



Principal Message,

Technology is revolutionizing the progress of the world. The Big Earth is becoming a Global village due to the rapid development in the field of Internet based communication system. The technology is increasing the human comfort Index and safe living of the people.

In these aspects the field of Electronics and Communication Engineering plays a major role. The development in the form of Internet of Things (IOT), Cloud Computing, Big data analysis and mobile applications are leading the growth platform in this current century.

By recognizing these trends of development I understand the Electronics and Communication Engineering of AVIT is conducting the International Conference and releasing the Newsletter containing various innovative, developmental and research articles for the knowledge enlightenment of the student community.

My Hearty Congratulations for the Head of the Department and the editorial board of this Newsletter for bringing out the events and talents of the department.

Dr Vemuri Lakshmi Narayana,

Vice Principal message

I feel glad in releasing this Newsletter Kaleidoscope from Electronics and Communication Engineering Department.

We focus on discovering, developing and drawing out the hidden talents and the magic lying dormant inside all of its students. From academics to co-curricular activities, perseverance and a never-say-die spirit are entrenched in the heart of every student not only making them good students but brilliant human beings. In today's dynamic world, a 360 degree development and grooming is of supreme importance and through our campus we are creating an environment for future leaders, entrepreneurs and professional who possess skills and aptitudes in an array of functional disciplines.

I wish the Department of Electronics and Communication Engineering a grand success.

Prof. D.Vijendra Babu

**Dr. A. Sivagami**  
**Head, Department of Electronics & Communication Engineering**  
**Aarupadai Veedu Institute of Technology,**  
**Paiyanoor**

I am pleased to share some of the exciting news in the Department of Electronics and Communication Engineering happened during the academic year 2016-17 through our newsletter KALEIDOSCOPE.

Newsletter is believed to be a focus of the inside activities i.e. academics, achievement of students and faculty as well as innovation occurring in the department. In the era of engineering and technology, this newsletter will motivate the teachers and students of sharing their creativity and new ideas with the world and will help in their overall development.

During this year, the staffs and students involved in various academic, co-curricular, extra-curricular as well as research & developments activities. As you read through the pages you will realize, that the Department had a successful academic year. I would like to thank all my colleagues for their tireless efforts for the progress of the department at a very steady pace.

As the saying goes by “Coming together is a beginning, keeping together is progress and working together is success”, I congratulate the entire editorial team for their solidarity in bringing out successfully the first edition of KALEIDOSCOPE, a Department news letter for the academic year 2016-17.

We are very grateful to our Chancellor, Director, other Management committee members, Principal and Vice Principal for their constant support and encouragement.

**HOD/ECE**

From the Editor Desk

It is a great pleasure to bring you the fifth issue of newsletter after a gap. The current newsletter highlights the activities and achievements of faculty, staff and students for the past one year. It also features visits by eminent scholars from leading institutes to our Department. The intent of this newsletter is to disseminate information about our Department, and we hope that the readers find the issues informative and useful. I am thankful to the faculty staff and students for their valuable inputs, and welcome suggestions and feedback.

**Dr.L.K.Hema Associate Professor,ECE**

**Mr.A.Subbiah,AP-II,ECE**

**Mr.Pathamuthu,AP-II,ECE**



## DEPARTMENTAL ACTIVITIES

### International Conference on VLSI ,Embedded Systems, Signal Processing, Communication Technology, ICVESCOM 2016”

AVIT,ECE Department organized its first ever International conference titled “International Conference on VLSI ,Embedded Systems, Signal Processing, Communication Technology, ICVESCOM” on 4 and 5 MAY 2016. The conference was well attended by eminent academicians, faculty members and students from reputed technical and educational institutions from different parts of the country and representatives of governmental bodies and industry.

The technical sessions divided under four different categories titled VLSI Technology ,Embedded Systems, Signal Processing, Communication Technology held over the two days, 39 papers were presented at the conference.

The conference was inaugurated by the **Chief Guest at the inaugural function, Mr.Sivanantham** Associate Professor in the Department of Micro and Nanoelectronics, School of Electronics Engineering, VIT University, Vellore. on 4<sup>th</sup> May morning. In his inaugural address, he lauded the Management and the academic administration of the institute for hosting a International conference .

