



# TRONICALS

VOLUME 1 | ISSUE 1

(PREVIOUSLY THE 'EEE NEWSLETTER')

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING  
NATIONAL INSTITUTE OF TECHNOLOGY TIRUCHIRAPPALLI

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## MESSAGE FROM THE DIRECTOR

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*It's a pleasure to present my views for the biannual EEE magazine for the first time. The EEE Department has always been one of the most active and happening departments of our institute and has brought us a lot of pride over the past. EEE was one of the departments to have been awarded with accreditation for the B.Tech. Programme for 5 years last year – many congratulations for the same. The PG programmes are also going in for accreditation this year, and we hope for the best with respect to that as well. The institute as a whole has been undergoing very drastic reforms in terms of curriculum updation and course structure. The EEE department has taken up these changes readily which we hope will work for the benefit of the students. The new course plans have been applied to some of the senior years in UG apart from the first years as well, and we look forward to the feedback on the same to ensure we're moving on the right path.*



**Dr. Srinivasan Sundarrajan**  
Director, NITT

*The EEE newsletter was a unique and thoughtful initiative by the Association when it was introduced 4 years back, and the expansion of the same into a full-fledged magazine is a very welcome change. It is always good to see the students bring out their creativity and hidden talents in any form and this would be a perfect platform for the students of the department. This would also serve as an apt magazine for the sharing of technical articles by faculty and students from their respective areas of research. Your association has been one of the most active bodies in the institute and I would urge you to keep up the good work. There is still much more you can venture into: like forming of interest groups, social service activities, aid for fellow students, and the like. Please work on these avenues, and I'm sure you can make the association reach greater heights this year. All the very best!*

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## MESSAGE FROM THE HOD (I/C)

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**Dr. K. Sundareswaran**  
HoD, (I/C), EEE

*I am delighted to write a brief message for the 1st issue of 'TRONICALS', which is the new incarnation of the EEE Newsletter of the yesteryears. This periodical – published in every semester – provides a suitable platform for students and faculty members of the EEE department to showcase their creative technical talents in print. This particular issue contains various write-ups such as alumni interviews, internship experiences, short courses conducted by the faculty and a description of the successful accreditation by NBA. I congratulate and thank all the authors of this issue and in particular the editorial board for the successful launch of this periodical. I hope this first issue of 'TRONICALS' will be an enlightening and intellectual treat to all the readers. I convey my good wishes to all the readers.*

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## MESSAGE FROM THE FACULTY ADVISOR

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*On behalf of the Team TRONICALS I wish to extend a warm welcome to the first year students to the EEE family of NITT. It is indeed a great pleasure being the faculty advisor for a 25 year old association of the 50 year old Institute. Garnering the memories and experiences of the past, the students of EEE department have always been instrumental and innovative in every facet of their student life. They are always proactive to any constructional transformation – be it academics or extra-curricular. Now their attempt to transform the NEWSLETTER to TRONICALS the magazine is an eyewitness to it. The EEE Newsletter has been experiencing a paradigm growth in the recent past and is now taking a new shape as a technical magazine adding a new flavour. I appreciate this initiative and wish whole-heartedly that TRONICALS accomplish greater heights and wider reach. With no doubt I aspire that the EEE students to take this Association and the magazine to an elevated horizon. Wishing you a very great and successful venture ahead!*



**Dr. M. Venkata Kirthiga**  
Faculty Advisor, EEEA

# EDITORIAL

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The batch of 2013 embarked on the EEE Newsletter as an initiative to exhibit various activities taking place in the department throughout the year. It brings to light the very quintessence of our department. Since its genesis, the Newsletter has portrayed faculty, alumni and student activities and experiences galore. We owe our success to every single faculty, non- faculty staff and student who have contributed to its evolution.

As we move into the 4th edition, Volume II, we unveil before you "TRONICALS", a bi-annual magazine published by the department of Electrical and Electronics Engineering, NIT Trichy.

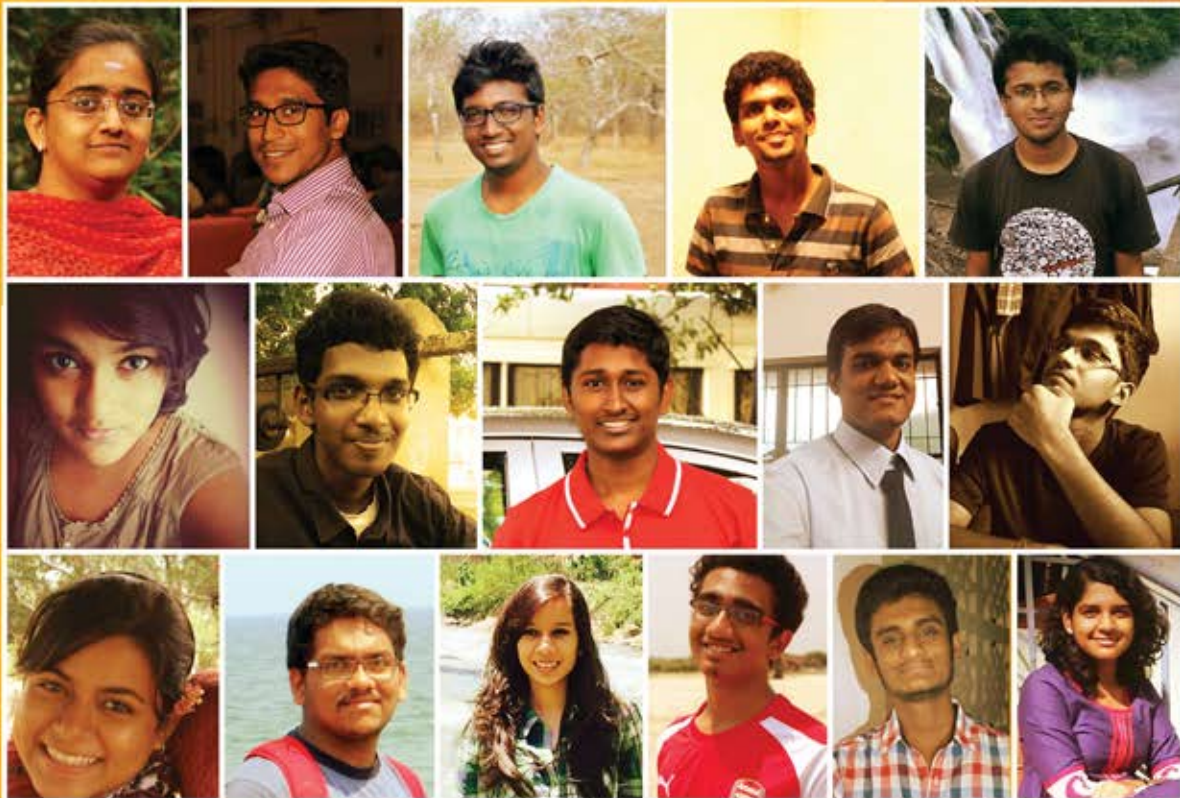
The visit of the NBA and accreditation of our department has metamorphosed the face of the magazine. The redefined program objectives have been rendered in the form of edifying interviews by our alumni who have made their mark in various fields. Articles on students' internships, both in industries and foreign institutes and success stories have been illuminated as well, hoping to stir every aspiring student out there.

With articles to indulge students of each and every year, this version will keep you enamoured with a wide assemblage of enriching experiences and intriguing information. It's the same old story, but with an exciting twist. Stay tuned!

Renu, Chief Editor, Tronicals

## TRONICALS TEAM

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# VISION AND MISSION OF THE DEPARTMENT

## ABOUT:

The Department of Electrical and Electronics Engineering, NIT, Tiruchirappalli was started in the year 1964. It offers one Under-Graduate programme (B.Tech.), two Post-Graduate programmes (M.Tech. in Power Systems and Power Electronics) and also research programmes (M.S. and Ph.D.) in the various fields of Electrical and Electronics Engineering. After the transformation from REC to NIT, the department has grown not only in terms of student and faculty strength, but also in improving the laboratory facilities for the teaching and research purposes. Thus, the department has dedicated and state of the art teaching / research laboratories. The department is recognized for excellence in research (First Department in NIT-T to be accorded QIP status for Ph.D. programme), teaching and service to the profession

The faculty members have strong sense of responsibility to provide the finest possible education for both graduate and undergraduate students. The academic strength of the faculty is reflected by the alumni, many of whom are in the top echelons of industry and academia both in India and abroad.

## VISION:

To be a centre of excellence in Electrical Energy Systems.

## MISSION:

- Empowering students and professionals with state-of-art knowledge and Technological skills.
- Enabling Industries to adopt effective solutions in Energy areas through research and consultancy.
- Evolving appropriate sustainable technologies for rural needs.



# B.TECH. PROGRAMME

## Programme Educational Objectives (PEOs):

The major objectives of the B.Tech. Programme in Electrical and Electronics Engineering are to prepare students:

1. for graduate study in engineering
2. to work in research and development organizations
3. for employment in electrical power industries
4. to acquire job in electronic circuit design and fabrication industries
5. to work in IT and ITES industries.

## Programme Outcomes (POs):

The students who have undergone the B.Tech. Programme in Electrical and Electronics Engineering (EEE):

1. will have an ability to apply knowledge of mathematics and science in EEE systems.
2. will have an ability to provide solutions for EEE problems by designing and conducting experiments, interpreting and analysing data, and reporting the results.
3. will have comprehensive understanding of the entire range of electronic devices, analog and digital circuits with added state-of art knowledge on advanced electronic systems.
4. will have knowledge and exposure on different power electronic circuits and drives for industrial applications.
5. will have in-depth knowledge in transmission and distribution systems, power system analysis and protection systems to pursue a career in the power sector.
6. will have a good knowledge in microprocessors/microcontrollers, data structures, computer programming and simulation software.
7. will be able to develop mathematical modelling, analysis and design of control systems and associated instrumentation for EEE.
8. will be able to systematically carry out projects related to EEE.
9. will have an ability to participate as members in various professional bodies as well as multidisciplinary design teams.
10. will demonstrate the ability to choose and apply appropriate resource management techniques so as to optimally utilize the available resources.
11. will be proficient in English language in both verbal and written forms which will enable them to compete globally.
12. will have confidence to apply engineering solutions with professional, ethical and social responsibilities.
13. will be able to excel in their professional endeavours through self-education.
14. will be able to design and build renewable energy systems for developing clean energy and sustainable technologies.

# M.TECH. IN POWER SYSTEMS:

## Programme Educational Objectives (PEOs):

The major objectives of the M.Tech. Programme in Power Systems are to equip the students with adequate knowledge and skills in Power Systems Engineering and to prepare them for the following career options:

1. research programmes in Power Systems Engineering
2. employment in power research and development organisations
3. to work in electric power industries and energy sectors
4. faculty positions in reputed institutions.

