FROM THE EDITOR’S DESK

We are delighted that the 4th volume 2nd issue of the Lumenz, our official newsletter of the year 2016 is all set.

A lot has been happening this semester, and we’ve got it summed up nicely. You may notice a few changes this time around. We hope the tireless efforts have finally paid off. Piecing together the frayed ideas into this spectacular magazine was indeed a daunting task; sleepless nights; typing and editing a heap of articles, balancing our academics and the production of this magazine in limited time frame, in a nutshell.

It is really heart warming to see all these contributions. The Editorial Board appreciates the time and effort that have been devoted by the different contributors and would like to thank them all. Happy reading!!!!

PRINCIPAL’S FOREWORD...

The department of Electronics and Instrumentation is delighted as it marks the release of the official department newsletter “Lumenz” with the effectual motto “GO GREEN”.

Our objective is to create a class of qualified, innovative and dynamic professionals for the betterment of society. As the Principal of this College, it gives me immense pleasure to see students who work together to create remarkable changes for self and society.

“ He who is firm in will, moulds the world to himself”. I wish our students a happy journey to achieve all their aspirations in life!!!

- Dr. N. Duraipandian

HOD SPEAKS...

People relying on yesterday’s idea have no chance of survival in today’s competitive environment where change is at the speed of thought. The pace of change requires continuous improvement and constant learning. Keeping this in mind, we train our students to be fully prepared for the challenges of the future. We offer innovative and experimental teaching methods to make a learning process extremely enjoyable and enlightening.

- Dr. N. Bharathi

MISSION OF THE DEPARTMENT

To provide students with strong foundation in electronics, instrumentation and control engineering.

To enhance the core competency, leadership and managerial skills of the students to cater the industrial needs.

To cultivate adaption of ethics, morality and healthy practices in professional life towards serving the society and the country.

To facilitate graduate with Entrepreneurship skills.

To encourage faculty members and students to engage themselves in multidisciplinary research endeavors and keep abreast of current trends through continuing education.

PROGRAMME OUTCOME

- Ability to apply the knowledge of mathematics, basic science and engineering fundamentals for solving Electronics and Instrumentation Engineering problems.
- Ability to identify, formulate and analyze problems related to Electronics and Instrumentation Engineering using first principles of mathematical modeling.
- Ability to utilize a systematic approach to design and provide solution for complex engineering problems in Electronics and Instrumentation Engineering that meets the societal and environmental requirements.
- Ability to conduct investigation on complex problems using research based knowledge in design and conduct of experiments, analysis, interpretation and synthesis of results and report preparation.
- Ability to create, select and apply modern engineering and IT tools in Electronics and Instrumentation Engineering for problems including modeling, monitoring and control.
- Ability to assess societal, health, safety and cultural issues and the consequences relevant to professional engineering practice.
- Ability to understand the environmental impact and demonstrate the need for sustainable development in Instrumentation Engineering.
- Ability to apply ethical principles and commit to professional ethics and responsibilities.
- Ability to function effectively as an individual and as a member / leader in diverse teams.
- Ability to communicate effectively through oral, written and pictorial means with engineering community and with the society at large.
- Ability to demonstrate knowledge of management and finance principles to manage effectively as a member / leader in a project team.
- Graduates will be able to recognize the need for, and have the preparation and engage in independent and life-long learning in the broadest context of technological change.

PROGRAMME OBJECTIVES

- To provide strong foundation in basic science and mathematics necessary to formulate, solve and analyze Electronics and Instrumentation problems.
- To provide strong foundation in basic electronics, measurement, control theory concepts and their applications in Instrumentation Engineering.
- To provide good knowledge on advanced control and instrumentation systems and their industrial applications.
- To provide necessary foundation on computational platforms and software applications related to the field of Electronics and Instrumentation Engineering.
- To provide an opportunity to work independently and in interdisciplinary teams and inculcate professional ethics.
- To produce industry preferred graduates leading a successful life in the chosen profession and ensuring that they involve in research activities and lifelong learning that are beneficial to the society at large.

VISION OF THE DEPARTMENT

To impart knowledge base and skill sets in the field of Electronics and Instrumentation Engineering by providing quality education and learning ambience for academic and research activities, leading to be a global competitor and preferred partner by the industry.

TAKE A LOOK....