**Prof. P.Subramanian,ECE** gave an overview of the conference.

The inauguration was soon followed by the key note address of Shri. MuraliKrishna BSNL,Chennai.

The Conference Proceedings CD was released by the Chief Guest on the occasion and the certificates to the participants too were given away.

A few participants who gave their feedback on the conference praised the institution for hosting its first ever conference in such an impeccable manner and said that they were overwhelmed by the hospitality offered by the organisers.

**Mr.Sivachandra Mahalingam,ECE** presided over the Valedictory function. In his presidential address, thanked all the sponsors, advertisers, delegates, representatives from the media and the faculty and students for their magnanimous support and assured that ECE Department, AVIT will organize more such activities in the future.





*Chief Guest Mr Murali Krishna,BSNL, and Mr.Sivanantham,VIT University Lighting the Lamp*

### **Lecture Series Published in IEEE MAS LINK News Letter of IEEE MADRAS SECTION**

The IEEE SB with the ECE Dept. held the inauguration of the Faculty Seminar Series on Feb 22, 2016. Mr. D. Vijendra Babu, HOD, spoke on the concept of Faculty Seminar Series. Principal Dr. A. Prabakaran inaugurated the series and stressed on the need for the exchange on developments in the field among the faculty. The series of lectures which was coordinated by Mr. P. Subramanian, Assoc. Prof, ECE, consisted of the following lectures:

- 22<sup>nd</sup> Feb 2016: The first in this series of lectures was delivered by Dr. B. Sridhar, Prof., ECE, on the topic “Antennas for Energy Harvesting”.
- 14<sup>th</sup> Mar 2016: Ms. L. K. Hema, Assoc. Prof., ECE delivered a lecture on “Wireless Sensor Networks“ covering the concepts of wireless sensors, wireless sensor networks, their advantages and applications along with the design concepts involved.
- 15<sup>th</sup> Mar 2016: Mr. B. Sivachandra Mahalingam, AP, ECE, delivered a talk on “Video Compression Standards” which dealt with the need for video compression, types of compression techniques and existing standards.
- 16<sup>th</sup> Mar 2016: Mr. R Karthikeyan, AP, ECE, delivered a talk on “Machine Learning”. The lecture included the concepts of neural networks, fuzzy learning and other soft computing techniques in the context of machine learning.

- 17<sup>th</sup> Mar 2016: Mr. J. Salai Thillai Thilagam, Assoc. Prof., ECE delivered a lecture on “Microstrip Antennas”. The lecture was informative and dealt with the design, applications and advantages of microstrip antennas.



The IEEE SB in association with the Dept. of ECE organized a series of lectures on various topics. The lecture series was coordinated by Mr. P Subramanian, Assoc. Prof/ECE

- 18<sup>th</sup> Mar 2016: Mr. A Subbiah, AP/ECE, delivered a lecture on “Power Plant Instrumentation” covering topics such as instruments used in thermal power plants like pressure transmitter, temperature transmitter, flow sensors and level sensors.
- 21<sup>st</sup> Mar 2016: Mr. R Pathamuthu, AP/ECE delivered a lecture on “ARM Processors” which covered topics such as ARM architecture, instruction set and programming.
- 22<sup>nd</sup> Mar 2016. Ms. R. Mohanapriya, AP/ECE delivered a lecture on “Skinput”, an input technology that uses bioacoustics sensing.

- 23<sup>rd</sup> Mar 2016: Ms. K. Sasirekha, AP/ECE delivered a lecture on “Smart Sensor Networks” covering topics such as types of sensors, applications, smart sensors and future technologies.
- 29<sup>th</sup> Mar 2016: Ms. R Indumathi, AP/ECE delivered a lecture on “Telemedicine” covering the concepts, applications and implementation of telemedicine.
- 29<sup>th</sup> Mar 2016: Ms. C Manibharathi, AP/ECE delivered a lecture on “Multimedia Compression” covering the need for compression and related techniques.
- 29<sup>th</sup> Mar 2016: Mr. R Suresh Kumar, Assoc. Prof/ECE delivered a lecture on “Cloud Computing” covering the need, working and applications of cloud computing.
- 5<sup>th</sup> Apr 2016: Mr. P Subramanian, Assoc. Prof/ECE delivered a lecture on “Content-Based Video Indexing and Retrieval” covering the concept of video data management and video retrieval.