## Programme Outcomes (POs):

A student who has undergone M.Tech. Programme in Power Systems (PS) will:

1. have an ability to evaluate and analyse problems related to Power Systems and be able to synthesise the domain knowledge and incorporate the principles in the state of art systems for further enrichment
2. be able to critically investigate the prevailing complex PS scenarios and arrive at possible solutions independently, by applying the acquired theoretical and practical knowledge
3. be able to solve PS problems such as load flows, state estimation, fault analysis and stability studies
4. be able to develop broad-based economically viable solutions for unit commitment and scheduling
5. be able to identify optimal solutions for improvising power transfer capability, enhancing power quality and reliability
6. be able to evolve new schemes based on literature survey, and propose solutions through appropriate research methodologies, techniques and tools, and also by designing and conducting experiments
7. be able to interpret power system data and work on well-defined projects with well-defined goals to provide real time solutions pertaining to PS
8. be able to develop, choose, learn and apply appropriate techniques, various resources including hardware and IT tools for modern power engineering, including prediction and modelling with an understanding of the limitations
9. be able to develop dedicated software for analysing and evaluating specific power system problems
10. be able to participate in collaborative-multidisciplinary engineering / research tasks and work as a team member in such tasks related to PS domain, giving due consideration to economic and financial intricacies, and lead the team in specific spheres
11. be able to confidently interact with the industrial experts for providing consultancy
12. be able to pursue challenging professional endeavours based on acquired competence and knowledge
13. be a responsible professional with intellectual integrity, code of conduct and ethics of research, being aware of the research outcomes and serve towards the sustainable development of the society
14. be capable of examining critically the outcomes of research and development

# M.TECH. IN POWER ELECTRONICS:

## Programme Educational Objectives (PEOs):

The major objectives of the M.Tech. Programme in Power Electronics are to equip the students with adequate knowledge and skills in Power Electronics and to prepare them for the following career options:

1. research programmes in Power Electronics and related areas
2. employment in R & D organisations related to sustainable technologies
3. to work in power electronic circuit design and fabrication industries
4. faculty positions in reputed institutions.

## Programme Outcomes (POs):

A student who has undergone M.Tech. Programme in Power Electronics (PE) will:

1. have an ability to evaluate and analyse problems related to Power Electronic Systems and incorporate the principles in the state of art systems for further improvement
2. be able to investigate critical PE problems and to arrive at possible solutions independently, by applying theoretical and practical considerations
3. be able to solve PE problems such as switching control, converter design, analysis and control of solid state drives and stability studies
4. be able to develop appropriate power converters for sustainable energy technologies
5. be able to identify optimal solutions for improvising power conversion and transfer capability, enhancing power quality and reliability through PE based solutions
6. be able to evolve new power electronic topologies and control schemes based on literature survey and propose solutions through appropriate research methodologies, techniques and tools, and also by designing and conducting experiments
7. be able to work on small, well-defined projects with particular goals to provide real time solutions pertaining to power electronics
8. be able to develop, choose, learn and apply appropriate techniques, various resources including sophisticated digital controllers and IT tools for modern power electronic system simulation, including prediction and modelling with existing constraints
9. be able to develop dedicated software for analysing and evaluating specific power electronics and control problems
10. be able to participate in collaborative-multidisciplinary engineering / research tasks and work as a team member in such tasks related to PE domain, giving due consideration to ecological and economical intricacies, and lead the team in specific areas
11. be able to confidently interact with the industrial experts for providing consultancy
12. be able to pursue challenging professional endeavours based on acquired competence and knowledge
13. be a responsible professional with intellectual integrity, code of conduct and ethics of research, being aware of the research outcomes and serve towards the sustainable development of the society
14. be capable of examining critically the outcomes of research and development





## JOURNAL PUBLICATIONS

- V. Rama Raju Rudraraju, C. Nagamani, and G. Saravana Ilango. "A Control Scheme for Improving the Efficiency of DFIG at Low Wind Speeds with Fractional Rated Converters." *International Journal of Electrical Power & Energy Systems* 70 (2015): 61-69.
- V. Rama Raju Rudraraju, C. Nagamani, and G. Saravana Ilango. "A Stator Voltage Switching Strategy for Efficient Low Speed Operation Of DFIG Using Fractional Rated Converters." *Renewable Energy* 81 (2015): 389-99.
- C. K. Aravind, G. Saravana Ilango, and C. Nagamani. "A Smooth Co-ordination Control for a Hybrid Autonomous Power System (HAPS) with Battery Energy Storage (BES)." *Frontiers in Energy Front. Energy* 9.1 (2015): 31-42.
- C. K. Aravind, G. Saravana Ilango, C. Nagamani, and M. Jaya Bharata Reddy. "A Control Strategy for Hybrid Autonomous Power System with a Battery Management Scheme." *Electric Power Components and Systems* 43.8-10 (2015): 1159-172.
- C. Nagamani, G. Saravana Ilango, M. Jaya Bharata Reddy, M. A. Asha Rani, and Zachariah Varghese Lakaparampil. "Renewable Power Generation Indian Scenario: A Review." *Electric Power Components and Systems* 43.8-10 (2015): 1205-213.
- P. Srinivasa Rao, P. Dinesh, G. Saravana Ilango, and C. Nagamani. "Positioning of PV Panels for Reduction in Line Losses and Mismatch Losses in PV Array." *Renewable Energy* 78 (2015): 264-75.
- M. M. Rajan Singaravel, and S. Arul Daniel. "Sizing of Hybrid PMSG-PV System for Battery Charging of Electric Vehicles." *Frontiers in Energy Front. Energy* 9.1 (2015): 68-74.
- M. M. Rajan Singaravel, and S. Arul Daniel. "MPPT with Single DC-DC Converter and Inverter for Grid-Connected Hybrid Wind-Driven PMSG-PV System." *IEEE Trans. Ind. Electron. IEEE Transactions on Industrial Electronics* 62.8 (2015): 4849-857.
- K. Sundareswaran, P. Sankar, P. Srinivasa Rao, S. P. Simon, and Sankaran Palani. "Enhanced Energy Output From a PV System Under Partial Shaded Conditions Through Artificial Bee Colony." *IEEE Trans. Sustain. Energy IEEE Transactions on Sustainable Energy* 6.1 (2015): 198-209.
- S. Sreejith, S. P. Simon, and M. P. Selvan. "Analysis of FACTS Devices on Security Constrained Unit Commitment Problem." *International Journal of Electrical Power & Energy Systems* 66 (2015): 280-93.
- K. Sundareswaran, V. Vignesh Kumar, and S. Palani. "Application of a Combined Particle Swarm Optimization and Perturb and Observe Method for MPPT in PV Systems under Partial Shading Conditions." *Renewable Energy* 75 (2015): 308-17.

- K. Sundareswaran, Kevin Ark Kumar, and P. R. Venkateswaran. "Dual Input Autonomous Solar Photovoltaic Powered Motor Drive System for Industrial Applications." *J. Renewable Sustainable Energy Journal of Renewable and Sustainable Energy* 7.1 (2015): 013128.
- P. Gopakumar, M. Jaya Bharata Reddy, and D. K. Mohanta. "Adaptive Fault Identification and Classification Methodology for Smart Power Grids Using Synchronous Phasor Angle Measurements." *IET Generation, Transmission & Distribution* 9.2 (2015): 133-45.
- Deepak Kumar, D. K. Mohanta, and M. Jaya Bharata Reddy. "Intelligent Optimization of Renewable Resource Mixes Incorporating the Effect of Fuel Risk, Fuel Cost and CO2 Emission." *Frontiers in Energy Front. Energy* 9.1 (2015): 91-105.
- P. Gopakumar, D. K. Mohanta, and M. Jaya Bharata Reddy. "Transmission Line Fault Detection and Localisation Methodology Using PMU Measurements." *IET Generation, Transmission & Distribution* 9.11 (2015): 1033-042.
- P. Gopakumar, M. Jaya Bharata Reddy, and D. K. Mohanta. "Fault Detection and Localization Methodology for Self-healing in Smart Power Grids Incorporating Phasor Measurement Units." *Electric Power Components and Systems* 43.6 (2015): 695-710.
- V. Nayanar, N. Kumaresan, and N. Ammasai Gounden. "A Single Sensor Based MPPT Controller for Wind-Driven Induction Generators Supplying DC Microgrid." *IEEE Transactions on Power Electronics* *IEEE Trans. Power Electron.* (2015): 1.
- K. Navin Sam, N. Kumaresan, N. Ammasai Gounden, and Rajesh Katyal. "Analysis and Control of Wind-Driven Stand-Alone Doubly-Fed Induction Generator with Reactive Power Support from Stator and Rotor Side." *Wind Engineering* 39.1 (2015): 97-112.
- D. R. Binu Ben Jose, A. Vasanth, and N. Ammasai Gounden. "Hybrid Power Electronic Controller for Combined Operation of Constant Power and Maximum Power Point Tracking for Single-phase Grid-tied Photovoltaic Systems." *IET Power Electronics* 7.12 (2014): 3007-016.
- D. R. Binu Ben Jose, N. Ammasai Gounden, and Rajesh Vasu. "Power Electronic Interface with Maximum Power Point Tracking Using Line-commutated Inverter for Grid-connected Permanent Magnet Synchronous Generator." *Electric Power Components and Systems* 43.5 (2015): 543-55.
- K. Vijayakumar, N. Kumaresan, and N. Ammasai Gounden. "Speed Sensor-less Maximum Power Point Tracking and Constant Output Power Operation of Wind-driven Wound Rotor Induction Generators." *IET Power Electronics* 8.1 (2015): 33-46.
- Sundareswaran Kinattingal, Sishaj Pulikottil Simon, Ram Jethmalani, Chinasamy Hemparuva, and Srinivasa Rao Nayak Panugothu "Gravitational search algorithm based dynamic economic dispatch by estimating transmission system losses using A-loss coefficients". *Turkish Journal of Electrical Engineering and Computer Sciences*.
- P. Gopakumar, and M. Jaya Bharata Reddy. "A Novel Topological Genetic Algorithm Based PMU Placement and Scheduling Methodology for Enhanced State Estimation." *International Journal on Electric Power Components & Systems*.

## **CONFERENCE PUBLICATIONS**

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- N. Hemavathi, and S. Sudha. "Hardware Realization of Fuzzy Based Cluster Head Selection in Wireless Sensor Networks." International Conference on Electronic Design, Computer Networks & Automated Verification (Jan 2015).
- Shobhit Nagpal, and S. Sudha. "Two Level Fuzzy Based Fire Prediction Scheme Using Wireless Sensor Network." IEEE International Conference on Advances in Computing & Communication Engineering (May 2015).
- Shobhit Nagpal, and S. Sudha. "Design and Development of a Sensor Node to Monitor and Detect Change in Internal Parameters of a Cold Storage System." Global Conference on Communication and Technologies (April 2015).
- V. Sankaranarayanan, Sowmya Ravichandran, and Sowmya Ranjan Sahoo. "Torque-sensor Less Control of Human-electric Hybrid Bicycle." IEEE ICIC (2015).
- Sowmya Ranjan Sahoo, R. M. Brsilla, and V. Sankaranarayanan. "Disturbance Observer Based Adaptive Sliding Mode Control: An Application to Single Machine Infinite Power System." IEEE SPICES (Jan 2015).
- Sowmya Ranjan Sahoo, R. M. Brsilla, and V. Sankaranarayanan. "Stabilization of Single Machine Infinite Bus Power System." First Indian Control Conference (Jan 2015).
- R. M. Brisilla, and V. Sankaranarayanan, "Non-linear control of mobile inverted pendulum." Elsevier, Robotics and Autonomous Systems (Feb 2015).

## **BOOK PUBLICATION**

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- N. P. Padhy, and S. P. Simon, 'Soft Computing: With Matlab Programming', Oxford University Press, 2015.

# CONVOCAATION 2015

## MEDAL WINNERS

The Institute Medal is awarded to the highest CGPA to the student in their respective programme.

ROLL NO.	NAME	CGPA	PROGRAMME
107111029	D. Suzith	9.73	EEE (B.Tech.)
207113008	Aravind Raj A.	9.71	Power Systems (M.Tech.)
207213028	Hasanapuram Priyanka	9.24	Power Electronics (M.Tech.)