WORKSHOPS 2

PROJECT DISPLAYS AND SEMINARS 3

INTERVIEW 5

TECHNO CORNER 8

BEYOND THE BOUNDS 9

STUDENT’S CORNER 11

UPCOMING EVENT 12
The Faculty Development Training program on Discrete Time Systems and Signal Processing was conducted by EIE department of Velammal Engineering College, Chennai from December 18 to 24, 2015. The program co-ordinators were Head of the Department Dr. N. Bharathi and Assistant Professor Dr. C. Murukesh. The topics covered under the program include: Classification of Signals and Systems, Analysis of Discret Time Systems, Computation of DFT using FFT Algorithm, IIR and FIR Filter Design for Digital Implementation, Digital Signal Processors. The above topics were presented by,

- Dr. C. Ramesh Babu Durai, Principal, Dhanalakshmi College of Engineering.
- Dr. Mohanty- Professor, EEE, SVCE, Chennai
- Mr. H. K. Singh, Assistant Professor, Vel High-tech Engineering College.
- Dr. Rukmani Devi, Professor, ECE , RMD Engineering College.
- Dr. T. Suresh, Professor, ECE, RMK Engineering College.

Mr. S. Selvaradji, CEO, S.S. Technologies, delivered a seminar on Introduction to Raspberry pi and an application on monitoring temperature with Raspberry pi using Python Programming for the final year E&I students on 23rd February, 2016. He also demonstrated the concept of humanoid robot control using Raspberry pi.

Climate change is already beginning to transform life on Earth. Around the globe, seasons are shifting, temperatures are climbing and sea levels are rising. And meanwhile, our planet must still supply us - and all living things - with air, water, food and safe places to live.

Mr. K.V. Kandasamy explaining concepts of ARM Controller

The training-workshop on MATLAB interfaced ARM controller with real time applications was held on 4th and 5th February 2016. The resource persons for the workshop were Mr. K.V. Kandasamy, Assistant Professor and Mr. B. Rajnarain, Assistant Professor.

There were 16 external participants from various institutions across Tamil Nadu like Karunya University, Syed Ammal Engineering college, Rajalakshmi Institute of Technology, National Engineering College etc. The workshop was fully focused on hands on training with ARM processor. The session dealt with basic concepts of MATLAB simulink examples, followed with ARM LPC2148 processor I/O pins. Also the complier related to all microcontrollers such as Keil, IAR workbench, Energia tool, MBED on line compliers was discussed. It was followed by some real time examples like blinking an LED, Switch based blinking an LED, reading an IR sensor value through UART, serial programming in ARM LPC 2148 controller with MATLAB, concept of ADC interface with MATLAB.

Mr. K.V. Kandasamy explaining concepts of ARM Controller

Faculty members who attended the training program

Facility Development Training Program

Workshop On MATLAB Interfaced ARM Controller With Real Time Applications

Seminar On Raspberry pi Using Python Programming
The National Assessment and Accreditation Council (NAAC) committee members visited our college on 26th February, 2016. A Project Display was held and the committee appreciated the efforts of our students. The following students presented their projects:

- **R. Bharathkumar** of M.E. Control and Instrumentation (Second year) presented the project titled “Autonomous Vehicle Navigation System from Video Streaming”.

- **T. Yogapiya** of M.E. Control and Instrumentation (Second year) presented the project titled “Unknown Road Detection from Video Streaming for Vehicle Navigation using Lab VIEW”.

- **B. Avinash, M. Hithesh, J. Karthikeyan and S. Sivaprakash** (Final year, EIE-A) presented the project titled “Gesture Controlled Robotic arm using Kinetic Sensor”.

- **K.T.S.Yokhesh and Noel.V** (Final year, EIE-B) presented the project titled “GSM Based Vehicle Anti-theft System”.

- **Kamil Ahmed.K** (Final Year, EIE-B) presented the project titled “Power Generation using Shoes”.

A mini project exhibition was conducted on 15th March 2016. The judges for the mini project were Professor Dr. K. Senthil Kumar, EEE and Professor Dr. A. Balaji Ganesan, TIFAC, VEC.

There were 28 Batches from all the classes of Electronics and Instrumentation Engineering. The students showcased their talents in various areas like Instrumentation, Electrical, Analog Electronics, Image Processing, Digital Logic, Embedded Systems, etc. The exhibition started by 9.00 A.M. and concluded at 4.00 P.M.