**“Contrivance’16”**  
**2<sup>nd</sup> National Level Technical Festival**  
**26<sup>th</sup> September 2016**

Department of Electronics and Communication Engineering and Department of Electrical and Electronics Engineering jointly organized **2<sup>nd</sup> National Level Technical Fest (CONTRIVANCE’16)** on 26<sup>th</sup> September 2016. Prof. P. Rajasekaran, HOD/EEE has delivered the Welcome address and welcomed the gathering. Prof. D. VijendraBabu, Principal (i/c) has delivered the presidential address and inaugurated the Technical Fest.

Various Techninal events has been organized and conducted and more than 200 students participated from various engineering colleges like St. Joseph College of Engineering, B S AbdurRahman University, Bharath Institute of Technology, Prest University, etc.

Various Technical events like Paper presentation, Poster Presentation, Bug-D-Bash, Circuit Iron out, Guess the Equipment, Treasure Hunt and Code Cleft were conducted. Cash prizes and Certificates were issued for Winners.





## National Level Technical Project Contest & Poster Presentation “AVIT TECHXPO-2K17”

Aarupadai Veedu Institute of Technology organized a **National Level Technical Project Contest & Poster Presentation “AVIT TECHXPO-2K17”** on **7<sup>th</sup> April 2017**. **Dr. A. Sivagami, HOD/ECE, AVIT** delivered the Welcome address. **Prof.D.Vijendrababu**, Vice Principal, AVIT delivered the Presidential address. **Mr.P.Subramanian**, Associated Professor, AVIT delivered the Chief Guest introduction. The Chief Guest **Ms. K. Vinolia**, Head, Central Data Processing Section(CDPS), delivered the key note address and started her lecture with the present trends in Digital I&C System design for NPP an overview. The Guest of Honor **Ms. B.Shanti**, Professor Hindustan Maritime Institute of Technology. **Ms. K.Sasirekha**, Assistant Professor, proposed the vote of thanks.

The students from various Institutions like Rajalakshmi Engineering College, Vels University and Sri Sairam Engineering College has participated and exhibited their talents in Avit Techxpo 2k17. The events are conducted in the streams of Engineering Level, Diploma level (Mini Project) and Poster Presentation.





## SEMINARS & GUEST LECTURES

### Guest Lecture on “Advanced VLSI Design Techniques”

Department of Electronics & Communication Engineering, IEEE SB Chapter, Aarupadai Veedu Institute of Technology organized a **Guest Lecture on “Advanced VLSI Design Techniques”** on **04<sup>th</sup> Aug, 2016**.

The Chief Guest Dr.D.Meganathan, delivered the key note address and started his lecture with future trends in electronics and discussed about the advancement in VLSI design and its applications. He explained the VLSI Circuit realization process which includes Customer’s requirements, Design Conceptualization by customers and designers, Design Specifications , Design Descriptions - VHDL, Verilog, System C, Circuit realization: Synthesis, Custom Design, Validation v/s Verification, Verification v/s Testing.

Students from ECE, BME & EEE and faculty participated in this guest lecture and find it very informative and interesting.



*Dr.S.Suyambazhahan,Principal,AVIT Felicitating the Chief Guest Dr.D.Meganathan, Assistant Professor, Department of Electronics Engineering, Madras Institute of Technology, Anna University, India*

## **Seminar on “Emerging trends in Biomedical Engineering and Industrial Automation Engineering”**

Department of Electronics & Communication Engineering, Department of Electrical & Electronics Engineering IEEE SB Chapter, Aarupadai Veedu Institute of Technology organized a Seminar on “Emerging trends in Biomedical Engineering and Industrial Automation Engineering” on 06<sup>th</sup> Oct, 2016.