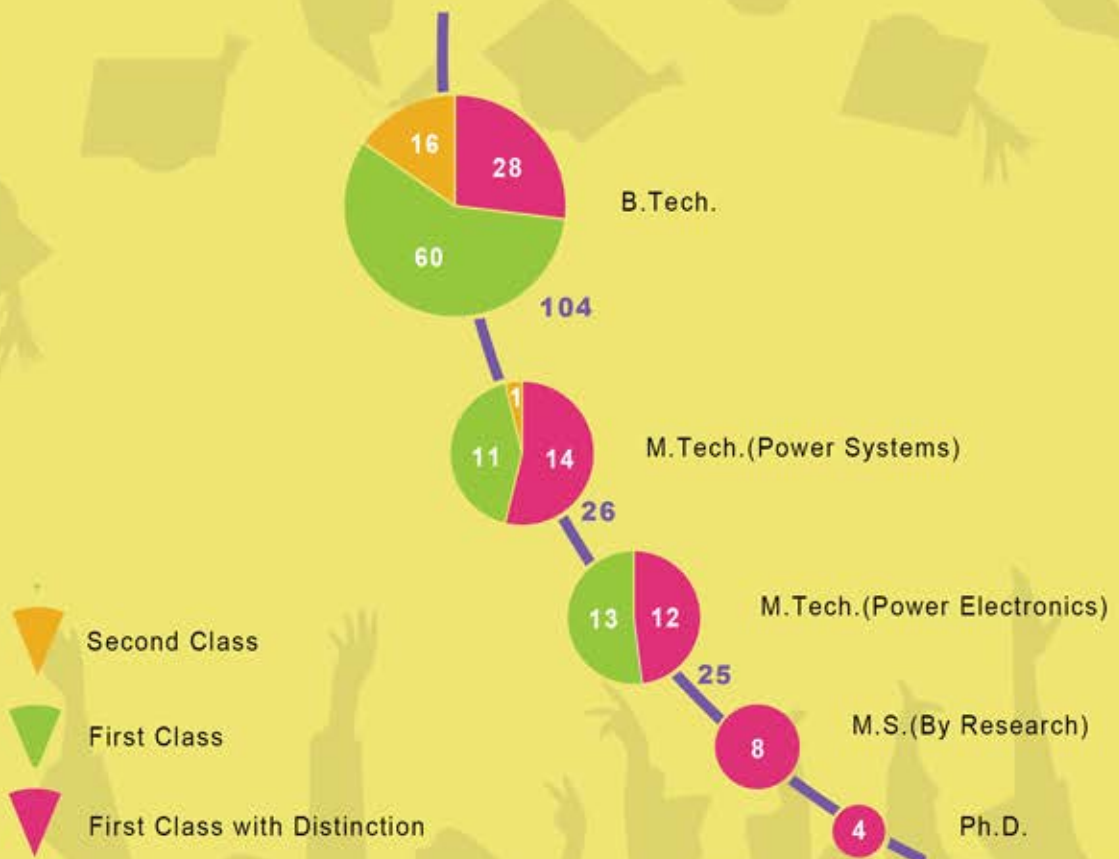
## DOCTORATE AWARDEES(Ph.D.)

S.no.	Names of the Guides	Roll No.	Name	Title of Thesis
1.	Dr. S. Arul Daniel	407109003	PADMAVATHI K	CERTAIN INVESTIGATIONS ON AUTONOMOUS AND GRID CONNECTED SOLAR PV SYSTEMS
2.	Dr. S. Arul Daniel	407110001	RAJAN SINGARAVEL M M	SIZING OF STORAGE AND INVESTIGATIONS ON POWER ELECTRONIC INTERFACES FOR HYBRID WIND-PV ENERGY CONVERSION SYSTEMS
3.	Dr. N. Ammasai Gouden	407110002	D R BINU BEN JOSE	POWER ELECTRONIC INTERFACES FOR SOLAR AND WIND ENERGY CONVERSION SYSTEMS
4.	Dr. G. Saravana Ilango Dr. C. Nagamani	407110051	ARAVIND C K	INVESTIGATION OF CONTROL STRATEGIES FOR AUTONOMOUS AND NON AUTONOMOUS OPERATION OF WIND ENERGY CONVERSION SYSTEMS
5.	Dr. N. Ammasai Gouden	407110052	KRITHIGA S	INVESTIGATION OF CERTAIN POWER ELECTRONIC CONVERTER TOPOLOGIES FOR PHOTOVOLTAIC POWER GENERATION SYSTEMS
6.	Dr. G. Saravana Ilango	407111001	P SRINIVASA RAO	INVESTIGATION OF MODULE INTERCONNECTION SCHEMES AND CONTROL STRATEGIES FOR PHOTOVOLTAIC SYSTEMS
7.	Dr.K.Sundareswaran	407111054	SANKAR PEDDAPATI	DESIGN, IMPLEMENTATION AND ANALYSIS OF A FEW OPTIMIZATION ALGORITHMS FOR MAXIMUM POWER POINT TRACKING IN PV SYSTEMS UNDER PARTIAL SHADED CONDITIONS
8.	Dr. M. Jaya Bharata Reddy	407111003	GOPAKUMAR P	TRANSMISSION LINE FAULT DETECTION, CLASSIFICATION AND LOCALIZATION IN SMART POWER GRIDS USING PHASOR MEASUREMENT UNITS (PMUs)

## M. S. - BY RESEARCH

S.No.	Name of the Guide	Roll Number	Name	Title of thesis
1	Dr. C. Nagamani	307111051	NIKHILESH PRASANNAKUMAR	SENSORLESS SPEED ESTIMATION ALGORITHMS FOR SQUIRREL CAGE INDUCTION MACHINES
2	Dr. S. Moorthi	307111052	ADITYA S	LOW-NOISE LOW-POWER PHASE LOCKED LOOP DESIGN FOR CLOCK REGENERATION
3	Dr.K.Sundareswaran	307112001	KIRANKUMAR KURUVINASHETTI	MODELLING AND CONTROL OF DUAL INPUT DC-DC CONVERTERS
4	Dr.V.Sankaranarayan	307112051	SOUMYA RANJAN SAHOO	DISTURBANCE OBSERVER BASED ADAPTIVE SLIDING MODE CONTROL: APPLICATION TO SMIB POWER SYSTEM

## GRADUATION IN NUMBERS



# NBA ACCREDITATION



More than a year ago, the National Board of Accreditation of India applied to be considered as a permanent signatory member of the Washington Accord, which is an international accreditation agreement for professional engineering academic degrees among the bodies responsible for accreditation in its signatory countries. In essence, the NBA had to raise its accreditation process to international standards and subject the engineering

institutions applying for accreditation to those standards. Along with another college in Bangalore, NIT Trichy was chosen to act as specimen to test NBA's new accreditation methodology.

The Electrical & Electronics Engineering department was previously accredited for a period of three years on 12th January 2005. The department was then expected only to meet an input-output based accreditation process, which required the placement and graduate study outputs to match the budget input of the department. Owing to the revision in accreditation methodology, the department had to embellish the various aspects of its academic programs. Dr. P. Raja represented the EEE Department in the institute's accreditation panel, formed to prepare the various academic programs to meet the expectations from NBA. Carried out by the faculty of our department, this arduous preparation process consisted of several elemental changes. Course Outcomes (COs) for each and every subject offered by our faculty was formulated by using two techniques. One was a direct approach, in which examination questions were framed to relate to the proposed course outcomes and the students' performance in such questions was examined and recorded. Second was an indirect approach, in which feedback was collected from our alumni through an online survey. This led to the fabrication of Program Outcomes (POs), which defines the potentiality of an engineer certified by the department. Further investigation on the career paths of our alumni and extensive feedback extracted from their respective managers/guides, constructed the Program Educational Objectives (PEOs) of the department.

The NBA team examined our labs, classrooms and interacted with the faculty and students. They were impressed by the mammoth effort taken by the department in statistically verifying the validity of our Program Outcomes and Objectives using feedback and direct assessment data. On the final day of their visit, the electrical department received positive reviews and we became one of the few departments to receive a Five Year Accreditation. Following the success of NBA's efforts to become a permanent signatory, our bachelor program is now being recognized internationally.

Apart from the value addition to our degree, Dr. Raja said, "Accreditation is vital for continued MHRD funding to the faculty".

The EEE department has already applied for the accreditation of its post graduate programs and our faculty are optimistic about the results.

## ACADEMIC REFORMS

For decades, NIT Trichy has been following a conventional academic process which comprises of regular contact classes, cycle tests and end semester examinations. Under the TEQIP-II (Technical Education Quality Improvement Programme) initiative, an institute developmental proposal was drafted, which requires the college administration to upgrade the course delivery techniques and incorporate latest technology in the academic process. The Conclave on Academic Reforms (CAR 2015) was a result of such requirements, in which discussions were held among various stakeholder groups such as parents, alumni, industry personnel and faculty. After months of formulation, a revised academic plan was incorporated in the present first year programme (batch of 2015 - 2019). These reforms were also partially introduced to senior students such as flipped style course delivery and continuous assessment.

Classes would now happen in flipped mode, in which video lectures would be shared with the students, followed by a doubt clearing session once a week. Some important concepts would be handled in regular classes while other monotonous and derivative parts of the course can be taught through video lectures, which allows the students to learn at their own pace. Cycle tests have been replaced with continuous assessments, which involves written tests, group activities, mini projects etc.

The academic program has now been modified to a flexible curriculum, consisting of General Institute Requirements (GIR), Programme Core (PC) courses and Elective Courses. The GIRs would be mandatory for all students and would consist of 68 credits. These include separate credits for summer internships (minimum 2 months), Industrial Lectures (minimum 6), Comprehensive viva and Project work (final semester). The Programme Core would contain 16 to 20 mandatory courses in order to qualify for a major degree from any of the departments. The students would also be expected to take 10 to 15 elective courses out of which three must be from the programme core and rest can be from any department (open courses). Another new feature of the academic reform is the prospect of obtaining a minor degree from another department, which requires the students to take at least five tailor made elective courses from the same department (different from the enrolled department).

Essential Programme Laboratory Requirement (ELR) consisting of 10 to 16 credits was also introduced. While the students are restricted to 6 courses in a semester during their first and second year, they are allowed to pick their courses in any order bearing in mind they have completed all the prerequisite courses. From third year, students can opt for an extra 7th course which would provide them with additional credits. Furthermore, some post graduate courses are also offered in the final year for students aspiring to pursue higher studies. Diverse methods have been adopted for the students failing in a course too such as supplementary exam and formative assessments.

Starting with the batch of 2017, students having a GPA greater than or equal to 8.50 in every semester would be awarded a B. Tech. Honours degree, if they earn 9 credits more than the minimum limit. Since summer internships after 6th semester is now given academic credit, every department would offer summer internship programmes, in which the students can work on projects in their field of interest.

To illustrate with an example, a student can take VLSI systems in his/her 4th semester considering he/she has already completed Digital Electronics in the earlier semesters. The minor degree would be very helpful when students from EEE are aspiring to be placed in highly paid and easily available IT jobs.

# SHORT COURSES

## Application of Power Electronics to Renewable Energy Systems and Micro Grids

A three day course on the 'Application of Power Electronics to Renewable Energy Systems and Micro Grids' was conducted from February 8th to 10th, 2015 under NAMPET Phase – II. The course was conducted by Dr. C. Nagamani, Dr. M. Jaya Bharata Reddy and Dr. G. Saravana Ilango. The course was organised for industry delegates, academicians and students.

The scope of the course was designed keeping pace with the emerging trends in the energy market. With the exponential growth in the global energy demand and the concerns over the depletion of our natural reserves, the clean energy from solar or wind is the alternative that is the most sought after. The avenues of the use of power electronics in efficient integration of these renewable energy sources to the autonomous micro or nano grids and stabilization of the power grids are expanding. The course was designed to address various design, operational and control aspects of advanced power electronic interfaces associated with microgrids and micro generators. The teaching methodology included classroom lectures, case studies and lab visits. The participants were also given a workshop kit.