The projects were visited by HODs and Faculty members from all departments and students from various departments. Top three projects were awarded with cash prizes.

**Mini Project Winners!!!**

**First prize:** Electrically assisted steering miniature model  
**Team members:** R. Aravindhan, K.J. Kishore Kumar, S. Jai Chandran (Second Year).  
**Project Description:** This project ensures more safety, cost efficiency and easy construction by electrically controlling the steering mechanism of a car.

**Second prize:** Building an IOT based weather station connected to cloud  
**Team members:** Deepika Punya, R. Deepika, N. Nivetha (Second Year).  
**Project Description:** The project aims at building an IOT enabled weather station connected to the cloud using temboo (web service) using Arduino Yun Board by measuring pressure, temperature, light intensity and altitude.

**Third prize:** Eye Control Robot  
**Team members:** S. Jabez, S. Surya Babu (First Year).  
**Project Description:** This project is designed for controlling the Bot using eye movement. It makes use of OpenCV Processing and Arduino board as platform.
The inauguration of ISTE and IEI chapters was held on Saturday the 13th February, 2016.

The college faculty coordinator for ISTE and IEI Chapters Assistant Professor Mr. T.A. Rajha Rajeswaran, Civil Engineering, presented the details of the students enrolment in these two chapters.

Distinguished Scientist and Director Dr. P. Sivakumar, CVRDE, DRDO, Avadi, Chennai honored the function as Chief Guest. Scientist Dr. D. Gokul, SDSC, SHAR, ISRO added value to the function as the Special Guest. He is also the Founder-EWB Chennai Chapter of Engineers Without Borders.

First year students of our department have applied for membership in ISTE and IEI organizations.

Guest Lecture On The Application Of Sensors And Instruments In Process Industries

Deputy Instrumentation Manager Mr. A. Gowthaman, CPCL, delivered a seminar on the role of electronics and application of process control in industries for the pre-final year students on 10th March, 2016.

He discussed about the various industrial instruments used in industries for flow measurement. He also presented interesting videos about the working of flow meters which helped the students to visualize the concepts discussed during the session. Adding to the discussion, he spoke about the industrial methodologies adopted for controlling various processes.

Seminar on “Awareness Of Gate Examination”

Mr. Balamurugan, Centre Manager of Gate Forum enlightened the students regarding the scope of GATE on 29th February 2016. He discussed the significance of GATE examination for higher education and job opportunities in PSUs. He has presented statistics of past 5 years regarding the cut-off required for getting into IITs and various PSUs.
Guest Lecture on Industrial Automation and Embedded Systems

Mr. S. Selvaradji, CEO, S.S. Technologies, delivered a lecture on Automation and Embedded System on 11th March, 2016 for the pre-final year students of our department.

The seminar was focused on Embedded Systems and its applications. He briefed on Boiler Drum level measurement with the application of embedded systems and demonstrated the working of a Humanoid Robot designed using Raspberry Pi. He further added the concepts of ADC and DAC and illustrated the process of identification of various colors by determining its intensity using Embedded Systems.

Guest Lecture On Gas Turbines

Assistant Engineer Mr. J. Senthil Kumar, Basin bridge Gas Turbine Power Station, TANGEDCO, TNEB shared his knowledge gained through his experience in the field of Power Generation using Gas Turbines on 20th February 2016 to the pre-final year students.

He discussed the methodologies incorporated in the power stations to improve the efficiency of the Gas Turbine. He also briefed the general working of various components of Gas Turbine. He further added the safety measures adopted in the Power Stations.

Guest Lecture On Artificial Neural Networks And Its Applications

Professor and Head Dr. V. Jamuna, Jerusalem College of Engineering rendered a lecture on the topic Artificial Neural Networks and briefed its applications to the final year students on 7th March 2016.

She explained the similarity of Neural networks to biological neural networks in the performing of functions collectively and in parallel by the units, rather than there being a clear delineation of subtasks to which individual units are assigned.

A Candid Chat With An Industrialist...

Interview with Mr. MANIVANNAN (Director, vppetro6 Engineers and Consultants Pvt., Ltd, Chennai)

Mr. Manivannan has put in 28 years of experience in the Oil and Engineering field and is running his own multi-discipline engineering firm in Chennai for the past 10 years serving to the industry need in India and abroad. Here are some of the extracts from his interview:

How do you land up in the current position?

