



e-power News Letter

Under EGNITE Forum

MESSAGES



I am glad to note that the Department of EEE is going to bring out the News Letter comprising of all the activities of the Department. This is the first of its kind done in the Department.

I am glad that the department is doing a very good job in arranging industrial visits to Varahi and Shivanasamudra. I am glad to know that the Department is arranging MOU's with different Companies.

I am glad to mention that under the leadership of Prof. T G Manjunath, HOD, the Department is doing a wonderful job. Please try to continue the same trend.

Wishing all the best

Prof. M R HOLLA Director, SVIT

I am extremely happy to know that the Department of EEE is bringing out its first volume of newsletter & this is an ongoing process portraying the various Departmental activities. It is great to find a considerable number of achievements in academic and non academic activities which certainly prove that our staff and students are adequately equipped and possess necessary skill-sets to bring laurels to the institution. I wish that this number may grow in the years to come.

My Congratulations to "e-power" team.

Dr. RAMESH BABU H S principal, SVIT



It is heartening to know that the Department of Electrical and Electronics has taken an initiative to bring out the News Letter which will Exhibit the talents of students & faculty of the Department. I wish them very best in their future Endeavors.

I wish good luck.

Prof. R C SHANMUKHA SWAMY Trustee, Professor & Dean (Administration)

Greetings! It is with immense pride that our Department is bringing out the very first issue of News Letter "e-power" which will become pioneer in our Institution. I sincerely hope this will Enlighten & Electrify our Engineers to upgrade and keep themselves abreast of the happenings in our Department. I would like to thank Principal and Management for their continuous support. I congratulate everyone for their being theme and substance for the contents of the "e-power" and Wishing all the best.

Prof. T G MANJUNATH HOD, EEE



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VISION

To attain center of excellence in Electrical and Electronics Engineering and contribute professional Engineers.

MISSION

Impart high quality education with a focus on fundamentals and practical applications of Electrical and Electronics Engineering concepts.

Inculcate professional knowledge on recent trends in Electrical and Electronics Engineering through Industry - Academic interactions and training.

PEO'S

PEO 1- To provide a strong foundation in Electrical and Electronics Engineering fundamentals to understand and analyze with an intent to design and develop products / applications to address practical issues.

PEO 2- To inculcate ethical attitude, effective communication skills, leadership qualities and team spirit for a successful professional career with concern for society.

PEO 3- To encourage professional development and higher learning through training and research activities.

PROGRAM OUTCOMES

PO1 : Apply the knowledge of mathematics science engineering fundamentals and engineering specialization to the solution of complex engineering problems.

PO2 : Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusion using first principles of mathematics natural science and engineering science

PO3 : Design solution for complex engineering problems and design system components are processed that meet the specified needs with appropriate consideration for the public health and safety and the cultural, societal, and environmental considerations.

PO4 : Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5 : Create, select and apply appropriate techniques resource and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6 : Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7: Understand the impact of the professional engineering solutions in societal and environmental contest and demonstrate the knowledge of and need for sustainable development.

PO8: Apply ethical principles and commit to professional ethics and responsibility and norms of the engineering practice.

ACTIVITIES TAKEN PLACE IN THE DEPARTMENT

1. Skill development program on **RENEWABLE ENERGY SOURCES AND GRID INTEGRATION** by NATIONAL POWER TRAINING INSTITUTE (under ministry of power, Govt. of INDIA) was organized for 8th semester students for a period of 21 days from 21st January to 15th February 2019.



2. A one week, Skill development program on **ELECTRIC MOTORS** at FOREMEN TRAINING INSTITUTE (NSDC) Govt. of Karnataka was organized for 4th sem students from 29th April to 6th may 2019.



3. 4-day student development program was organized for students of 6th and 8th semester on "**VIRTUAL INSTRUMENTATION & GRAPHICAL PROGRAMMING in Electrical and Electronic Systems**" using NATIONAL INSTRUMENTS LABVIEW (**NI Labview**) from 30th January to 2nd February 2019.

4. 4 day workshop on "**PLC – SCADA & HMI** " for final year students during 1st to 4th August 2018, in association with Prolific Systems and Technologies Pvt Ltd (Authorized training partner NSDC, Govt., of India).



ACTIVITIES TAKEN PLACE IN THE DEPARTMENT

5. 3 day Training program on ARM PROCESSORS AND MICROCONTROLLERS for 6th semester students.



6. 3-day workshop on ELECTRICAL SWITCHGEAR and ITS APPLICATION for final year students by UNIVERSAL POWER CONTROLS (DBSONS) from 25th to 27 February, 2019 .