The course included sessions on power electronic converter architecture, line commutated inverters, V2G techniques, MPPT techniques etc. The course enlightened the participants with new paradigms and findings, practical challenges encountered and the possible solutions. It ended with participants having an enhanced knowledge of the overall fortification of technical capabilities in the power electronics community.

## Simulation and Analysis of MANETs using Network Simulator (NS-2)

Dr. S. Sudha conducted a one day workshop on 'Simulation and Analysis of MANETs using Network Simulator (NS-2)' on 6th March, 2015 for the enrichment of faculty, research scholars and post-graduate students.

Computer networks are improved and explored by designing new protocols at different layers of the Network Architecture. This involves creation of network topologies, inclusion of newly defined protocols and the study of their performance under various scenarios for different networking technologies. Network Simulators are the medium to achieve this. This open source tool supports simulation and study of network scenarios for different network technologies like MANETs, VANETs and WSNs. The workshop demonstrated the usage of NS-2 and the different modules across the layers. The workshop was initiated with an introduction to NS-2 and covered the simulation setup for MANETs including topology creation, routing types, QoS analysis etc. There was an elaborate session on the utility of NS-2 in simulation and analysis of MANETs and the participants were well equipped by the end to use this tool in their research.



# ALUMNI INTERVIEWS

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## PANKAJ

Currently working in PGCIL. Batch of 2014

### Why did you choose to specialise in Electrical Engineering?

Due to personal reasons, because I didn't have much of an idea as to what to pursue in under-graduation, and ended up choosing EEE because my dad and uncle both are electrical engineers and thought it would be best for me to take the same route itself. There was also the added advantage of having guidance in it. After all, a known devil is better than an unknown angel. Why electrical in EEE, I always attached to robotics. The projects I did were also contributing factors in my inclination towards electrical. Major turning point in my career was winning the Sangam competition, which assured me that electrical is where I belong to. What I had in the beginning was just an idea, but projects made me understand the subject better which resulted in me preferring electrical over electronics.

### How did you prepare for the selection process?

There wasn't any specific preparation for the selection process, but the major preparation that anyone and everyone should be doing is listening in the class attentively. Some of the questions asked in the interview were a modified repeat of what I was asked in class by my professors. Fundamentals is where they attack, and it is very important to be strong and clear with the fundamentals. Having strength in Power Systems also helped a lot. Otherwise the major thing I did as preparation for the selection process is listening in the class attentively. As for the selection process, interview is the decisive aspect, in interviews, it is always better to accept your lack of knowledge about a topic rather than giving incorrect answers just for the sake of answering.

### Why Power Grid?

The number of in and out electrical companies available is very much limited. Power Grid was one of the few major companies that interested someone, who wants to pursue his career in pure electrical, like me. So that is the main reason why I chose Power Grid. Not only that, it was also one of the first companies to come for placements.

### Did the industry meet your expectations?

It did meet my expectations as far as the technical aspects are concerned, but when it came to work life, it didn't meet my expectations. But there's no company that would meet every expectation of a person, and when I am satisfied with the technicalities of the company, I am very much happy to adjust with the work life issues. I also get to learn many things day in and day out. For instance, I get to see how a transformer is built, the testing that takes place for the core and the lamination, and many such things. Thankfully, I got placed in the technical department, which also meant that I work in a city rather than a site. I work in Mumbai now.

### What are the perks of being a government engineer?

Firstly, I can go to any private company ask about the details of any particular component. Since I would be paying them, I have every right to question them about what they are offering me, and they are obliged to answer. That power can't be expected if you are a part of a private company. Secondly, respect. Whichever generation you take, if you work in a government company there is a separate range of respect that you get. Other perks include benefits and mainly job security. I was once told that unless and otherwise I murder someone I wouldn't be removed from this company. That's the level of job security one gets in a government company. On the other hand, one can expect to get transferred to any part of the country.

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# ALUMNI INTERVIEWS

Also, the work pressure. The growth in the company is fantastic, but at the cost of employees' happiness. But the pressure is very much justifiable and reasonable for the growth that an employee gets. It is there in every company. Gone are the days when they say there's hardly any work if you work for a government company.

**What did you learn from the industry?**

The scope of learning in the electrical department is really high. As I said previously, day in and day out I get to see transformers and production, work with them and learn more about such machines. Working in this company might be hectic, but this working experience will definitely be helpful in my future endeavours. If at all I do my post-graduation and start working in some other company elsewhere, I would know what working in a core electrical company is like and that will help me improvise on what I would have done if not for this experience.

**Would you like to leave a message for the juniors?**

My advice to the juniors is to not waste time and utilise the facilities provided by the department, including the faculty members, wisely. Our department has much more to provide than what people think it provides. I am not asking my juniors to not enjoy college life, but with enjoyment should also come proper time spent on researching the department and utilising it, because that is what is ultimately going to help in the future.

## RAJBARATH

**When did you discover your passion for electronics? Does it trace back all the way to the time of your admission into the EEE department?**

Truth be told, I never did. I decided on electronics based on elimination and expert advice. It is more of "love after you marry" kind. It was only in college that I realized my interest in electronics so my luck conspired for my good. Should be the case for many of you. That's perfectly fine.

**Was Qualcomm your dream company all along?**

No. I did not know about it until my final year. It was a happy coincidence. One of the first companies for electronics. The best takeaway from Qualcomm apart from the learning is the reliable connections I established and the professional transformation I went through.

**How did you work towards getting into it? When did you begin your preparation (if any)?**

Qualcomm is pretty chilled out. The rigor of interviews is a fallacy at least here. I prepared for a month (of-course not with Qualcomm in mind). But there were a few of my friends who prepared much more. Not all electronics firms have an easy entry. You have to work towards it.

**Any advice for the present lot of students appearing for placements and internship interviews, regarding the electronics industry as a whole and the scenario as such.**

You have enough and more of resources. However don't get lost. You have to get your basics right. You can build on it anytime. Make sure you understand and link all the concepts that you have learnt into a cohesive whole.

# ALUMNI INTERVIEWS

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A direct shot at electronics placement or aim for a better job after an MS? What would you recommend?

It is a personal choice. I can only confuse you more. Three cases:

1. You join a job, you like it. You quit to pursue an MS course in line with your current job. I know many who shifted streams from ECE, EEE to CS
2. You join a job. You hate it. MS is your escape route. – Trust me you don't want to be in this lot.
3. You join MS straight out of college, happily ignorant. Safest route.

I can give a concrete answer for MBA.

I would strongly recommend having 2 years of work ex when you join MBA not more, not less. This puts you in an ideal place when it comes to placements. Close to 70% of my classmates have at least 2yrs of work-ex. Again your choice of firm matters. I would advise you to take up a management profile job in your undergrad if you are sure you want to do an MBA.

You've recently switched fields. What made you move to IIM?

At the end of the day, in a tech job, the impact you create is very low although your ego might say otherwise. MBA is the quickest way to reach the top rung. Plus, the two years of experience in an IIM is unmatched in terms of the learning and insights you get, connections you make, and opportunities you get during and after the course. You develop your perspectives and are better suited for any position beyond that.

Any future plans to go back to the electronics industry? If not, why?

Obviously not. If I do that, my spend on MBA would be a sunk cost. There are better prospects with impactful and challenging roles in the management domain.

## AWARDS RECEIVED BY STUDENTS

### SANGAM 2015

Intra NITT technical competition and exhibition during Pragyam



#### 1st Place (Non-Circuital Division)

An aircraft as the solution for the present day aviation problems was the aim of our project. Our innovation on the fan wing aircraft looks to give a promising solution to these problems. The uniqueness of this aircraft is a cross-flow fan that runs along the leading edge of the wing throughout the wingspan. The air pushed by this fan is used for thrust as well as lift hence increasing the lift efficiency at lower ground speeds. Its high pay-load capacity, the requirement of confined space to operate, reduced noise pollution and stability in turbulence mark a step closer towards a greener and a safer world.

Akshay Anantharaman & team

#### 3rd Place (Non-Circuital Division)

I worked on Perovskite cell (alternate solar cell). A perovskite solar cell is a type of solar cell which includes a perovskite structured compound, most commonly a hybrid organic-inorganic lead or tin halide-based material, as the light-harvesting active layer.

The perovskite mimics semiconductor in a way that when perovskite is irradiated with EM wave (IR to UV) it will generate holes and electrons. It is advantageous over common solar cell as it has higher bandwidth, higher terminal voltage and is relatively very cheap. But the only drawback is the high maintenance.

Naveen K. & team



## ACTIVITIES OF EEEA

EEEE 2015 has begun its academic year with much determination and gusto. Even before their official appointment, they have begun conducting events and sessions for the benefit of the students.

### Intern Process Briefing

Every year, during their summer breaks, UG students who have completed their 6th semester take up summer internships in industries which recruit them for the same through their campus recruitment drives which happen through the 5th and 6th semesters (3rd year). As the first event of the EEE association for this academic year 2015-16, the final year interns came together and decided to hold a briefing for the juniors from 2nd and 3rd years to tell them more about their experience during these internships and more

Starting from the immediate preparation required for current 3rd years, the CIC representatives of the three branches gave the students a brief overview of the situation at hand and also the reality of today's cut-throat competition. Later on, a detailed explanation regarding the preparation methods for the major profiles pertaining to these departments in general (Electronics, Electrical, Software and Management) were given.



Then came the briefing by the interns who spoke about their experience in the companies that they spent their time in. The companies covered were:

Electrical: Dow Chemicals, Reliance Industries, Alstom and Tata Steel

Electronics: Texas Instruments, Qualcomm

Software/Analytics: Goldman Sachs, Fidelity, Credit Suisse, RBS, Samsung

Management: P&G, HUL

The event received some really positive feedback from the students who found it really useful and informative. All credit to the final years who put the act together in a very short span of time and shared some quality advice with their juniors. We will make sure the tradition continues and this event becomes a must in the years to come as well.

