

FACULTY PROJECTS

TITLE : **POWER ELECTRONICS FOR GREEN ENERGY**

FUNDING AGENCY : **AICTE**

SCHEME : **SDP**

INVESTIGATOR : **Dr. V. JAMUNA**

Shortage of Electricity generation capacity has paved the way towards green and clean energy. Solar Powered Electrification, Hybrid power (wind and solar) generation have become popular these days. This training programme is aimed to make all young Engineering Professionals to understand how Renewable Energy Sources can help to save planet earth.

The participants will be given hands of experience on Green Energy business Exchange and various ACTs and Policies involved in Green Energy. This Program will be eye opener for the research scholar to identify the current status and research work in the field of Green energy. This program was successfully completed during 15th to 27th April 2013



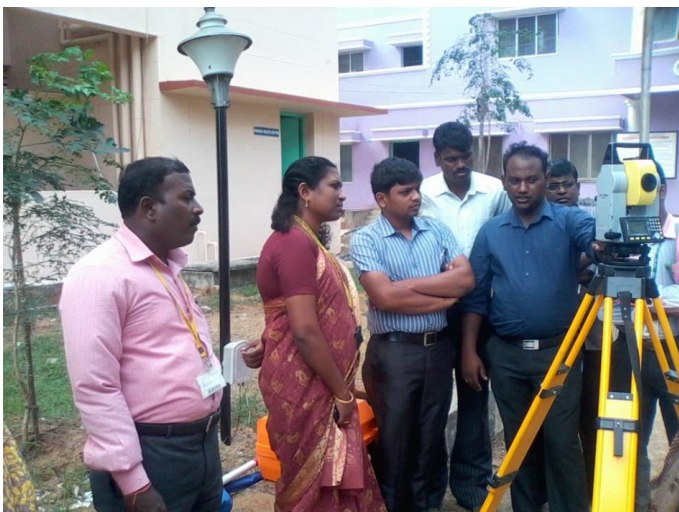
TITLE: : **MODERNISATION OF DRIVES LABORATORY**
FUNDING AGENCY : **AICTE**
SCHEME : **MODROBS**
INVESTIGATOR : **Dr. S .RAMA REDDY**

There is a need for special machine like Linear Induction motor and DSP processor. The present lab does not have the above drive. Induction and synchronous motors are out-dated. Therefore the drives lab needs the modernization.



TITLE : **MODERNISATION OF SURVEY LABORATORY**
FUNDING AGENCY : **AICTE**
SCHEME : **MODROBS**
INVESTIGATOR : **Dr. S. ANNE LIGORIA AND Ms. J. BENITTA**

Present requirement of Survey Lab proposal helps to conduct foundation marking with total station equipment and plotting the traverse with latitude & longitude derived from the GPS unit with high accuracy and it gives fast reliable data. This type of latest technology development can be demonstrated to the students.



TITLE : **MODERNISATION OF ADVANCED COMPUTER GRAPHICS LABORATORY**
FUNDING AGENCY : **AICTE**
SCHEME : **MODROBS**
INVESTIGATOR : **Ms. MARYKUTTY CYRIAC**

To impart additional knowledge on animation approach and to increase the scope of old experiments. This helps to demonstrate the computer based animation software and web based real time projects to students.



TITLE : **MATRIX CONVERTERS APPLIED TO WIND ENERGY CONVERSION SYSTEM**
FUNDING AGENCY : **AICTE**
SCHEME : **RPS**
INVESTIGATOR : **Dr.S.RAMA REDDY AND Dr.V.JAMUNA**

Basic idea is to formulate a strategy to use Matrix converter for low and medium power wind energy conversion systems (WECS). The Z-source matrix converter topology is preferred to buck and boost the voltage with step change in frequency. As the commutation problems in the conventional nine-bidirectional switch matrix converter topology impairs its performance in industrial applications, an improved topology which does not have any commutation problems will be developed for the system. With a view to avoid the harmonic distortion, equal PWM based safe commutation strategy will be employed. By interfacing the matrix converter with the induction generator, the wind turbine operates at maximum power for all the wind velocities. The proposed scheme will also control the powerfactor to the expected restraint. This proposed system is expected to be simple, cheaper and reliable.

TITLE : **INSPIRE INTERNSHIP PROGRAM**
FUNDING AGENCY : **DST**
SCHEME : **INSPIRE INTERNSHIP**
INVESTIGATOR : **Dr. C.ANBALAGAN**

“Motivating talented youth to take-up research as a personal understanding” by rubbing shoulders with global icons of science including Nobel Prize winners, is the objective of

INSPIRE intern ship. This component of program aims at working as a lifelong catalyzing experience for the 11th graders in science stream.