The Chief Guest Mr.A.Ramalingam,Senior Vice President,Shree TeknoMed Services ,Chennai delivered the Seminar and started his lecture with Biomedical Equipments and explained future trends and career opportunities in Industrial Automation Engineering.

Students from ECE, BME & MECHATRONICS participated in this Seminar and gained the knowledge in Emerging trends in Biomedical Engineering.



*Mr.A.Ramalingam,Senior Vice President,Shree TeknoMed Services ,Chennai delivering the Seminar*



## Seminar on “IOT and its applications”

Department of Electronics & Communication Engineering, IEEE SB Chapter, Aarupadai Veedu Institute of Technology organized a **Seminar on “IOT and its applications” on 20<sup>th</sup> January 2017.**

The Chief Guest Mr.K.Sriram Sastry, Allied Electronics Co, Chennai gave an introduction about Internet of Things (IOT) and explained how they can be implemented. He explained the various features of IOT and its new technologies developed in the current scenario.

The faculty members of all departments attended the seminar and found it very interesting. They all interacted with him and cleared their doubts. They also asked him how IOT can be implemented in their own discipline.



*ECE Head Dr.A.Sivagami introducing the chief guest Mr.K.Sriram Sastry, Allied Electronics Co, Chennai*

## **Lecture on Cognitive Internet of Things**

The IEEE Student Branch Chapter of Aarupadai Veedu Institute of Technology along with the Department of Electronics and Communication Engineering organized a Lecture on Cognitive Internet of Things by Mr A Athif Shah, Chairman and Managing Director, Abe Semiconductors Pvt Ltd, Chennai on February 2, 2017. 100 students from ECE & EEE Department attended the lecture and benefitted.



*Mr A Athif Shah, Chairman and Managing Director, Abe Semiconductors Pvt Ltd, Chennai*



## **AWARENESS SEMINAR ON HIGHER STUDIES**

Department of Electronics and Communication Engineering and IEEE SB Chapter, AVIT organized an awareness Seminar on Higher Studies on March 10, 2017. Mr Mark North from TIME spoke on the higher education and career opportunities. Prof and Head Dr A Sivagami welcomed the gathering. Dr Lakshmi Narayana, Principal felicitated. Prof P Subramanian, ECE Department and IEEE SB Counselor delivered the vote of thanks.



## Seminar On Certifications On Networking And Redhat Linux

Department of Electronics and Communication Engineering and Department of Computer Science Engineering organized a Seminar on Certifications on Networking & Redhat Linux on March 14, 2017. Prof and Head Dr A Sivagami welcomed the gathering. Mr. Sidharth Patnayak & Mr. M.N. Babu, Senior Executives, Vectra Technosoft Pvt., Ltd., spoke on the importance of certifications on networking and Redhat Linux. Dr Vemuri Lakshmi Narayana, Principal gave the presidential address. Mr. Raghavan & Mr. Keertheeswaran explained about open source technology and redhat linux. Dr. Somasundaram, Prof & Head CSE felicitated. The students from ECE & CSE had attended the seminar. Dr. L.K.Hema, coordinator of the event, delivered the vote of thanks.



*Prof and Head ECE, Dr A Sivagami welcoming the gathering*

## WORKSHOPS

### *Report – Workshop on “Image Processing Using SCILAB*

Department of Electronics & Communication Engineering & IEEE SB Chapter, Aarupadai Veedu Institute of Technology organized a **Workshop on “Image Processing Using SCILAB”** on **07<sup>th</sup> Sept, 2016**.

Mr.P.Subramanian, Associate Professor, ECE,AVIT and Mr.R.Karthikeyan, Asst Professor (Gr-II), ECE,AVIT have delivered the lecture and hands on training in SCILAB.

Students from ECE & BME participated in this Workshop and gained the practical knowledge in SCILAB and its application in Image Processing. They found it interesting and innovative.



*Prof.D.Vijendra Babu, Principal ,delivering the Inaugural address.*

## Workshop on “IOT and its applications”

Department of Electronics & Communication Engineering, IEEE SB Chapter, Aarupadai Veedu Institute of Technology organized a **Workshop on “IOT and its applications” on 13<sup>th</sup> February 2017.**

The Chief Guest Mr.K.Sriram Sastry, Allied Electronics Co, Chennai delivered his lecture on “Internet of Things IoT” which plays a major role in applications which minimize human intervention required in activity. . The session had an interactive QA session wherein the students quizzed him on several issues ranging from the basics, technology aspects of IoT, applications to a common man.