The hard work and dedication that I used to see in my Father and Mother has encouraged me to replicate it and brought me to this position.

What are the few resources you would recommend to become a successful employee?

Intension to work hard with fullest dedication. Willingness to accept mistakes and learn from there. Good attitude towards job and co-workers. Above all, selflessness.

What is the one big problem that you have witnessed while recruiting fresher for your company?

Lack of basic technical skills suitable for the industry.

This is mainly due to non-exposure of students to the industry oriented trainings / site visits etc., during their pre-final or final years of their study. I would take this opportunity to request the Colleges / Institutions to focus more on this skill set improvement as well. Minimum 1-2 month of Industrial training should be made compulsory during the college days. Also, attitude problem is one of the biggest issue among fresh engineers. As I said, a good industrial training as part of the overall curriculum will address both the issues to a greater extent.

Have you recruited anyone from our college? If so, grade their performance in their current working scenario.

Yes, we have recruited engineers from Velammal Engineering College. Their performances are excellent. They learn quickly. Work hard with dedication and contribute for the project success. I would rate their attitude as one of the best in our organization. They are good team players as well. Thanks to VEC’s faculty, placement & management team for their work in bringing up good quality engineers.

- Interviewed by: M. Geethika

The true impact of not recycling our old electronics

Gadgets can be incredibly useful and beneficial parts of our lives. One of the biggest downsides of electronics is that their components are toxic to the environment, and to us, if they’re just thrown away and left to leach into the earth. More than just the energy that could be saved by recycling electronics instead of manufacturing brand new ones, the metals that could be reused instead of having to mine for new supplies could prevent further air and water pollution from the processes used to harvest the metals. For every million cell phones recycled, 35,274 pounds of copper, 772 pounds of silver, 75 pounds of gold and 33 pounds of palladium could be recovered.

The best thing you can do is to slow down and use your gadgets for longer. Yes, those new models are shiny and impressive, but use yours for a bit longer and then, please recycle.
Hello friends,

I am Dharakeshwi, and I am here to share some experience of my past one year. This is a crucial time for all of you because you can start thinking about your career from now itself and there is a long way to go. IAS, SSC, Gate and other state level exams all of us know about but there are many more such exams that you might not be aware of but all are gazetted officers post. I cleared CDS (UPSC), AFCAT to try for defence. Being a defence officer is equivalent to an IAS/ASP IPS.

Especially for boys it’s an awesome opportunity as they have more vacancies than girls. Still girls who are interested can go through the process and clear it easily. There are many direct entries like NCC entry, technical entry etc.

For pre-final year, there is an amazing opportunity UES entry, in which if you get selected then your life is settled. Apart from this there are exams like AAI (J.E ATC, J.E electronics, cargo, commercial, fire services), APFC, Jawaharlal Nehru aluminum research and development institute, BARC, etc.

So let’s not keep our minds stick to only limited opportunities there is a world beyond you can think. Come out of your comfort zone check everything today. There are hundreds of opportunities for you all. I have never been a person who was a book worm. Classes and software companies are not the only destination. If you want a recognition in a different identity go for such jobs where people are coming after you and not you running behind someone.

All the best to all of you.

Have a good life.

P. Rakesh, final year

I have cleared GATE 2016 with an AIR of 1845, among 14804 odd candidates who appeared for the exam. The reason behind taking gate exam is to join Public Sector unit.

To reach my goal, I underwent coaching at Gate Forum. Even though it was difficult to spare time for GATE preparation because of University examinations, I made sure that I spent at least 4 hours a day as a part of preparation for the examination. Besides learning, I solved yester years’ question papers. Despite a long preparation, it is very important to make a quick revision on the previous day of the examination, that made me confident to face the exam.

I wish you all success in life...

V. Venkatesh (Final year)

Planning to do your masters, especially in the United States of America, is a BIG and most costly effort. If I could sum up the whole process in one word then that would be – RESEARCH. Yes, it involves lots of research, much more than you think. I have almost completed this process and got admission into Michigan Tech for Computer Engineering.

Most of the programs begin in the “Fall” term (August, September) and a few in “Spring” term (January, February) also. The length of the program is 2 years though there are some programs for 1 – 1.5 years. Find more about the curriculum, undergoing research, teachers, the kind of job you will be doing after graduating. Now go through the admission requirements for each of these programs. You need at least 3-5 months to prepare your application (2-3 months for GRE + TOEFL, 1-2 months for application).