TITLE : **NEURO – FEEDBACK TRAINING FOR EILDERLY PERSONS WITH PARKINSON’S DISEASE AND INCREASED STRESS LEVEL**

FUNDING AGENCY : **DST**
SCHEME : **SEED DIVISION**
INVESTIGATOR : **Dr. M. KALAIVANI**

Objective: The project aims at improving the cognitive functions of elderly who are under the influence of Parkinson’s and increased visual environment thereby increasing their concentration level.

TITLE : **SOLAR POWERED VOICE CONTROLLED WHEELCHAIR FOR QUADRAPLEGIC**

FUNDING AGENCY : **DST**
SCHEME : **SEED DIVISION**
INVESTIGATOR : **Dr. M. KALAIVANI**

Objective: To extend support for paraplegia/quadruplegia patients by providing them with a wheel chair that operates on **voice commands and with the aid of joystick**. The wheel chair can be charges with solar energy. The major role of this product is to bring about a sense of independency with disabled patients. It will be an excellent aid for the elderly/Physically challenged/ Cerebral Palsy/ Quadriplegia people to move independently.

TITLE : **PREDICTION OF COCHLEAR OUTCOME USING CROSS-MODALITY ANALYSIS**

FUNDING AGENCY : **DST**
SCHEME : **CSI DIVISION**
INVESTIGATOR : **Dr. M. KALAIVANI**

Objective: To predict the cochlear outcome by analyzing cross modal existence in brain, before going for implantation. This analysis is to be done with the evoked potential analysis.

TITLE : **A FRAMEWORK FOR ONTOLOGY IN PROGRAMMING LANGUAGE**
FUNDING AGENCY : **CSIR**
SCHEME : **NATIONAL CONFERENCE**
INVESTIGATOR : **Dr. C. R. RENE ROBIN**

As most of the programming languages provides only single programming paradigm, most of software developers need to mix and match different paradigms, which typically lead to impedance mismatch. To avoid this it is essential to develop a system which supports multi programming paradigm. The proposed system is developed using integration of ontology paradigm in a programming language called Closure which already having multiple programming techniques like functional, object oriented, concurrency. The basic approach used for integrating the systems is metaprogramming. This will craft and will process languages for creating, modifying, adapting, adjusting, and otherwise transforming other program. The implementation of ontology paradigm is theoretical based on description logics, which are formalisms for representing knowledge. The developed system, one can represent the semantics of complex business process through ontology.

TITLE : **MOBILE AND PERVASIVE COMPUTING**
FUNDING AGENCY : **ISTE- SRM**
SCHEME : **STTP**
INVESTIGATOR : **Mr.A.Vijayakumar**

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STUDENT PROJECTS

TITLE : **IMPLEMENTATION OF ONTOLOGY IN INTELLIGENT E-LEARNING SYSTEM DEVELOPMENT BASED ON SEMANTIC WEB**

FUNDING AGENCY : **TNSCST**

SCHEME : **STUDENT PROJECTS**

INVESTIGATOR : **Ms. R.I. MINU, P. SAHANA, S. RAMKANNAN, P. SARAVANAN**

Objective: It is visualized that Ontologies and Semantic Web technologies will influence the next generation of E-learning environment. Ontology provides flexible educational platform architecture for E-learning environment. The success of the Semantic Web depends on the procreation of Ontologies. In general, Ontology based Learning supports the construction of Ontologies by an ontology engineer. It takes over the ability to act in a genuinely intelligent manner by assessing the learners initially and providing personalized suggestions to the learners indicating their strength and weaknesses. This ontology learning framework proceeds through ontology importing, extracting, pruning, refinement and evaluating giving the ontology engineer a wealth of coordinated tools for ontology modeling. This tool has been developed with the view of providing software based training to potential engineers and educating them. We introduce our ontology model and propose an effective method for enhancing learning effect of students through construction of subject ontology. This paper focuses on the development of ontology-based E-learning support system which allows learners to build dynamic learning paths. We also present an approach for developing a Semantic Web-based intelligent E-learning support system, which focus on the Web Ontology Language RDF and OWL. Additionally an automated and an intelligent e-learning service system have been developed.

TITLE : **INTELLIGENT POWER GRID DISTRIBUTION SYSTEM**

FUNDING AGENCY : **TNSCST**

SCHEME : **STUDENT PROJECTS**

INVESTIGATOR : **Dr.P.SANKAR, N.AKASH, R.KARTHIKEYAN, AND B.KHISHORE SELVAKUMAR**

Automated distribution of power from various available grid is expected to be an integral part of the modern energy distribution setup. The aim of such a setup is to provide continuous power irrespective of the failure of the grid. The implementation necessitates automation of the whole grid both at the distribution centre and also at the customer premises. This ensures that the consumption details are continuously updated to the data management system of the energy provider and potentially information in the other direction. This project describes a solution for power distribution by consuming the power from the neighboring areas supplied by different grids during power failures. An additional feature is added along with this to facilitate the consumer by providing a small LCD display which indicates the power shutdown.