Students from Electronics and communication and Biomedical engineering took part in the Workshop.The students asked many queries and one query was regarding the spectrum involving the devices in IoT like sensors, network, and connectivity and so on.



*The Chief Guest Mr.K.Sriram Sastry, Allied Electronics Co, Chennai delivering the lecture*

## **Workshop On “Libre-Office Writer”**

Department of Electronics & Communication Engineering & IEEE SB Chapter, Aarupadai Veedu Institute of Technology organized a **Workshop on “Libre-Office Writer”** on **23<sup>th</sup> february, 2017**.

Mr.P.Subramanian Assoc Professor, ECE & Mr.R.Karthikeyan, Asst Professor(Gr-II),ECE,AVIT delivered the lecture and hands on training on this open source office suite. Libre-Office is compatible with a wide range of document formats such as Microsoft Word,Excel, Powerpoint and Publisher.

Students from II year and III year students from ECE participated in this Workshop and they find it interesting and useful.



*Dr Vemuri Lakshmi Narayana, Principal, AVIT giving the Presidential address*

## **INDUSTRIAL VISITS**

### ***INDUSTRIAL VISIT TO AGADA HOSPITAL***

Students of II year and III year Biomedical Engineering went to an Hospital visit to AgadaHospital,Chennai.on 16th August, 2016.Mr.J.SalaiThillaiThilagam Associate Professor, ECE accompanied the students.MR.BABU,Operations –Manager welcomed the students and taken them to various departments like CardioThoracic surgery,Urology,Oncology,Nephrology,Neurology and Radiology.He also Shown some radiological equipments MRI,Xray,CT-Scan,and Echocardiography machine. Students found it very interesting and learnt about the equipments very well.





### ***INDUSTRIAL VISIT RTTC,BSNL,MARAIMALAI NAGAR***

The Second year students of ECE & BME Department went to an Industrial visit to Bharat Sanchar Nigam Limited (Regional Telecom Training Centre), Maraimalai Nagar on 07th September 2016. The students were accompanied by 2 faculty members.

Students were taught about power management of telecommunication networks and Optical Networks. They understood understand different modes of fibers, difference between glass fibers and plastic fibers. Different varieties of optical fibers were shown to students which created an interest among students. Students were also exposed to fault localization and rectification in optical fiber cables between telephone exchanges.



### **INDUSTRIAL VISIT TO RMC,CHENNAI**

An industrial visit of over 60 students of III Year and II Year ECE organized by Department of Electronics & Communication Engineering to the Regional Meteorological Centre, Nungambakkam on 30th SEPTEMBER,2016. The visit was organized by Mr. R.SureshKumar(Associate Professor, ECE Dept).

The students and the faculty received a warm welcome from the Director Regional Meteorological Department. The visit started with the SATMET Department (Satellite Meteorology Department) of the Indian Meteorological Department. The Technical Engineer explained the working of INSAT satellites to all the students and their role in meteorological data collection followed by a visit to the Data Center of SATMET where the working of servers of SATMAT was again explained wonderfully



### **INDUSTRIAL VISIT TO DOORDARSHAN,CHENNAI**

An Industrial visit to Doordarshan, Chennai has been arranged for the students of II Year and III Year ECE on 17.02.2017. Mr. R. Sureshkumar, Asso. Prof/ECE, and Ms. K. Sasi Rekha, Asst. Prof Gr II /ECE accompanied the students.

The students have visited the following labs in Doordharshan namely Studio live recording, Audio and Video Recording, Audio and Video mixing Unit, Transmission Unit, HT Station, .Bulletin and Special Effects mixing unit.