GRE general test is a test of your verbal, math and analytical writing ability. It is a requirement for almost all the MS and PhD programs. GRE and TOEFL usually requires around 3 months of preparation. If your GRE score lies in the 315 – 330 range, it is considered to be a "safe score". 330+ is an exceptional score. The minimum TOEFL score required hovers around 80-90.

Academics is the most important parameter. Your GPA or percentage is the prime deciding factor. I personally feel that SOP is a big deciding factor in your admission. Apart from this, all universities require at least 2 or 3 letters of recommendation. Your final year project is also one of the important deciding factors for admissions. Co/Extra-Curricular activities will not offer you any major advantage, but will make your resume/CV look bright and show that you are involved in activities other than academics.

Your planning matters a lot while making applications to US varsities. You need to arrange all your documents well before the application deadlines. It is very important that you finish your complete application process as soon as they start rolling out their application.

Feel free to contact me at mailtovenkatvb@gmail.com for any doubts regarding masters at USA.

Best wishes in your future endeavours.

BY: V. Venkatesh (Final year)
Laurels to Our Department-University Top Rank Holders

“IMPORTANT ACHIEVEMENTS REQUIRE A CLEAR FOCUS, ALL-OUT EFFORT AND A BOTTOMLESS TRUNK FULL OF STRATEGIES PLUS ALLIES IN LEARNING.”
- Carol Dweck

Our 2011-2015 batch students have come out with flying colors in university exams with 9 university rank holders.

- Naresh S
  Rank 11
- Aiswarya R
  Rank 13
- Sai Sanjay B
  Rank 36
- Gayatri Bals
  Rank 37
- Kirana D
  Rank 38
- Sheeba B
  Rank 39
- Farid Rahima S
  Rank 40
- Priya S
  Rank 44
- Manali
  Rank 45

Placement Details 2015-2016

Many big companies have visited our college for recruitment this year. Around 58 students were placed at different companies and the details follows…..

Companies visited our college:

- Zoho
- CSC
- Avnet
- Infosys
- UST Global
- Ducen
- Wipro
- Vernalis
- Think & Learn

Water Powered Clock

Does your house have tap water? Great, that means it also has an alarm clock. This water powered alarm clock that lasts 12 weeks with just one refill.

To go green means you opt for a sustainable and renewable way of living. A green lifestyle focuses on reducing, reusing and recycling whenever possible. Going green is a gradual process of changing your lifestyle by using products that are considered to be green and ensuring that you reduce the imprint you and your family leave on the environment.
Faculty Corner...

Total number of Papers Published:
- International Conference: 14
- International Journals: 7

<table>
<thead>
<tr>
<th>NAME OF THE FACULTY</th>
<th>TITLE OF THE PAPER</th>
<th>NAME OF THE JOURNAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. K. Rajeswari</td>
<td>An Improved Type-2 Fuzzy Logic Approach Based Sliding Mode Controller for Vehicle Active Suspension System</td>
<td>Journal of Vibration Engineering &amp; Technologies</td>
</tr>
<tr>
<td>Dr. K. Rajeswari</td>
<td>Grey Fuzzy sliding Mode controller for Vehicle Suspension System</td>
<td>Control Engineering and Applied Informatics</td>
</tr>
<tr>
<td>A. Lakshmi Sangeetha</td>
<td>Performance validation of a cascade control system through various network architectures</td>
<td>Egyptian Informatics Journal, Elsevier</td>
</tr>
<tr>
<td>P. U. Ilavarasi</td>
<td>Automatic Detection of Arrhythmia using Lab VIEW and Matlab</td>
<td>Australian journal of Basic and Applied Sciences</td>
</tr>
<tr>
<td>Mr. B. Rajnarain</td>
<td>Gesture Command Recognition System For Human Machine Interaction</td>
<td>Australian journal of Basic and Applied Sciences</td>
</tr>
<tr>
<td>A. Lakshmi Sangeetha</td>
<td>Web Based automation of a Cascade control system—an Engineering Laboratory Experiment</td>
<td>International Journal of Electrical Engineering Education</td>
</tr>
</tbody>
</table>

Symposium Participation...

