Vardhaman College of Engineering

Department of Electrical and Electronics Engineering

Newsletter

Volume 10, Issue 1
July 2015 – December 2015

About the Department

The Department of Electrical & Electronics Engineering was established in 2002 with an intake of 60 and the number was increased to 90 in 2009 and to 120 in 2014. The department is also offering M. Tech. (Power Electronics & Electrical Drives) with an intake of 18 from the academic year 2008 – 2009. This program has been accredited by the National Board of Accreditation (NBA) till the year 2018.The department has very well-established Air-Conditioned Laboratories with sophisticated equipment supplementing the academic needs of the students.

Vision of the Department

Producing professionally competent graduates in the domain of Electrical Engineering to serve the industry/society addressing the challenges.

Mission of the Department

→ Provide professional skills in electrical circuit design and simulation to the students

→ Develop industry institute interface for collaborative research, internship and entrepreneurial skills among the stakeholders

→ Bringing awareness among the students with emerging technologies to meet the dynamic needs of the society

→ Encourage multi-disciplinary activities through research and continuous learning activities.

Program Educational Objectives (PEOs)

→ Graduates will excel to make way to give solutions to real time problems through technical knowledge and operational skills in the field of Electrical Engineering

→ Graduates will demonstrate their ability to acquaint with the ongoing trends in the field of Electrical Engineering to address the needs of the society.

→ Graduates will communicate effectively as team players to cope with building a Prospective career.

→ Graduates of the program will act with Integrity and have inter-personal skills in catering the need based requirements blended with ethics and professionalism.

Program Specific Outcomes (PSOs)

→ PSO1- Conceptualize complex electrical and electronics systems, employ control strategies for power electronics related applications to prioritize societal requirements.

→ PSO2-Design, analyze and create energy efficient and eco-friendly power & energy systems

Participation of Students

S. No.	Name of the student	Event	Organised by and Venue	Nature/Quality of Event
1.	Abhishek Mandal	IRIS-2015	IIM, Indore	National conference
2.	B. Neelavathi	Windows App Development	DevmenIT, Hyderabad	App Development
3.	V. Navya Haritha	Windows App Development	DevmenIT, Hyderabad	App Development
4.	Ch. Naveen Chandra	Windows App Development	DevmenIT, Hyderabad	App Development
5.	VNV. Akhila	Windows App Development	DevmenIT, Hyderabad	App Development
6.	K. Lavanya	Windows App Development	DevmenIT, Hyderabad	App Development
7.	Ch. Harsha Vardhan Reddy	Windows App Development	DevmenIT, Hyderabad	App Development
8.	N. Divya	Windows App Development	DevmenIT, Hyderabad	App Development
9.	Ch. Deepak	Windows App Development	DevmenIT, Hyderabad	App Development
10.	V. Christina Hepsiba	Windows App Development	DevmenIT, Hyderabad	App Development
11.	M. Ashritha	Windows App Development	DevmenIT, Hyderabad	App Development
12.	A. Anurag	Windows App Development	DevmenIT, Hyderabad	App Development
13.	K. Ajay Reddy	Windows App Development	DevmenIT, Hyderabad	App Development
14.	C. Phani Deepak	Windows App Development	DevmenIT, Hyderabad	App Development
15.	Akshay Lathurkar	Windows App Development	DevmenIT, Hyderabad	App Development
16.	D. Kiran Kumar	Windows App Development	DevmenIT, Hyderabad	App Development
17.	Ch. Jagadeesh	Windows App Development	DevmenIT, Hyderabad	App Development
18.	Teja	Windows App Development	DevmenIT, Hyderabad	App Development
19.	Vineeth	Windows App Development	DevmenIT, Hyderabad	App Development
20.	S. Ravi Kumar	Windows App Development	DevmenIT, Hyderabad	App Development
21.	S. Jayasree	Windows App Development	DevmenIT, Hyderabad	App Development
22.	Sridhar	Windows App Development	DevmenIT, Hyderabad	App Development

S. No.	Name of the student	Event	Organised by and Venue	Nature/Quality of Event
23.	P. R. Samanvitha	Windows App Development	DevmenIT, Hyderabad	App Development
24.	Kaushik	Windows App Development	DevmenIT, Hyderabad	App Development
25.	N. Venkatesh Sagar	Windows App Development	DevmenIT, Hyderabad	App Development
26.	G. Manasa	Windows App Development	DevmenIT, Hyderabad	App Development
27.	C. Uday Kiran Reddy	Windows App Development	DevmenIT, Hyderabad	App Development
28.	B.V. Sai Kiran	Windows App Development	DevmenIT, Hyderabad	App Development
29.	A. Shiny	Windows App Development	DevmenIT, Hyderabad	App Development