### **Industrial visit To NIWE, Chennai**

An Industrial visit was arranged for the students of the II Year ECE to the National Institute of Wind Energy, Velacherry, Chennai, on 21<sup>st</sup> MARCH, 2017. NIWE is an autonomous R&D institution under the Ministry of New and Renewable Energy, Government of India, established to serve as a technical focal

point for orderly development of Wind Power deployment in India. The students learnt about the pyranometer, ultrasonic Wind Sensor, Rain Gauge, Pressure Sensor, Solar PV panel, Data logger and Modem, Wind power Potential Map.



### Visit TO Global Hospital,Chennai

An Industrial visit was arranged for the students of the II Year & III Year BME to the Global Hospitals, Chennai.on 05.04.2017. The students visited the following labs in Global Hospitals & Health -City, Perumbakkam Histo Pathology Lab, Dialyser Unit,Endoscopic Unit,Multi parameter Patient Monitoring System, Ventillator,Medical ICU Unit,Micro Biology Lab-Automatic Blood,Urine Testing Machines & Unit,X-Ray Unit,MRI scanning,Live CT Scanning,Electro Cardiogram(ECE).





### **MOU WITH PLC TECHNOLOGIES**

Department of Electronics and Communication Engineering signed an MoU with M/s PLC Technologies Ltd. Chennai on February 02, 2017. The MoU would enable the students and faculty of Aarupadai Veedu Institute of Technology to get trained in the latest developments in the fields of Embedded Systems, Robotics and Internet of Things. Students of Electronics and Communication Engineering would also get to do real time projects and internship at PLC Technologies.

The MoU was signed by Prof D Vemuri Lakshminarayana, Principal, AVIT and Mr Gowdhaman, Manager, R & D Division, PLC Technologies Ltd, Chennai. Prof A Sivagami, Head, ECE Department and Prof P Subramanian, Associate Professor, ECE Department coordinated the event.



*Prof D Vemuri Lakshminarayana, Principal, AVIT and Mr Gowdhaman, Manager, R & D Division, PLC Technologies Ltd, Chennai.*

### **MOU WITH ALLIED ELECTRONICS CO,CHENNAI**

Department of Electronics and Communication Engineering signed an MoU with M/s Allied Electronics Co,Chennai on January 20, 2017. The MoU would enable the students and faculty of Aarupadai Veedu Institute of Technology to get trained in the latest developments in the fields of Internet of Things.

The MoU was signed by Prof D Vemuri Lakshminarayana, Principal, AVIT and Mr.K.Sriram Sastry, Allied Electronics Co, Chennai, Prof A Sivagami, Head, ECE Department .

## **RESEARCH & DEVELOPMENT**

### **Project Proposal for Technology Business Incubator for DST**

Project Proposal for Setting Up Aarupadai Veedu Institute Of Technology-Technology Business Incubator (AVIT-TBI) Submitted to Department Of Science and Technology by Dr. L. K. Hema, Associate Professor, ECE, Dr.Sivagami, Professor& Head,ECE, and P.Subramanian, Associate Professor,ECE

### **Project Proposal for Department Of Biotechnology,Govt Of India,NewDelhi**

A Project Pre Proposal has been submitted to Department of Biotechnology,Govt Of India, New Delhi on Health and Sanitation in the Coastal region – Alathur, Poonjeri, Kovalam, Kadapakkam villages in Kancheepuram District by Dr. L. K. Hema, Associate Professor, Dr. Sivagami, Professor& Head, ECE Dr. R.Devika, Professor, Biotech, Ms. R. Indumathi, Assistant Professor Gr.II, ECE

**Objective:** This proposal is aimed to design and develop a cost effective IoT enabled non invasive blood glucose monitor and non invasive fetal heart beat monitor to improve the awareness of health among the people residing near to our college. These instruments are given to the needy people in coordination with local health centre. This will reduce child mortality and improve the life span of the people in the coastal villages.