- R.Swini, R.Lavanya, G.Swathi, Second year have won Second place in paper presentation event held at SRM Easwari College on the topic “Identification of cancer using pulse energy” and were awarded with a cash prize of Rs.2000.
- R.Sangeetha and T.Ilakkiya, Third year have won First place in paper presentation event held at CEG, Anna University on the topic “Cancer treatment using Nanotechnology” and were awarded with a cash prize of Rs. 2000.
- R.Aravindhan, K.J.Kishore Kumar, S.Jai Chandiran, Second year have won First place in Project display held at BS Abdur Rahman University on the topic “Electrically assisted steering miniature model in cars” and were awarded with a cash prize of Rs 750.
- Deepika Punya, R.Deepika, N.Nivetha, D.Yuvasree, Second year have won Second place in Project display held at BS Abdur Rahman University on the topic “Building an IOT based weather station connected to cloud” and were awarded with a cash prize of Rs 500.
- Arvind Kumar Ravi, R.R.Mahesh Kumar, N.Hemanth Kumar, S.Tharanivasan, M.Vijay of Third year have won First prize in Treasure hunt event at BS Abdur Rahman University.
- S.Tharik Ahmed of Third year has won First prize in Mock Interview event at BS Abdur Rahman University.
- S.Tharik Ahmed, S.Arunachalam, N.Kumarasamy, B.Anith Infant of Third year have won Second prize in Treasure Hunt event at BS Abdur Rahman University.
- S.Tharik Ahmed, N.Hemanth Kumar, S.Tharanivasan of Third year have won Second place in Dumb Charades event at BS Abdur Rahman University.
- B.Aamira, N.Priyadharshini of Third year have won first place in Electrocute event at MIT University and was awarded with the cash prize of Rs.1000.

Interdepartmental Academic Events

- R.R.Maheish kumar, Arvind Kumar Ravi and R.Siva Karthik of Third year have won the first prize in Dumb Charade event.
- B.Krunugirenadhana, T.Koushik of Second year together with M.Vijay and P.Prasanna of Third year have won the first prize in Creative Art event.
- G.Swathi, R.Ashwini, R.Lavanya and V.S.Shankari of Second year have won first prize in Creative Art event.
- M.Charulatha of Third year has won the first prize in Mock Interview event.
- R.Haarika, J.Shivashree of final year and P.Nandhini of Third year have won the second prize in Technical Quiz event.
Sports

“EVERY CHAMPION WAS ONCE A CONTENDER THAT REFUSED TO GIVE UP”

The following students have paved their way towards success in the field of sports bring laurels to the department. 2015-2016 sports team is headed by M.Vinodhini and M.Sudharon of IV year.

INTER COLLEGE ACHIEVEMENTS

- M.Vinodhini of Final year have won Silver medal in javelin throw at zonal level held at Anna university sports meet.
- M.Subaraba Sheeba of Final year have participated in the SA Trophy, an open tournament and has placed the Fourth place in basketball.
- M.Vinodhini, M.Nivetha of Final year and C.R.Sangeetra of Third year won the First place in volley ball at zonal level held at S.A Engineering College.
- S.Gokula Krishnan of First year has won First place in 400m, 4x400m relay and Third place in 200m.
- G.Harikumar of Final year has won First place in 4x400m relay and Third place in 100m hurdles.
- M.Sudharon of Final year has won First place in 4x400m relay. He has won the Athletics Individual Championship Award of 2015-16.
- M.Sofya of First year bagged Third place in 1500m and 4x400m relay at zonal level.
- K.Sumith Kumar of Final year bagged a Bronze medal in fencing at Interzonal level.
- S.Gokula Krishnan of First year has placed First in 200m and 400 m.
- G.Harikumar of Final year has won First place in 4x400m relay and Third place in 100m hurdles.

Achievements in NCC

NCC student P.ABHILASHA of Second year bagged SILVER medal at all India level competition in the event of judging distance and field signals in Delhi after clearing 8 camps. She is only girl who represented from TamilNadu.

Here are the 8 camps she cleared…

CAMP NAME: THAL SAINIK CAMP

The 4 local camps are held at Velamal Panchetti, KRM public school, VeTech Avadi and Bharat university in Tambaram.

The 3 state level camps she cleared were held at Tirunelveli where she bagged 1st prize in TENT PITCHING, 2nd prize in HEALTH & HYGIENE and 3 rd place in obstacles.

Camp 6 & 7 are directorate training camps and camp 8 and 9 are national held at Madurai and finally in Delhi.