Industrial Visits

S No	Name of the Industry visited	Address of the Industry visited	No of students	Date
1.	BHEL	Hyderabad	115	19.08.2015

Student Internships

S. No.	Name	Company / Industry	Duration
1.	N. Divya	NTPC, Ramagundam	16-12-15 to 30-12-15
2.	M. Ashritha	NTPC, Ramagundam	16-12-15 to 30-12-15
3.	S. Divya Teja	NTPC, Ramagundam	16-12-15 to 30-12-15

Student Articles

Supercharged Photosynthesis

In December, geneticists announced that they'd made a major advance in engineering rice plants to carry out photosynthesis in a more efficient way—much as corn and many fast-growing weeds do. The advance, by a consortium of 12 laboratories in eight countries, removes a big obstacle from scientists' efforts to dramatically increase the production of rice and, potentially, wheat. It comes at a time when yields of those two crops, which together feed nearly 40 percent of the world, are dangerously leveling off, making it increasingly difficult to meet rapidly growing food demand.

The supercharged process, called C4 photosynthesis, boosts plants' growth by capturing carbon dioxide and concentrating it in specialized cells in the leaves. That allows the photosynthetic process to operate much more efficiently. It's the reason corn and sugarcane grow so productively; if C4 rice ever comes about, it will tower over conventional rice within a few weeks of planting. Researchers calculate that engineering C4 photosynthesis into rice and wheat could increase yields per hectare by roughly 50 percent; alternatively, it would be possible to use far less water and fertilizer to produce the same amount of food.

The December results, achieved by the C4 consortium and led by Paul Quick at the International Rice Research Institute (IRRl) in the Philippines, introduced key C4 photosynthesis genes into a rice plant and showed that it carried out a

rudimentary version of the supercharged photosynthesis process. “It’s the first time we’ve seen evidence of the C4 cycle in rice, so it’s very exciting,” says Thomas Brutnell, a researcher at the Danforth Plant Science Center in St. Louis. Brutnell is part of the C4 Rice Consortium headed by IRRI, which has funding from the Bill & Melinda Gates Foundation, but was not directly involved in the most recent breakthrough.

Despite the genetic changes, the altered rice plants still rely primarily on their usual form of photosynthesis. To get them to switch over completely, researchers need to engineer the plants to produce specialized cells in a precise arrangement: one set of cells to capture the carbon dioxide, surrounding another set of cells that concentrate it. That’s the distinctive wreath anatomy found in the leaves of C4 plants. However, scientists still don’t know all the genes involved in producing these cells and suspect that they could number in the dozens.

New genome editing methods that allow scientists to precisely modify parts of plant genomes could help solve the problem. Using conventional breeding to manipulate more than one or two genes is a “nightmare,” Brutnell says, let alone trying to engineer a plant with dozens of gene changes? Genome editing could make it possible to change a large number of genes easily. Says Brutnell: “Now we have the toolbox to go after this.”

It can be a decade or more before even simple crop modifications reach farmers, let alone changes as complex as reengineering how plants carry out photosynthesis. But once scientists solve the C4 puzzle in a plant such as rice, they hope, the method can be extended to dramatically increase production of many other crops, including wheat, potatoes, tomatoes, apples, and soybeans.

Participation of Faculty in FDP/STTPS/Workshops/Guest Lectures

S. No.	Faculty	Event	Title	Venue
1.	All Faculty	FDP	Advanced Power systems and applications	Vardhaman College of Engineering
2.	Mr K Kalyan Kumar Mr D Srinivasulu Mr V Sarath Babu Mr. K Jyothi Mr R Bhaskar Mr A Rama Krishna	Workshop	MATLAB for Engg Applications	Dr.B.V.Raju Institute Of Technology
3.	Mr B Raja Gopal Reddy	FDP	Real Time Applications in power systems and MATLAB	Vardhaman College of Engineering
4.	Mr V Sarath Babu Ms B Vijaya Lakshmi Ms K C Archana Ms D Pavithra Ms R Madhuri Ms P Mounica	FDP	Real Time Applications in power systems and MATLAB	Vardhaman College of Engineering
5.	Ms S Keerthi Sonam Ms P Harika Ms K Sravanthi	Workshop	SCADA Applications in Power Systems	Vidya Jyothi Institute of Technology
6.	Mr D Srinivasulu, Ms A Manasa Devi Mr U Venkat Reddy Mr B Raja Gopal Reddy Ms K C Archana	STTP/FDP	Trends in Digital and Optimal Control	Vignan Institute of Tech and Science
7.	Dr H S Jain, Dr D Swati, Mr Md Asif	Workshop	Workshop on MATLAB and Simulink	Mathworks Hyderabad