7. Regular Industrial visits to 33/11KV SUBSTATIONS , KAVIKA (transformer manufacturer), SHARAVATHI AND VARAHI HYDEL POWER PLANT and KAIGA NUCLEAR POWER PLANT.



8. Mini projects were done by 6th semester students on ARM PROCESSORS.



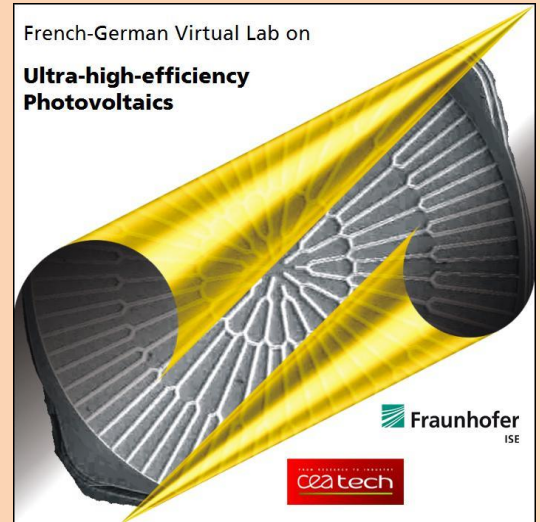
RECENT INVENTIONS IN ELECTRICAL INDUSTRY

Electrical engineers are at the forefront of some of today's most important innovations. Whether working for the private sector, government, or major research institutes, electrical engineers are always pushing the boundaries of the possible. Recently, they've contributed to huge strides in energy efficiency, mobile technology, accessibility, transportation, telecommunication, and much more. Let's take a look at some of the most exciting new ideas in the field.

High Efficiency Photovoltaic Cells

One of the enduring challenges of modern electrical engineering is to find an implementation of photovoltaic

Technology that is efficient, effective under varying operating conditions, and highly resistant to damage – while not being cost-prohibitive. Different engineering approaches have been used to raise collection and distribution Efficiency, though perovskite-based cells have recently captured the most attention at major research facilities.

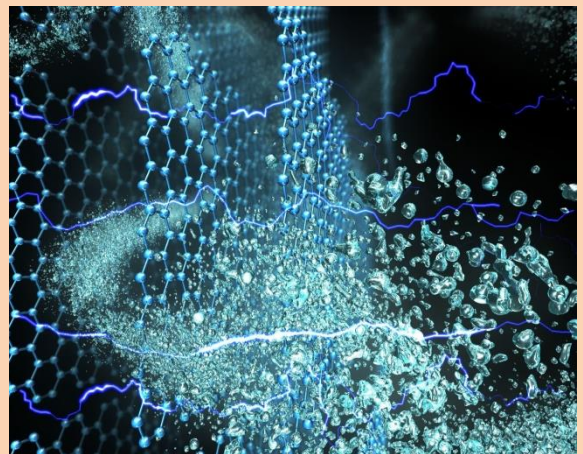


Graphene

As electrical engineers reach the performance constraints caused by the fundamental properties of matter, advances in materials science become essential. Graphene is perhaps the most important recent innovation. Graphene consists of a single layer of carbon atoms one million times thinner than paper.

It's so thin that it is actually considered two-dimensional.

Graphene's unique characteristics make it the strongest known material on Earth. It can stretch by 20%, making it as pliable as rubber. It will provide immense gains in battery life for portable devices and is uniquely well-suited for wearable technology that collects biometric information from the user. In short, it may be essential to the future of electrical engineering.



Personal Flying Cars



People – engineers and others – have been thinking about flying cars since *The Jetsons*. Now, a private U.S. firm called Terrafugia is tackling the engineering challenges necessary to deliver a personal flying craft that offers the control and safety required for regular civilian use. It calls its flagship product *The Transition*, which combines driving and flying in a single vehicle.

To create a commercially viable dual-use vehicle, Terrafugia has had to combine best practices in automotive technology and aeronautics. This includes a number of innovations of keen interest to electrical engineers, including an engine that successfully powers both the rear wheels and the propeller using unleaded gasoline. It also incorporates advanced carbon fiber construction.

ION thruster

It comes as no surprise *Star Trek* was a defining force in inspiring thousands of people around the world to develop and pursue an interest in engineering. One of the engineering challenges presented by that vision of the future was this: What kind of novel propulsion technology would be necessary to allow manned spaceflight to distant worlds?

NASA and others have been working on the prototype ion engine for years, envisioning a way to carry large amounts of supplies and equipment through space. It uses solar power as a charging mechanism and expels xenon gas. Electrons from the solar panel will be trapped in a magnetic field and then used to ionize the xenon propellant for total thrust of 13kW.