There is alarming evidence that important tipping points, leading to irreversible changes in major ecosystems and the planetary climate system, may already have been reached or passed. Ecosystems as diverse as the Amazon rainforest and the Arctic tundra, for example, may be approaching thresholds of dramatic change through warming and drying. Mountain glaciers are in alarming retreat and the downstream effects of reduced water supply in the driest months will have repercussions that transcend generations. Climate feedback systems and environmental cumulative effects are building across Earth systems demonstrating behaviours we cannot anticipate.
Solar Light Caps
The visor acts as a solar panel charging all day. Then, when it gets dark, the visor has two lights that can be activated with the push of a button and last for up to five hours.

Safety Campaign By NSS 2016...

On March 10, 2016 – Thursday, around 150 volunteers of Velammal Engineering College from NCC Army wing, NCC Navy wing, NSS and YRC wing participated in a safety campaign. This campaign was organized by the Safety Officers Mr. S. Samathuvamani and Mr. A. Nasardeen of Velammal New Gen Park. The following NSS Volunteers of EIE also actively participated: Divya Malini.C, First year; Naresh Kumar.S, First year; Lavanya.R, Second year.

Electoral Services Camp by NSS...

On 19th February, 2016, our NSS unit has conducted a special camp for electoral services such as Register as voter, inclusion/deletion of name, change of address etc., through online in the website www.elections.tn.nic.in

Around 721 students get benefitted from the camp. Election commission officials visited the camp & guided the students.

Cultural Participations...

The National Assessment and Accreditation Council (NAAC) committee members visited our college on 25th, 26th and 27th of February, 2016. The cultural team of our department unveiled their talents by performing in the NAAC cultural programme held on 25th February, 2016. The following are the students of our cultural team:

- M.Subaraba Sheeba of Final year, A.Harini, C.R.Sangeetha of Third year and G.Swathi of Second year
- T.Ilakkiya and R.Suganya of Third year performed a graceful and traditional dance.
- N.Gajalakshmi and T.Poornima of Third year enacted an artistic mime.
- P.Hemaninkitha, S.Reshma and B.K.Arunagirenan of Second year entertained the audience with their exquisite singing.
- M.Saranraj of Second year was a part of the orchestra team. With his hands on guitar entertained the crowd with his vibrant and pulsating music.

M.Subaraba Sheeba of IV year performed in the WORLD CULTURAL FESTIVAL conducted by Art of Living on 11th, 12th and 13th of March, 2016. It was staged at Mayur Vihar, Delhi. It was a 3 day festival. Around 36,000 performers from 155 countries across the globe performed on a single stage. This was a world record event inaugurated by our Prime Minister Narendra Modi, attended by the Prime Ministers and the Leaders from various countries. This festival was attended by around 3.5 million people. She uncovered her passion for dance by performing the traditional dance of Tamil Nadu choreographed by Padmaboosha Saroja Vaidhyanadhan.
Virtual Retina Display

A virtual retinal display (VRD) is a display technology that draws a raster display (like a television) directly onto the retina of the eye. The user sees what appears to be a conventional display floating in space in front of them.

**MECHANICS:**

In a conventional display a real image is produced. The real image is either viewed directly or, as in the case with most head-mounted displays, projected through an optical system and the resulting virtual image is viewed. In a VRD no real image is ever produced. Rather, an image is formed directly on the retina of the user's eye.

To create an image with the VRD a photon source (or three sources in the case of a color display) is used to generate a coherent beam of light. The use of a coherent source (such as a laser diode) allows the system to draw a diffraction limited spot on the retina. The light beam is intensity modulated to match the intensity of the image being rendered. The modulation can be accomplished after the beam is generated. If the source has enough modulation bandwidth, as in the case of a laser diode, the source can be modulated directly.

The resulting modulated beam is then scanned to place each image point, or pixel, at the proper position on the retina. The scanner could be used in a calligraphic (vector) mode, in which the lines that form the image are drawn directly, or in a raster mode, much like standard computer monitors or television.

After scanning, the optical beam must be properly projected into the eye. The goal is for the exit pupil of the VRD to be coplanar with the entrance pupil of the eye. The lens and cornea of the eye will then focus the beam on the retina, forming a spot. The position on the retina where the eye focuses the spot is determined by the angle at which light enters the eye. This angle is determined by the scanners and is continually varying in a raster pattern. The brightness of the focused spot is determined by the intensity modulation of the light beam. The intensity modulated moving spot, focused through the eye, draws an image on the retina.