## FORTHCOMING EVENTS

- Workshop on 'How to make your own touch screen'
- Workshop on 'Technical Writing'
- MATLAB workshop
- Guest Lectures by Alumni
- Social responsibility drives such as a proposed drive in nearby health centre
- CURRENTS 2016

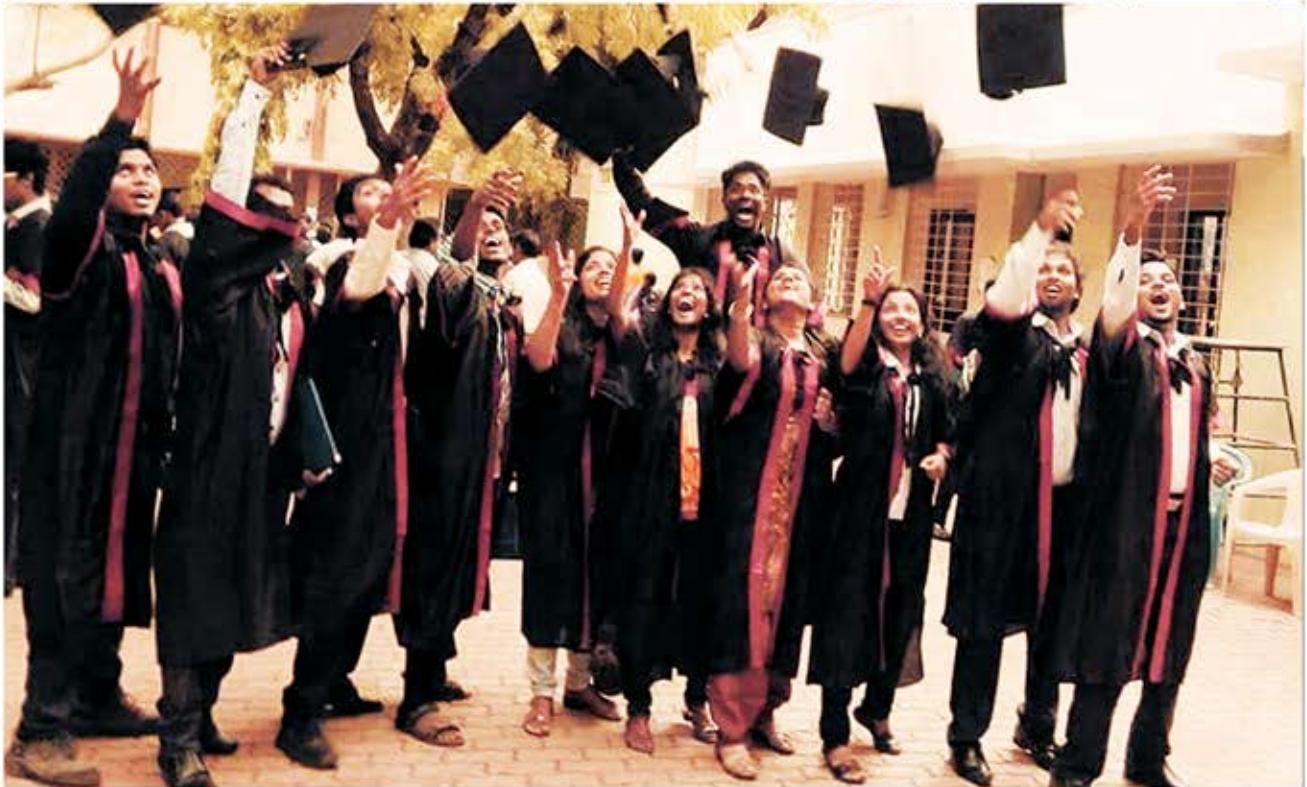


*Some Glorious Memories*





*Time for Reminiscence*





## COMPANY INTERSHIPS

### ALSTOM

My two month long summer internship was in Alstom Transport at Bangalore. During my internship, I learnt industrial electronics, NI Lab View and a popular train control system software, "ControlBuild". I got an opportunity to work in their Research and Development lab for the development of Train Control and Monitoring systems. My project was on "Simulation of Train Control & Monitoring Systems Low Voltage Control Logics". I also got an opportunity to work on the Train Control and Monitoring Systems for Kochi Metro, one of Alstom's ongoing project. Apart from work, they also have fun activities once in a month along with birthday celebrations of the team members. They follow a 5 day schedule per week with appreciable work-life balance. Overall, it's a great place to work and learn.

Sattanaathan, Final year

### DOW CHEMICALS

Of all the places my intern could have happened, it had to be my hometown, Chennai. There I was, working in Dow Chemicals International, Guindy. The engineering centre in Chennai meets the construction design deliverables for Dow's ongoing projects. The centre has various disciplines of engineering, working in harmony to design a plant and assist with the on-site EPC (Engineering, Construction & Procurement) contractor. My project was to design a "Variable Frequency Drive for an MV motor" of a water batch plant which is undergoing construction in Freeport, Texas. I was also allotted with the task of procuring a 200% backup UPS for the Chennai office. The internship offered abundant learning and soft-skill development opportunities. Since Dow is an ownership company (a construction company which owns the constructed plant), I had the chance to attend vendor product presentations, outcome improvement meetings etc. The working environment in Dow is very formal, but the work atmosphere is serene. Their principal aim is to maintain continuous production with zero compromise to safety. For an aspiring core electrical engineer, this internship would be very enriching.

Jaiganesh, Final year

### MARICO

At the end of my 6th Semester, I applied for an internship at Marico India Ltd. The selection process consisted of a technical interview where I was evaluated on my technical know-how in Electrical Machine Theory. The internship took place in Marco's Manufacturing Plant in Perundurai (a town on the Erode-Coimbatore route), which produces their flagship product, Parachute Coconut Oil. My project was to design instruction manuals for all the electrical machines in the plant, which included motors, transformers and drives, which will be used by future employees and trainees. I also had to create a database of nameplate details of the machines, so that it could be used to record a history of repairs and services.



The duration of the internship was 1 month after which I received a certificate (there was no stipend). I had a moderate internship experience. Though the project work mainly involved Word and Excel, it was really a good learning opportunity in the field of Electrical Machine Applications.

Kaushik, Final year

## PROCTOR AND GAMBLE

It all began on the 11th of May 2015, two months of a great learning experience. Right from the beginning till the end, the well-structured internship programme left me a lot more to take back than just a certificate. To begin with, my project was aimed at creating engineering solutions to enable higher throughput in India's dry laundry making operations (more specifically at the Hyderabad F&HC plant). Contrary to the misconception of it being a purely management project, mine belonged to the broad term 'techno management'. I was assigned to debottleneck the making process of detergents (Tide and Ariel) and come with interesting and yet convincing solutions that can increase the efficiency of the process. A major part of my project also included carrying out experimental orders to test if the proposed solutions were feasible, for their implementation in the IMEA (India, Middle East Asia) region, it being the major market for P&G products.

Every day was filled with exciting new challenges, tremendous support from my sponsor Sidharth Choudhary (Engineering head, F&HC), my guide Amit Agrawal and my mentor Mayank Porwal. They extended their help and guidance at every step of my project and made sure that my project could be implemented. The P&G people got me involved with their workplace, their community, their neighbours and most importantly they provided me with the coveted opportunity to touch and improve lives. I am thankful for having been a part of a company whose actions reflect their ethics and whose people live their values.

P&G was an excellent choice!

Shreya, Final year

## RELIANCE

I interned at Reliance Industries Ltd. in Patalganga, Mumbai. The internship period was from 17th May 2015 to 17th July 2015. Mumbai is one of the best cities to stay and there are a lot of places to visit. Every weekend we interns visit a new place, like hill stations, amusement parks and temples.

My project was "Short Circuit Analysis and Relay Coordination". My job was to thoroughly study the existing plants' single line diagram, find the defects and prepare an audit. The audit was done to check whether all the installed switchgears had adequate capacity to sustain short circuit faults and function as expected during fault condition. With the help of ETAP software, I performed relay coordination and other transient analyses. On completion of my first project, I was allotted a new one. My second project was DOL starting of a 760 kW chiller motor. This motor had an automatic auto-transformer starting method, and later it was planned to start on DOL. My job was to prepare a complete report on the transient analysis and voltage profiles of the buses affected due to the DOL starting, and plan a standardized procedure for the starting. On 16th July, I presented my report and recommendations to the Plant President and the Head of the Department of Central Electrical Services. My mentor was a very enthusiastic person, who constantly advised me to do things with passion and motivation. All the Reliance employees assigned to my project guided me very well and provided me with hints whenever required. The only thing Reliance expects from you is the willingness to work and the ability to push yourself.

Monish, Final year

## TATA STEEL

On my first day at Jamshedpur, I was feeling lost. For a Chennai guy with very little knowledge of Hindi, the first few days of my internship was no walk in the park. But as you spend a few days there, you start to fall in love with it. The work culture at Tata steel is one of the best. The employees over there treat you as their colleague and provide you with any assistance required. My project required me to interact with people from various departments. At no point of time did they grunt about me taking time off their schedule. They were more than happy to help and took it as a refreshing change from their routine. The timings are very flexible. Most of the guides don't place a lot of stress on spending the whole day on the plant (As long as they see progress).

The hostels are clean and maintained regularly. The mess food, though monotonous, is quite tasty. The hostel has a basketball court, Tennis court, Table tennis room and a Gym. The real clincher at Tata steel is the Music room. Interns are allowed to use the Music room at the Graduate trainee's hostel. It is quite splendid with sound proofing, many instruments like the Keyboard, Drum set, Acoustic, Semi-Acoustic, Electric and Base guitars, Tabla and sound processors are available. We spent hours straight at the Music room. Tata steel places a lot of stress on extra-curricular activities. They host a series of sports events for interns in the marvellous J.R.D sports complex and a cultural night to showcase your musical and dance talents. Jamshedpur has a lot of resemblance to Thillai Nagar in Trichy. It has many restaurants, shopping complexes, movie theatres and a few parks.

On the whole, it was a fulfilling internship experience where you can pursue all your interests without any restraints.

Abhishek, Final year

I interned at TATA STEEL plant in Jamshedpur after getting selected through the INSPIRE 2015 program. It started with an orientation program, in which we were given basic knowledge about the company and safety training to use PPE (Power Protection Equipment). The project allotted to me was "Certification of breaker ok after doing offline maintenance". I was placed in the Maintenance Service Group of the company. The project involved identification of gaps in the current breaker maintenance practices of TATA STEEL and updation of the existing practice. I gathered practical experience of their breaker maintenance practices. I had to carry out different data analyses of their practices following which I designed and developed a testing kit for VCU (which could be customized for VCB). The kit enabled the maintenance personnel to carry out electrical maintenance of breakers and was appreciated by all. In the end we presented our ideas to the chief and other heads of maintenance division. I was well supported by the staff and Head of my department. I was guided well by my mentor and sometimes tested as well. TATA STEEL is a good place to work and has strong ethical policies. People are friendly and your ideas will be valued and acknowledged. There are numerous opportunities to learn. We had lots of sport activities during our internship. During my intern I realized both my strengths as well as my shortcomings. It helped me become a better and confident person.

Alok, Final year

## TEXAS INSTRUMENTS

I was selected as a Project Trainee (or better known as an 'intern') at TI through campus recruitment. I was an Analog intern among four others who were selected (two Analog interns and two digital interns). At TI, my job was to conduct surge testing on digital isolator ICs of TI as well as that of competitor companies.

On a rough estimate, there are only 1600-1800 Analog engineers in India, out of which about 600 are in TI. So, if you want to work in Analog Design, TI is one of the best places, where you can try your LUCK (I am stressing on it, just to show its importance).

At TI, people are very cool, and at the same time, they are very, very intelligent and hard working. Throughout my project, my entire team helped me, along with my mentor who himself was an NIT Trichy alumnus. We went for a team treat, outings with my teammates, and it was an awesome experience to interact with such amazing people. They allocated me my project on the first day of my internship, but it actually started a month later. Till that time, I was doing some small tasks, which were assigned to me regularly by my mentor. For a week, I attended the Analog classes taken by Professor K.R.K Rao (a retired IIT-M professor who has 3 lecture series in NPTEL). It was an awesome experience to meet him personally, as till then, I had only seen him in lecture videos.

My project was quite easy and I was able to complete it within a fortnight. Actually, my mentor told me that I won't be able to finish the project within two months at the starting of my internship, so when I started my project, I was determined to complete it as early as possible, as I had only a month left with me.

They conduct a DIY (Do It Yourself) Day where you need to make some project of your own and display it to Tiers and an Intern day (where you need to tell about your project, the one which is assigned to you). It was a great learning as well as a fun experience participating in these events. We made a project on Home automation with audio signal processing and neural networks on DIY Day.

At last, on the basis of your performance throughout the project tenure, your mentor will recommend you for PPO (pre- placement offer), but I wasn't awarded that offer. Anyway, being an average student, I got such an awesome experience, which is priceless.

In short, what TI gave me was confidence, knowledge and communication skills. And it helped me get a job in an equally distinguished company.