Faculty Research Publications

S. No	Author / Co-author	Title of the Paper	Name of the Journal/ conference	Vol. No / Sl. No / pp / ISSN / ISBN / DOI
1.	B.Raja Gopal Reddy	A New Tuning Rule of Cascade Control Scheme for Processes with Time Delay	2015 Conference on Power, Control, Communication and Computational Technologies for Sustainable Growth	pp. 102-105 ISBN: 978-1-4673-6890-2 DOI:10.1109/PCCCTSG.2015.7503890
2.	B.Raja Gopal Reddy	A Simple Tuning Rule of Cascade Control Scheme for Integrating and Unstable Process with Time Delay	National Conference on Innovations & Design Challenges in Electrical & Medical Electronics	pp. 163-167 ISBN: 978-1-944541-82-8
3.	A.Maanasa Devi, B.Raja Gopal Reddy, Md. Asif	Analysis and Control of Inrush Current for a 33kv Distribution System	International Journal of Research in Engineering and Technology	pp. 16-20, Vol. 04, Issue 12 ISSN: 2319-1163 DOI:10.15623/ijret.2015.0424003
4.	A.Maanasa Devi, B.Raja Gopal Reddy, Md. Asif, S.Keerthi Sonam	Analysis and Control of Inrush Current for a 33kv Distribution System	National Conference on Innovations & Design Challenges in Electrical & Medical Electronics	ISBN: 978-1-944541-82-8
5.	T.C.Srinivasa Rao	Computational Intelligence for Fault Detection in Power Distribution Network Using ANN	International Journal of Engineering and Computer Science	pp. 12244-12249, Vol. 4, No. 5 ISSN: 2319-7242
6.	B.Raja Gopal Reddy	Load Frequency Control of Three-Area Power System Using ABC Tuning Fractional-Order PID Controller	National Conference on Innovations & Design Challenges in Electrical & Medical Electronics	pp. 72-78 ISBN: 978-1-944541-82-8
7.	Md. Asif	Load Voltage and Frequency Regulation in PMSG based Standalone Wind Energy Conversion System	International Journal of Computer Applications	pp. 18-24, Vol. 130, No. 7 ISSN: 0975-8887 DOI:10.5120/ijca2015907012
8.	K.C.Archana	Optimal Operation of an Integrated Power Distribution System Fed with Renewable Energy Sources, Diesel Generation and Battery Storage	Emerging Trends in Electrical, Communications and Information Technologies, Lecture Notes in Electrical Engineering, Springer	pp. 425-432 ISBN: 978-981-10-1540-3 DOI: 10.1007/978-981-10-1540-3_45
9.	C.Bhanu Prasad	Probabilistic Optimal Power Flow with wind energy penetration and integration of storage system	2015 Annual IEEE India Conference (INDICON)	pp. 1-6 ISSN: 2325-9418 DOI:10.1109/indicon.2015.7443552

Mobile Learning

Mobile learning provides "anytime, anywhere" access to content and community, as well as allows for contextual and supplemental learning at given locations (e.g., downloading a museum's app). It literally meets students wherever their phones go. Students of all generations will be able to fit their education to their lifestyle, and the convenience and affordability of mobile devices will facilitate access for all. Ironically, a person's physical location may become a significant part of the enhanced mobile learning experience.

Gamification

The emergence of gamified learning and the application of gaming technologies, such as virtual reality for educational content, will have a significant impact on how people learn. Studies have shown that education is most effective, with respect to understanding and retention, when the learner is engaged in doing, applying what she has learned, and having fun, as is the case with simulations.

Universities are increasingly adopting virtual reality technologies in a variety of ways, from creating school tours for international students to offering difficult-to-deliver lab instruction, like human dissections, in medical schools. Who knew that a generation of young gamers could become the guardians of our future?

Personalization

This is the holy grail of online education, in which technology and design (information architecture, user interface, and so on) combine to create a learning experience tailored to the individual needs of a student. It promises to make education more engaging, improve outcomes, and create efficiencies in educational ecosystems.

Personalized learning that allows for differentiated instruction will have a significant impact in learning environments where there are students with varying degrees of knowledge or skills, such as public school classrooms. Personalized learning can serve as a powerful tool for teachers and students faced with overcrowding, and in so doing, begin to address inequalities between poorer and more affluent school districts.

VIDYUT

Editorial Members

Chief Mentors
Dr. S. Sai Satyanarayana Reddy
Principal

Mr. Md.Asif
Associate Prof / EEE

Editors
Mr. A. Ananda Kumar,
Assistant Professor / EEE

Student Editors
Chaviti Manisha
Manoj Kumar Das
S Nagaraj Goud
Mailarapu Ashritha