The eye's persistence allows the image to appear continuous and stable. Finally, the drive electronics synchronize the scanners and intensity modulator with the incoming video signal in such a manner that a stable image is formed.

- S. Prashanth, Third year

Car-to-Car Communication

Breakthrough Cars that can talk to each other to avoid crashes. I was in the passenger seat as Krishnan wheeled around a corner and hit the gas. A moment later a light flashed on the dashboard, there was a beeping sound, and our seats started buzzing furiously. Krishnan slammed on the brakes, and we lurched to a stop just as another car whizzed past from the left. The technology that warned of the impending collision will start appearing in cars just a couple of years. Called car-to-car or vehicle-to-vehicle communication, it lets cars broadcast their position, speed, steering-wheel position, brake status, and other data to other vehicles within a few hundred meters. The other cars can use such information to build a detailed picture of what’s unfolding around them, revealing trouble that even the most careful and alert driver, or the best sensor system, would miss or fail to anticipate.

Already many cars have instruments that use radar or ultrasound to detect obstacles or vehicles. But the range of these sensors is limited to a few car lengths, and they cannot see past the nearest obstruction. Car-to-car communication should also have a bigger impact than the advanced vehicle automation technologies that have been more widely heralded. Though self-driving cars could eventually improve safety, they remain imperfect and unproven, with sensors and software too easily bamboozled by poor weather, unexpected obstacles or circumstances, or complex city driving. Simply networking cars together wirelessly is likely to have a far bigger and more immediate effect on road safety.

- Preethi Raguram, First year
Einstein's Gravitational Waves Found At Last

LIGO 'hears' space-time ripples produced by black-hole collision.

Gravitational waves are disturbances in the fabric of space time. If you drag your hand through a still pool of water, you’ll notice that waves follow in its path, and spread outward through the pool. According to Albert Einstein, the same thing happens when heavy objects move through space time. But how can space ripple? According to Einstein’s general theory of relativity, space time isn’t a void, but rather a four-dimensional “fabric,” which can be pushed or pulled as objects move through it. These distortions are the real cause of gravitational attraction. One famous way of visualizing this is to take a taut rubber sheet and place a heavy object on it. That object will cause the sheet to sag around it. If you place a smaller object near the first one, it will fall toward the larger object. A star exerts a pull on planets and other celestial bodies in the same manner. One hundred years after Albert Einstein predicted the existence of gravitational waves, scientists have finally spotted these elusive ripples in space-time. In a highly anticipated announcement, physicists with the Advanced Laser Interferometer Gravitational-Wave Observatory (LIGO) revealed on 11 February that their twin detectors have heard the gravitational ‘ringing’ produced by the collision of two black holes about 400 mega parsecs (1.3 billion light-years) from Earth-One black hole was about 36 times the mass of the Sun, and the other was about 29 solar masses. As they spiraled inexorably into one another, they merged into a single, more-massive gravitational sink in space-time that weighed 62 solar masses, the LIGO team estimates. These amazing observations are the confirmation of a lot of theoretical work, including Einstein's general theory of relativity, which predicts gravitational waves,” says physicist Stephen Hawking of the University of Cambridge, UK. This is the first black-hole merger that scientists have observed. The violent event temporarily radiated more energy — in the form of gravitational waves — than all the stars in the observable Universe emitted as light in the same amount of time. When played as an audible sound, the waves make an unmistakable ‘chirp’ — a rapidly rising tone — followed by a ‘ring down’, the radiation pattern from the merged black hole. The ‘loudness’ of the recorded signal also provides a rough measure of when the merger occurred: between 600 million and 1.8 billion years ago.

Up Coming Event...

4th National Conference on TRENDS IN INSTRUMENTATION AND AUTOMATION (NCTIA - 2016)
7th April 2016


E-mail: nctia2016@gmail.com Website: www.velammal.edu.in

Staff coordinator Mrs. B.Hemalatha

Students coordinators
- Harini.A
- Hema Nikitha.P
- Nandhini.P
- Sangeetha.C.R

The future belongs to those who ‘think green’ and ‘go green’. ‘Go Green’, before it is too late! Or you may never get a chance to do so!