Manish, Final year

I spent my summer interning in the MCU Safety Analysis team at Texas Instruments, Bangalore. The internship was truly enriching. A routine of basic training was conducted in scripting, documentation and communication, which helped build the ground for our projects. As interns, we worked closely with our mentors who guided us and imparted valuable advice.

Interactive lunches were organized for the interns with the senior executives where we got enlightened about the role of TI in the market and the growth strategies of the company. TEXINS, a recreational facility was available to employees throughout the day. A DIY day and an Intern day were held for us to present our projects to employees from various teams. One can hope to receive a good amount of feedback from these events.

My project was targeted at creating functional vectors to achieve maximum fault coverage for an IP. The first phase of the project involved building a thorough understanding of the module. The second phase involved writing iterative test cases to study the effect of various experiments on fault coverage. Towards the end of my internship, I presented the compiled results of my experiments to the entire team.

Internship at TI was an elevating experience in many ways. Challenging industry projects of relevance were assigned to interns and will be implemented in future projects. The working hours were flexible and any inputs given by us were considered seriously by the team. All in all, this is a great opportunity to look forward to.

Pooja, Final year

## QUALCOMM

I did my internship in Qualcomm, Bangalore Design Centre. The internship period was two and a half months. I was working on automating the checking of the test dumps in all the test cases of the different IPs in three different live projects.

The work is hectic because of the amount of work Qualcomm does. But the work culture is pretty much chilled out. Everything is fine as long as you are getting the work done. The people there are very helpful. The interns are treated on par with the permanent employees. I was leading a particular section of the project which is a big responsibility for an intern.

Bangalore is an amazing place to stay. I was staying in a 4 star hotel for 2.5 months. The accommodation was amazing. We had a lot of fun, went out for movie nights and trips from the company. Overall, it was a very fulfilling experience.

Anand, Final year

## FOREIGN RESEARCH SCHOLARSHIPS

### NATIONAL UNIVERSITY OF SINGAPORE (NUS)

*I did my summer research internship in National University of Singapore (NUS), Singapore for a period of two and a half months. It was a research project in the Department of Biomedical Engineering, under the guidance of Dr. Yu Haoyong, a bio-robotics and rehabilitation engineering expert. There were four of us in my team, all of them being fellow NITTians from Mechanical, ICE and ECE departments. We worked on two projects during this period. First was a compliant under actuated robotic hand which can grasp and mimic simple tasks similar to a human hand. Though there are several existing robotic hands available in the market, what was unique about our robotic hand was that, it was a cable driven under actuated soft compliant robotic hand, created using a combination of advanced 3D printing and hybrid shape deposition technique. This took us about 20 days to complete from design to product stage. Having mastered the shape deposition technique on the robotic hand, our next project was an under actuated soft compliant robotic cat. This was the most challenging part of my intern. We had to develop a cat robot, with a completely novel design, overcoming the limitations of existing quadrupeds developed by universities such as MIT, EPFL, develop a gait pattern and make it move in just two months! This started off with preliminary research on existing quadrupeds and analysing the drawbacks and incorporating a solution for it in our design. With the advent of rapid prototyping we could get our robot's body parts printed overnight and perform analysis, make changes in the design and print again for re-evaluation. This process continued until we arrived at the limbs of desired flexibility and compressibility. The cat robot was assembled, gait pattern was developed and it could perform simple gait motions such as trotting, pacing, etc. Based on our research there, we have sent our research paper to IEEE Robio conference in China and waiting for its approval. One good thing about NUS is that the faculty are very supportive. They give you full freedom to buy components, proceed in the direction that you feel is correct, however strict on deadlines set by you. They require regular weekly progress reviews through emails. Impressed with our work, our professor had asked us to continue this as a part of my final year project which will be co-guided by Dr. Sankaranarayanan and funded by NUS. It was a life changing experience for me. It has re-defined the way I think, work and approach a problem. We loved our lab so much that we used to work seven days a week, fourteen hours a day sometimes. We visited quite a number of places during our stay in Singapore like Sentosa Island, Universal Studios and Indonesia. For those of you who would like to take robotics as a career, pursue higher education in it, NUS is a place where you must do an intern to get exposed to world class technology and infrastructure.*



*Devalla Sripad, Final year*

## FOREIGN RESEARCH SCHOLARSHIPS

### DAAD WISE (GERMANY)

*I interned at the Power Electronics Chair of Christian Albrechts Universität zu Kiel in Kiel, Germany this summer. The Chair is one of the leading research centers in the world on power electronics and related fields such as micro-grids and smart transformers. My project was originally based on designing modular inverters for micro-grid testing but upon joining the Chair, the professor asked me to give a presentation on my past research work. He then decided that I should work on the design and modulation strategies for efficient converters through effective PCB design. This aspect of flexibility in research topics, I feel, is the most distinguishing feature of the DAAD WISE program.*

*The work culture of Germany is very informal, yet proper. As long as the results are delivered on time, the students can manage their time any way they please. That brings us to the travel perks in Europe. Being in Germany, you are a mere few train-hours away from the architectural beauty of Prague, the train ferry to Copenhagen, the scenic Swiss Alps, the canals of Amsterdam, Belgian Chocolates, and the food and monuments of Italy. In addition, there are always the local attractions; I was lucky enough to witness the world's largest sailing festival as part of the Kiel Week celebrations.*

*The language (It's not a barrier) was one of the most exciting challenges I faced in Germany (I took an online course funded by DAAD). Apart from working on a project, navigating through the linguistic and cultural differences, and managing household chores was indeed a valuable life experience.*

*Guru Praanesh, Final year*

*I spent my summer of 2015 interning at the Universität Stuttgart in Germany. I worked in the Institut für Photovoltaik (ipv) in the University under the guidance of Dr. Markus Schubert. My task was directly related to a current project of the ipv (with industrial partners) on virtually integrating a battery storage system into the electricity grid of a housing quarter in a medium-sized city. I had to develop predictive algorithms to forecast the electrical consumption of private households and small companies being participants in the project.*

*The work environment in Germany is unique, and very relaxed- the only concern is to meet the deadline. However, a major problem that I faced there was language. Since I started my work on an ongoing project, I found it challenging to understand the existing work, which was of course completely in German! To lower this barrier, DAAD offers a free online language course, which really made my life much easier.*

*It was great meeting international students in the university and interacting with them helped me understand the varied social and academic culture across the world. This program also gave me a great opportunity to travel around southern Europe; in particular Switzerland, The Netherlands, Belgium, Luxembourg, Vatican City and Italy. I got to visit the International Jazz Marathon in Brussels when I went there. Since literally all the travel is through trains, one gets to experience the transitions in the culture, language and food between each country. Overall, this internship experience exposed me to the academic programs in Europe, and opened my mind to the possibilities of future study in Europe.*

*Guru Raghav, Final year*

## FOREIGN RESEARCH SCHOLARSHIPS

*During my internship, I worked under Dr. Stefan Muthmann at Forschungszentrum, Juelich. My project was to analyse the fabrication and electrical characterization of tandem solar cells built with earth abundant Nano particles like Bismuth Oxide. Voltage current characteristics and thermo-electric measurement were performed and solar cells were fine-tuned accordingly. Expensive and sophisticated equipment were utilised for this analysis. High safety for Nano wastes were provided unlike that in India (where only preliminary safety is provided). Professors were friendly and helpful. From doctorates to students, all had their lunch together. There was half an hour of physical activity every day after lunch.*

*Language was not a problem as most of the professors knew English. But the group meetings were in German and they would switch to English when I was present. They were extremely polite and sincere. I had scientific discussions with the doctorates, get together grill parties, friendly football matches etc. I visited 10 countries during that time. Mount Titalis in Swiss, Paris, Rome and Venice were a few among the countries that I visited. We got stranded on the streets in Bratislava as we couldn't get accommodation for the night, because of which we spent three hours in a night restaurant and two hours on the freezing streets. The entire experience was both exhilarating and informative.*

Pradeep Kumar



## MITACS GLOBALINK (Canada)

*I completed my junior year summer internship at the University of Calgary as part of the MITACS Globalink Program 2015. From 11th April to 5th August, every day afforded me opportunities to learn and grow. My professor at the department of Electrical and Computer Engineering, provided all the support and resources I could ask for. Self-directed learning environments are ideal for me and I got to work on my project independently. As part of the program I got to attend events in many industries pioneering research in Alberta province. MITACS also offered a suite of online workshops and webinars on relevant topics as a four part lecture series. The biggest advantage of this program is networking, both on the academic front and personal front.*

*With students from India, China, Brazil, Mexico, Vietnam and friends from France, Iran and Canada, it truly was a cultural melting pot. We shared stories about our cities, cooked together and partied hard. The relaxed work hours allowed us to explore the beautiful scenic places around Calgary. From trips downtown, to hikes around Rockies, camps in Jasper, canoeing and football in the evenings, we had time to do it all. I am thankful to be able to participate in a program so unique and enriching. I left Canada with a deep sense of accomplishment, and a bagful of fond memories.*

*Ramitha Sundar, Final year*

*My summer research internship program at the University of Ontario Institute of Technology (UOIT) Canada was funded by Mitacs Globalink and MHRD, India. My project was on Control Optimization of Combined Heat and Power with Co-simulation and Intelligent Control Systems. The project was aimed at enhancing the performance of existing CHP technologies of CEM Engineering by optimizing the control strategy in view of thermal and electric load dynamic profiles and thereby reducing the overall lifetime cost of the technology used by the organization. This project gave me an eclectic exposure in terms of working with an organization like CEM Engineering as well as working in a lab with a group of people who specialize in the field of control engineering and optimization. I would suggest my juniors to apply for this internship, especially for those who want to pursue a career in research in the future. Mitacs Globalink also organized a series of workshops and industrial tours for the interns which add to the industrial experience. Webinars on managing project timelines and how to become a research graduate in Canada were equally helpful. In addition, I visited a lot of places during the weekends like the CN Tower in Toronto, Niagara Falls, Parliament Hill of Ottawa and many others which made my stay in Canada memorable.*

*Rounak Meyur, Final year*

*I did my summer internship in the Department of Electronics at the Carleton University, Ottawa, Canada under the MITACS Globalink research program. I worked in the VLSI CAD group under professor Ram Achar on "design and nonlinear macro-modelling of high speed I/O buffers". My project involved designing a high speed transceiver system and applying macro-modelling techniques to reduce its computational complexity as SPICE level simulations become infeasible. I learned a lot under my professor's guidance and the experience that I gained there is immensely valuable.*

*Moreover, MITACS had also organized several professional development workshops during my three months stay. One of the most memorable workshops I attended was a tour of a startup incubator company and a networking event that was organized by them. I had the opportunity to interact with the chairman of the incubator and the employees of various start ups. The networking event was a totally different experience for me because that was the first time I was exposed to something like that.*

*On the other hand, I also had the chance to get to know MITACS interns from various countries like India, Brazil, Mexico, Vietnam etc. I must say that my stay in Canada was a perfect balance between work and fun. The work culture is admirable and the Canadian people are very friendly and polite. During weekends, I had the time to explore Ottawa and a few other neighboring cities.*

*My overall experience has been invaluable and it has also provided me with a good exposure to Research. I would strongly recommend my juniors who are interested, to apply for the MITACS Globalink Research Internship Program.*

*Varsha, Final year*



# CURRENTS 2015

Currents is the annual National level technical symposium organised by the Department of Electrical and Electronics engineering of National Institute of technology, Tiruchchirappalli. Currents was first incepted in 1990, with a humble beginning by a group of passionate students of the EEE department then who formed the EEE Association. Over the years, the symposium has grown by leaps and bounds and has now become one of the biggest department symposiums of the institute. Conveniently scheduled over a weekend at the start of a very long even semester, Currents provides the perfect platform to showcase technical acumen, compete with some of the best of electrical engineers from across neighbouring cities and states, and most importantly imbibe inspiration.

