMENT TECHNIQUE FOR ELECTRIC SCOOTERS BY SELF CHARGING	VIMAL GOVIND M K,	S8 ME
2 <sup>nd</sup> Prize	ECO FRIENDLY AIR CONDITIONING	ALI RASHID,	S4 ME
3 <sup>rd</sup> Prize	LPG MONITORING SYSTEM	ANJANA SURENDRAN MURSHIDA T K MOHAMMED FAYIS AZIYA M SALI	S6 AEI

### Project Competition

	Name of Student	Guide	Class	Topic
1 <sup>st</sup> Prize	ADEEP AFSAL K V DARVISH IQBAL AMEEN MOHAMMED AFSAL A H	Mr. LABEEB M	S8,EEE	AUTOMATED ELECTRIC GUIDED VEHICLE
2 <sup>nd</sup> Prize	AATHIRA M T HARITHA E H RAMEEZ A R SURYA RAGHUNTH CHARUHAS MELOTH	Mr. WAJEESH MOHAMMED T P	S8,CE	EFFECT OF NATURAL AND SYNTHETIC FIBRES ON THE STRENGTH CHARACTERISTICS OF FINE GRAINED SOIL

3 <sup>rd</sup> Prize	SHAHANAS M N RIBISHIN SHABNAM MRUDULA K M A M MUHSIN ASHREF ABDULLAH M	Dr. NAFEESA K	S8,EEE	SOLAR HYBRID ELECTRIC VEHICLE
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5. Project proposals of the winners of Idea competition conducted by CREE in association with KSCSTE was submitted to IEI for funding. First prize winner with the topic "Efficiency Improvement Technique for Electric Scooters by Self Charging" by Vimal Govind (Guide -Padmakumar , AP, ME Dept,) has been shortlisted by IEI for grant-in-aid of Rs. 37,700/- in the financial year 2015-16.
6. National Technology Day Celebration 2015, sponsored by Kerala State Council for Science Technology and Environment was conducted on 13<sup>th</sup> June 2015.  
Chief Guest : Dr. M Jayaraju, Former Director of ANERT
7. CREE organized a Seminar on “ Prospects of Renewable Energy for Young Engineers” by Dr. Nikhil P G , Senior Research Scientist (Solar), National Institute of Solar Energy, Gurgaon, New Delhi on 30.09.2015, at College Auditorium in association with EECC.
8. Project Proposal for E – Waste Management of MESCE is submitted to clean Kerala private limited and they agreed to collect the E-waste of MESCE for processing..
9. Student Project “ Hybrid Solar Electric Vehicle” was selected for funding by Energy Management Centre, Kerala.
10. Two day National Workshop on “Innovations in Renewable Energy for Sustainable Development” on 4<sup>th</sup> and 5<sup>th</sup> February 2016. It was funded by Energy Management Centre Kerala. The details of the Programme is as follows.

**Day - 1:- 04/02/2016 (Thursday)**

10.45-12.15PM	SESSION 1 <b>“Energy Conservation &amp; Management”</b>	<b>Dr. R Harikumar</b> Head , Education & Training Division Energy Management Centre, Govt of Kerala
1.30-2.30PM	SESSION 2 <b>“Solar Cell- A New Approach”</b>	<b>Dr. Safakath Karuthedath</b> Madrid Institute of Advanced Studies Nanoscience. Madrid, Spain
2.45-4.30PM	SESSION 3 <b>“Integration of Renewable Energy Generations”</b>	<b>Dr. Sasidharan Sreedharan</b> University of Hawaii, Manoa, USA

### Day – 2:- 05/02/2016 (Friday)

9.30AM-11.00AM	SESSION 4 “Sizing of PV systems: A basic approach”	<b>Dr. Nikhil P. G</b> Senior Research Scientist(Solar), National Institute of Solar Energy(NISE). New Delhi
11.15AM-12.15PM	SESSION 5 “Renewable Energy : Schemes and Programmes of ANERT”	<b>Er. Jayachandran Nair</b> Programme Officer, ANERT
2.00PM-3.15PM	SESSION 6 <b>Hands on Training &amp; Solar Plant Visit</b>	<b>Dr. Nikhil, P. G</b> Senior Research Scientist(Solar), NISE, New Delhi. & <b>Mr. Ismail E. K</b> Asst. Prof., MESCE Kuttippuram

### External Funding Received

1. Funding from Energy Management Centre (EMC) Kerala has received for the student project “Hybrid Solar Electric Vehicle”.
2. Institution of Engineers India (IEI) has funded for the student project Efficiency Enhancement Technique for Electric Scooters by self charging.
3. Kerala State Council for Science Technology and Environment has funded for conducting National Technology Day Celebration 2015.
4. Kerala State Council for Science Technology and Environment (KSCSTE) has funded for conducting “Innovative Idea Competition” & “Project Competition”. With the theme “ Energy – Environment & Sustainability” February 2016.
5. Energy Management Centre (EMC) Kerala has funded for conducting two day National workshop on Innovations in Renewable Energy for Sustainable Development” in February 2016.

### Projects Running

1. Performance Analysis of Hybrid Solar Electric Vehicle
2. Control of stand alone hybrid wind-photovoltaic system with modified boost control

### Activities – 2016- 17

1. Innovative Project (proposals) competition on the topic “Energy Technologies” were conducted on 16<sup>th</sup> Aug.2016 and 31 teams were participated. Selected five proposals were forwarded to “ INNOVATE OF KSCSTE” organized by KTU and KSCSTE.

2. Abhijith A- S5 ME	Hybrid Wave energy Converter
3. Mohd Shad- S3 AEI	Smart Mobile Phone Charger
4. Mhd nasim- S7 AEI	LPG information System
5. Midhul Thomas- S7 CE	Plastic Reuse
6. Anju- S7 AEI	Exhaust gas Monitoring

## 2. SURYAMITRA SKILL DEVELOPMENT PROGRAM

Centre for Research on Energy and Environment (CREE) in association with EEE Dept. is conducting 3 months Suryamitra Skill development Program (Solar PV Technician course) from 10.11.2016 to 10.02.2017. The program is conducted in association with National Institute of Solar Energy (NISE), New Delhi and ANERT. This is a residential program and it is free which includes boarding and lodging. Suryamitra Skill Development Programs is sponsored by Ministry of New & Renewable Energy (MNRE), Govt. of India. An amount of Rs.12.84 Lakhs is sanctioned for the same.

The program was inaugurated on 10.11.2016 by Dr. R Harikumar, Director, ANERT. Dr. K. M Moideen Kutty, HOD, EEE Department welcomed the gathering. Dr. V.H Abdul Salam, Principal, MESCE presided over the function. Dr. Nafeesa K, Program Co-ordinator explained about Suryamitra to the gathering. and Secretary Prof. P. O. J Lebba addressed the gathering. Mr.Jayachandran (Program Officer, ANERT), Dr. K.P. Mohammed (Director, MESCE), Dr. Mohamed Bedeuzzaman (Vice-Principal, MESCE), Prof. C.P Muhammed (HoD ME and Chairman ECS Malappuram Chapter), Dr. Sasidharan Sreedaran, HoD CSE has given the felicitation. The Program concluded by the vote of thanks of Mr. Vijilesh

Krishnan, AEI Department coordinator of CREE.