Currents 2015 was very special, being the 25th edition since its inception. It was a remarkable Silver jubilee for the symposium, as it was bigger than ever, recording the highest number of participants till date. It was held over a period of 3 days, from January 30 to February 1, 2015. Mr. T. Sankaralingam, distinguished alumnus awardee of our institute (1969 batch, then REC) and Former Chairman & MD of NTPC presided over the inauguration as the chief guest on January 30. Our beloved director Dr. S. Sundarrajan, HoD Dr. Sundareswaran, and Faculty Advisor Dr. M. Venkata Kirthiga and other dignitaries were also present for the same, which took place in a packed EEE Auditorium. The 8 events offered this year included Spark, Circuit-rix, Electronic Arts, Currents Tech Quiz, Maze Follower, Lab Rat Race, and Code Currents. There was also an exciting line-up of workshops arranged this year, the highlight being that each and every one of them was totally run and organized by the 3rd and 4th year students of our very own department. The 6 workshops included: Mobile Controlled Robotics, Solar Mobile Charger, Robotic Arm, Image Processing, Digital Design using FPGA, and PCB design. Currents '15 also witnessed a couple of very informative Guest Lectures from industry experts who were brought down to share some of their invaluable knowledge and experience in their respective fields. We had Mr. Prathap Srinivasan from Texas Instruments on Day 1, who delivered a lecture on 'Microcontrollers and their Applications in automotive industry focusing on safety and Hazard'. Mr. Mithesh Goyal, our alumnus, presently working for Intel, delivered a lecture on 'System on Chip' on Day 2.

In addition to these exciting events, guest lectures and workshops, there was a paper presentation event 'Colloquium', and 'Dhruva'-the award for the most creative student. Among the workshops, the one-day PCB design workshop was a huge hit, recording as many as 686 registrations. Next came the Mobile Controlled Robotics workshop and Solar Mobile Charger Workshop with 433 and 370 registrations respectively. The Image Processing, Robotic Arm and FPGA Design Workshops saw 233, 109 and 77 participants. In total, with a combined registration count of 823, the workshops proved to be the major crowd pullers, and we as an Association are proud of this remarkable feat, considering they were totally student managed from scratch.

A new addition to Currents' 15 was the event "Spark" which was conducted in association with PADARTH, the Metallurgical Engineering department symposium of IIT Bombay, which was a contest to bring in innovative ideas and solutions for urban development. The event was a huge success and saw large participation.

Overall Currents 2015, a 3 day event, with 3 guest lectures, 6 workshops, 9 events, total participation of 1400, a registration count of over 3000, was a phenomenal success, not only for the department, but NIT Trichy as a whole. We all look to reach greater heights with the next edition and establish brand Currents as one of the best symposiums in the nation.

# WHAT AWAITS IN THE COMING YEAR

## First Years

A warm welcome to all the first years in EEE. You have chosen well. Four years of gruelling study hours and hard work might make you feel exhausted but upon your graduation it will open immense avenues, all of which will lead you to a successful and fulfilling life.

In your first years, take your time getting adjusted to the good and bad of the college. Observe how each cog works in this colossal administrative, academic and apprentice jungle that our college is. Remember some of your old passions that you left behind in the race to this college and start working on them again. Or take this opportunity to delve yourself into something fresh. As you pave your way through this college, here are a few things that we think might help you.

Clubs are an integral part of our college, catering to every individual's artistic side. We believe in an all-round holistic development of the students. Since there are too many clubs to list, we put forward three that are relevant to our department. These also require prerequisite knowledge that can be learned over your first year to better your chances of getting into them.

### 1 Robotics And Machine Intelligence

Robotics and Machine Intelligence is the on-campus robotics group, primarily involved in the development of robotics enthusiasm amongst the students. It's been responsible for holding workshops and organizing competition events. Novice enthusiasm is catered to by workshops meant for first years in which the basics of electronics governing a simple line follower with logical gates is worked upon. More advanced workshops are held for people working with microcontrollers and Image Processing. Membership to the group is open to students from all the fields of engineering, the only criteria being knowledge of basic elementary electronics/programming and an interest for robotics.

### 2 Delta Force

The Delta Force is an active group of developers and programmers who are responsible for the maintenance of the institute website and the development, administration and updation of most of the content on the institute intranet. Several members of the Web Team also involve themselves with the Computer Support Groups of the three fests organized in our college, gathering great hands-on experience in the process. Being a part of the Web Team is a steep learning experience as it throws up new challenges every day and there is always one project or the other around the corner for anyone with the drive and knowledge to try it out.

### 3 Spider (R&D Club)

What started as a humble news portal is today the virtual capital of the institute. Fondly called "the spider empire" it has everything cyber under its umbrella. Its trendy intranet site acts as a platform for students to come together and share their knowledge with others. The Spider group offers various services such as organizing various courses (C, web designing etc.), blog hosting, providing SMS services and now even the facility to check train reservation status.

# WHAT AWAITS IN THE COMING YEAR

## First Years

### 4 3D Aeromodelling Club

The 3rd Dimension (Fondly called the 3D) is the Aeromodelling club of NITT. Though the tag sticks to aeromodelling, the role isn't. The club represents an idea pool, a think-tank if you may call it; that strives to unravel the mysteries behind various aspects of aerodynamics. The group has a special place for design, fabrication, simulations, and structural analysis of the Prototypes that are built. It aims to represent NIT Trichy at various national and international level competitions, exhibitions and technical conferences.

Apart from the myriad of clubs that our college offers, there are also German classes conducted for students in any year. The basic (A1) level of German is taught by a linguistic expert who has lived in Germany many years prior to returning to India. The course is fun and enriching and culminates with an exam and awarding of a certificate to mark your fluency in German in that level.

Everyone would've have had someone promise them this, "study well in 12th and college will be nothing but fun!" So where is all that fun they promised us?

The first thing about every fest that entices the students is the food stalls that fill our college with the aroma of diverse delicacies. An ever welcome change over having mess food, students gorge themselves like there is no tomorrow! And the fest t-shirts mean that the guys can delay washing their clothes by one more day!

NIT Trichy proudly hosts three fests:

#### 1. Festember - The cultural fest

Festember is a vibrant mix of music, dance, theatrics, language lits and so much more. Simultaneous events happen everywhere. Make sure that you download a copy of the day's schedule and plan your day well. Also keep a close ear to the PR announcements for informal and impromptu competitions that might just win you loads of freebies.

The fest reaches its zenith with the final night pro shows which have been previously graced with the electrifying presence of musicians such as Salim-Suleiman, Vishal-Shekhar etc. Also the gods decide to add a torrential downpour to this mix, but nothing can dampen our spirits these three days and we dance and sing through the rain and storm.

#### 2. Pragyan - The Techno management fest

Do not make the mistake of assuming this fest is for geeks only! Amidst all the hard-core and mind blowing competitions where students exhibit how they are excelling and outrunning the best in the field, Pragyan also has events to relax and take things slow and learn. They give us competitions, exhibitions, events, guest lectures and workshops. Last edition got a piece of the moon down to NITT, what miracles will happen next year we can't fathom.

Pragyan is the flame that keeps the innovation in us going. They combine the highly competitive events with exciting prizes and infotainment shows. There's something that Pragyan has up its sleeves for everyone: the cricket enthusiasts, the wannabe finance experts, the soon to be corporate bosses, the crime solvers and many more.

# WHAT AWAITS IN THE COMING YEAR

## First Years

### 3.NITTFesT - The inter-department culturals

You have a talent? We have the platform. So hone your skills and lead your department to its glory. NITTFEST has everything in its repertoire. The three days of fest are just the pinnacle of all our hard work. The actual work is done and real friendships are formed in the weeks of practice put in prior to it.

You will also learn a lot from observing the game plan that each department adopts and the hard work that is put in for HORIZONS next year. NITTFEST is not just about victory and the pomp and show, it will also give you your most loved memories in college.

The NITTFEST team will be having inductions for first years soon. If organizing a fest is what you want to do in this college, then getting inducted in NITTFEST will be the stepping stone for getting absorbed into your dream team in Fesember and Pragan.

We hope your first year is full of surprises and bitter-sweet memories. This year will have the biggest impact on your coming years in college. So enjoy it and remember to experiment.

## Second Years

### ELECTRICAL:

Our campus is visited by only a handful of electrical companies, compared to the massive amount of software and analyst profile companies. Generally, core electrical companies have the following filtering techniques,

1. Online Test / CGPA Short-listing
2. Group Discussions
3. Technical Interviews
4. HR Interviews

Online test would generally test students in concepts like,

#### 1. Circuit Theory:

- 1.1. Thevenin and Norton equivalent circuits (non-ideal sources).
- 1.2. Transient Analysis
- 1.3. Steady State Analysis
- 1.4. Three Phase Circuits (Phase shift based questions)

#### 3. Basics of Power System Protection

#### 5. Power Electronics (Choppers, Controllers-basics)

#### 2. Machines

- 2.1. DC speed control
- 2.2. Three phase AC machine starting
- 2.3. Single Phase AC machine basics
- 2.4. Transformer - physical aspects (conservator, breather)

#### 4. Control system basics (step response, poles placements)

Group Discussions are very frequent in core companies, especially in those using CGPA shortlisting as first round elimination.

1. Make logically sound points.
  2. Be crisp and clear.
  3. Do not raise your voice too much.
  4. Try to reduce display of personal idiosyncrasies.
  5. Never argue, try to discuss your point calmly.
- Try watching some YouTube videos of GDs for practice.

# WHAT AWAITS IN THE COMING YEAR

## Second Years

### Cracking the Technical Interview:

1. Study basic definitions.
2. Power system protection is very important. (Types of relays, difference between them)
3. Power systems analysis concepts.
4. Know your CV well, you will be asked questions based on your projects/trainings.

### What to do in an HR Interview?:

1. Introduce yourself for about 10- 12 minutes.
2. Keep examples ready for illustration of your personality traits, leadership qualities.
3. Read that day's headlines, be aware of basic current affairs.
4. Be clear about your strengths and weaknesses.
5. When asked to compare yourself with other shortlisted candidates, DO NOT go into physical or academic evaluations. A CGPA of 7.5 and above will make sure that you can attempt all core electrical companies. So focus on your subjects to be on the safe side.

## ELECTRONICS :

One simply cannot be mediocre in Electronics when attempting for placements because the competition is high, the standards are ever increasing and the number of visiting companies is limited.

The selection process typically consists of an online test, followed by technical and HR interviews.

Online tests may offer choice of profile or may sort students based on performance.

Technical rounds would test core concepts like:

### 1. Circuit Theory

- 1.1. Circuit solving theorems (Thevenin and Norton)
- 1.2. Mesh and nodal analysis
- 1.3. Two port networks
- 1.4. RC, RLC circuits
- 1.5. Filters
- 1.6. Charging and Discharging of Capacitors

### 2. Electron devices

- 2.1. Simple diode circuits
- 2.2. Clipper and Clamper
- 2.3. Voltage doubler
- 2.4. Rectifiers
- 2.5. Voltage regulator (Zener diode)
- 2.6. Regions of operation of semiconductor devices and current characteristics.

### 3. Linear Integrated Circuits

### 4. Digital Electronics

- 4.1. Logic Gates
- 4.2. Coding Schemes
- 4.3. Karnaugh maps
- 4.4. Combinational Circuits: Adder, Subtractor, Multiplier, Magnitude Comparator, Mux, Demux, Decoder, Encoder, PLA, PAL
- 4.5. Sequential Circuits: Synchronous and Asynchronous counters, Special Counters (Ring, Johnson, Ripple counters, BCD counter, Frequency dividers, Duty cycle controller)
- 4.6. Finite State Machines (Mealy and Moore machines)

4.7. Semiconductor faults and hazards

4.8. Static Timing Analysis (Set up time, Hold time, Path sensitization, Propagation Delay, Clock Skew, and Jitter)

### 5. VLSI

- 5.1. MOSFETS – Structure, working and basics of fabrication
- 5.2. Basic VLSI concepts (T-Gates, Pass Transistors etc.)
- 5.3. Stick diagrams
- 5.4. TTL, ECL, and CMOS logic
- 5.5. Internal capacitances of MOSFET
- 5.6. Second order effects
- 5.7. Memory elements: SRAM, DRAM, ROM, EEPROM

Additionally, knowledge of Computer Architecture, HDLs (Verilog or VLSI), and microprocessors might come in handy. In some cases, Aptitude tests are conducted as part of the technical rounds. Occasionally, being from the Department of Electrical and Electronics, one may expect questions on electrical concepts (Power systems, Transmission and Distribution of Power) in the interviews.

### What to do in an HR Interview?:

If aptitude was not previously conducted, you may encounter them here. Introductions to self goals and expectations are the usual. This round tends to evaluate your dedication to the industry over academia. A thorough understanding of everything on your CV is a must. Also it's a sacrilege to say that you want to go for higher studies. You as good as lost your job offer right there. Lastly, be sure to exude confidence!

# WHAT AWAITS IN THE COMING YEAR

## Second Years

### SOFTWARE / IT:

Our campus is visited by lots of software profile companies most of the companies will be open for our department as well. Each company shortlist students based on different criteria. The overview of the process can be listed down as

1. Online test
2. Technical Interviews
3. HR Interviews

#### Online Test:

It can be either of these three

- Aptitude test (E.g. Fidelity Investments )
- Basics of C programming (E.g. Qualcomm, Texas Instruments)
- High level coding (E.g. Flipkart)

The CGPA cut-off will vary depending on the companies it varies from CGPA 6.0 to CGPA 7.5. So try to improve your CGPA and be on the safe side. We strongly recommend that interested students take Data Structures subject and lab seriously, and also practice coding and theory from popular online portals like [geeksforgeeks.com](http://geeksforgeeks.com).

#### Cracking the Technical Interview:

- Knowing basics of C would be enough for few companies
- Companies like flipkart would give you problem statement to solve

Again these process vary with respect to the companies.

#### What to do in an HR Interview?

- Self-introduction
- Should be able to explain everything in your resume
- Strengths and weaknesses

### TECHNO-MANAGEMENT:

Our campus is visited by many prestigious multinational companies like P&G, HUL and ITC each companies has its own filtering techniques but the overall process will be more or less like listed below

1. Psychometric test
2. CV Shortlisting
3. Aptitude test
4. Group Discussion
5. Technical Interviews
6. HR Interviews

#### Psychometric test:

- Purely tests how consistent you are with the questions
- HR questions

Example: Your strengths, weakness, situation based questions that are aimed at testing your values and personality.

#### Aptitude Test:

- Basics of mathematics
- Puzzles
- Situation oriented problems

#### Group Discussions:

- Generally a Case study is given as the topic for discussion.
- They look for team work and communication skills.

#### Technical Interview:

- Tech round: Generally ask you your favourite subject and question you based on it. (Basics should be very strong)

#### HR Interview:

- Be completely free with them, do not be shy.
- Should be confident and smart.
- Be clear about your strengths and weaknesses.

# INTERNSHIPS AND PLACEMENTS

## Third Years

This is probably the most controversial topic of discussion for a pre-final year peer group. With your experience in the internship process, each of you would have an assumption about the various norms followed in the placement process. Most of it is probably right, but this article will help you find some closure. In your final year, hundreds of companies visit the campus throughout the year. Various profiles will be offered, sometimes by one company itself. In third year, most of you would be in a state of confusion over your future plans. That is okay. What you need to know for sure is this,

1. Until you reach the starting of final year, your future plans will keep changing. So, don't make any rash decisions right now.
2. The Campus Placement Committee (CPC) exams are designed to train and evaluate your potential for getting placed. If you pass, the Training & Placement Department will take up the responsibility of getting you placed.
3. Your CPC training and evaluations will take place over the entire 6th semester. For those planning to sit for placements and for those in a dilemma, this is mandatory.
4. In order to clear CPCs, you need to pass two out of three profiles. It does not include management.
5. If you have not prepared anything with respect to placements, don't worry. Start now. Use the winter holidays to study your field of interest.
6. For those who do not pass the CPC exams, there will be a re-CPC exam which you can take. If you still don't pass, the prospects of getting a job would become a distant dream.
7. For those who get an internship, no matter what company you get, a Pre Placement Offer (PPO) is only a possibility. So do not stop your preparations.
8. When you get a PPO, you cannot sit for any more companies. Exceptions are incredibly rare.
9. If you reject a PPO, you will most probably be banned from the Placement Process. So, be mindful of your choices.
10. Wanting a high paying core job is perfectly reasonable. But you need to work for it. Electronics profile jobs are very difficult to crack. But not impossible. Start preparing today, work hard.
11. You do not need fancy projects in your resume for getting placed in core companies. Your knowledge of the subject is more important.
12. Having a high CG is definitely an advantage. But, it does not guarantee you a high paying job.
13. Generally non-circuitual department students score well in aptitude. This is only because of the lack of seriousness towards aptitude preparations in circuitual branches.
14. Watch videos of group discussion on YouTube. Do not take it lightly, GD is a powerful tool of filtration used by some companies.
15. When you are facing a HR round, frame your responses beforehand. Do not think on the spot.
16. Engage in some activity during 6th semester summer. Ask your seniors about various project/internship opportunities available apart from the T&P companies. Several research intern opportunities would also be available apart from DAAD/MITACS.
17. Public Sector Units (PSUs) demand a deep understanding of electrical concepts and a high CGPA. If you are targeting PSUs, now is the time to prepare.
18. In your final year, it is possible only to do one thing. You need to choose between placements and higher studies. Do not waste time trying to do both. Make a choice.

Good Luck!!

May the force be with you.




## DAAD WISE – HOW TO APPLY

**The Deutscher Akademischer Austausch Dienst (DAAD) Working Internships in Science and Engineering (WISE) Scholarship is a prestigious academic scholarship given by the DAAD Organization to Indian students from premier institutes in India to pursue a research internship at research institutes and universities in Germany. Every year, around 150 students from India are awarded this scholarship which provides full funding and support to pursue their internship abroad. The student's requirement is to get an invitation from a German professor/ researcher to work at their institute, and then apply for the scholarship at the DAAD organization in New Delhi, India. The scholarship is awarded based on the student's academic standing. The ideal time to start applying to professors in Germany is in the month of August. The deadline for applying for the DAAD scholarship is November 1, 2015. The following steps are very important while applying for the long process.**

- 1. Be clear in your field of interest- be it Electrical engineering (Power systems, Machines, etc.) or Electronics (VLSI, Digital/Analog electronics, Communications, DSP, etc.)**
- 2. Look up the German universities online- the Technische Universitäts and the Max Planck Societies are the well-known universities which take international students as interns.**
- 3. Visit the Electrical Engineering department homepage of your university of interest and go through the profiles of the professors whose research areas coincide with your interests. Remember that your past experience in the field (or a related field) adds to your chance of being selected.**
- 4. Collect the email id of the professor and prepare to send him/her an email with a cover letter and an attached copy of your (honest) resume. The formats of these two are important. Be careful with your grammar and do not presume to use flowery language. Keep it simple and neat.**





5. Contacting the professor via email at around 9 to 10 am (in Germany's time) is vital as he/she may receive multiple emails from interested candidates. It is possible that the professor may not even notice your email, but perseverance does pay off.

6. Do not express your interest in different fields and contact multiple professors in the same university within a short span of time, as this would carry a questionable image of you.

7. If you fail to get a reply, send a short reminder email to the professor about a week later. They are busy people, and they might read your application after a long period of time.

8. Once you receive a positive response, be prepared to face a technical interview over Skype/phone, as they would prefer to test you in the field before accepting you as an intern.

9. Be formal with the professor and carry a confident image of yourself in your emails and conversations.



10. After completing this tedious task, all that is left is to visit the DAAD Website, get the list of documents required to apply. You will have to allot at least a week to get these documents from the institute, besides writing personal statement of purpose and getting a recommendation letter.

11. Once these are completed, you may post the application to the DAAD Head Office in New Delhi, and the results of the final selection will be intimated to you in the month of January 2016.

**All the best!**



# 10 POINTS TO BECOME A SERIAL TEN POINTER

First step is wanting to be one!  
Commitment is the key.

Forget the pleasures of the World Cup even if  
your happiness is  
more dependent on India's win rather than a 19/20  
in tomorrow's CT.

Find the right competition to make yourselves  
better, and try to win.

Find study buddies who will help you concentrate.  
Not ones who'll distract you.  
PS: Rging them is strictly not allowed.

Go to classes. Classes should mean more  
than attendance.  
It's not a crime to interact with the professors!

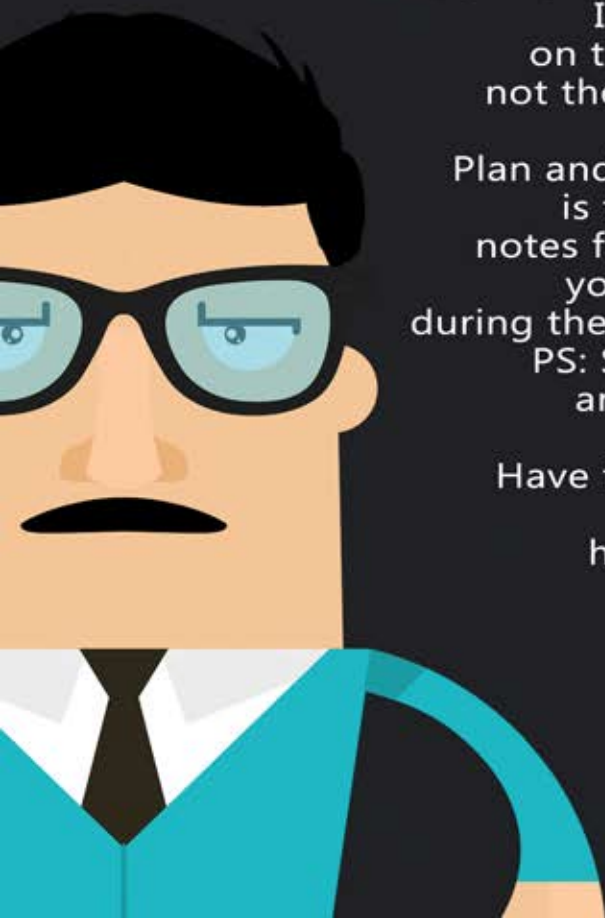
Make an effort to listen. Even if the power point  
presentation has 330 slides.  
A little hard, we know.

Be in the good books of the professors.  
It always pays to come  
on time (for the current class,  
not the next) and listen attentively.

Plan and study ahead. All we're saying  
is that if you sleep on your  
notes for more time than stare into  
your neighbours' answers  
during the exams, you will perform better.  
PS: Sometimes your neighbours  
are from a different dept.

Have fun and take it easy. Engage  
in sports or other  
hobbies for just a while.

follow these every  
**SEMESTER**





# EEE ASSOCIATION



2015-2016



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*"If something is important enough, even if the odds are against you, you should still do it"*

*- Elon Musk*