### **Project Proposal For Woman Entrepreneur Cell, AVIT,Chennai**

1.Project proposal for woman entrepreneur “Solar Powered Led Lighting” submitted to women empowerment cell Aarupadai Veedu Institute of Technology, Paiyanoor, submitted by Dr.A.Sivagami, Ms.K.SasirekhaAP,ECE, Mr. K. Balabathiran, Lab Asst,ECE

2.Project proposal for woman entrepreneur “ Indian spice from the flavours of tradition”

By Dr. L.K.HEMA, Assoc. Prof/ECE, Mrs. R. Mohanapriya AP ,ECE, Mrs. R. INDUMATHI, A P Gr. II/ECE

## TNSCST Students Project Proposal

Project proposals Submitted under Student projects scheme 2016-2017 Tamilnadu State Council for Science and Technology on August 2016

Sl. No.	TITLE OF THE PROJECT	GUIDE	GROUP MEMBERS	CLASS
1.	Nerve stimulation based prosthetic arm for amputees	Ms. L.K.Hema	Mr.B. Krishna Kumar Mr.MohammadAbdul Wahed Faisal	IV BME
2.	Wild life movement monitoring	Mr.P. Subramanian	Mr.Abhishekkumar Yadav Ms.K. Reshma Ms. P.S.S.S.L.V Anusha	IV ECE
3.	Blood Saving technique	Ms. L.K.Hema	Mr.Muvva Praveen	IV BME
4.	Object Detection by Proximity Sensor and Voice Play for the blind people.	Ms.R.Mohana Priya	Mr.Mohammad Aijas	IV BME
5	Dental biometric system for Ante Mortem and Post Mortem Individual identification based on Image segmentation and matching	Ms. L.K.Hema	Mr.Aravindan Mr.ChalamCharla Kalyan Mr.VadavalliNaga Tejashwi Mr.Ankit Singh	IV BME



**Dr. APJ Abdul Kalam Innovation Ecosystems, A National Level Students Project Contest,  
8th& 9<sup>th</sup> April, 2017**

**Project Submission Details**

<b>S. NO</b>	<b>TITLE OF THE PROJECT</b>	<b>GROUP MEMBERS</b>	<b>Class</b>
1	A Real-Time Electrically Controlled Active Matching Circuit For Wireless Power Transfer To Biomedical Implants	Mr.Mohammad Aijas Mr.Ankit Singh Mr.Fais Fathah	IV Year BME
2	Design And Development Of Iot Based Pulse-Oximeter	Mr.Krishnakumar B Mr.Md. Abdul Wahed Faisal Mr.Harikrishnan S Mr.Srinath S	IV Year BME
4	Generation Of Electro Cardio Graph (Ecg) Using Wilson Network	Mr.Muvva Praveen Mr.Mohamed Musthafa S Mr.Ashique C P	IV Year BME
6	Non-Invasive Blood Glucose Estimation	Mr.Aravindan A Mr.Vadavalli Naga Tejaswi Mr.Chalalmcharla Kalyan	IV Year BME
7	Versatile Real-Time Traffic Monitoring System Using Wireless Smart Sensors Networks	Mr.Kamalakannan. U Mr.Shengol Vishal E Mr.Vijay Chinnaiyan	IV Year ECE
8	Development Of Iot Based Smart Security And Monitoring Devices For Agriculture	Ms.Amisha Singh. S Ms.Reshma. K Ms.P. S. L. V. S. S. Anusha Ms.Veena Kumari	IV Year ECE

## RESEARCH PUBLICATIONS:

1. Design The System To Automatically Detect The Type Of Antenna In A Car Without Affecting The System Performance, R. Indumathi\*, V. Suja, C. Saravanan And Chithraveni, International Journal Of Chemical Science: 14(S3), 2016, 801-804 ISSN 0972-768xi
2. Low Volume Chemical Dispenser For Automatic Titration, P. Subramanian\*, Moti Kumari And Priyanka Kumari, International Journal Of Chemical Science: 14(S3), 2016, 801-804 ISSN 0972-768xi
3. Multibiometric Systems, P. Subramanian\*, K. Nithin Krishna, Rinku Marya Sebastian And Najeeb Ur Rahman, International Journal Of Chemical Science: 14(S3), 2016, 801-804 ISSN 0972-768xi
4. Underwater Wireless Sensor Networks, P. Subramanian\*, T. Nantha Kumar And Jegath Jayashankar, International Journal Of Chemical Science: 14(S3), 2016, 801-804 ISSN 0972-768xi
5. Image Fusion Techniques, P. Subramanian\*, M. Sowndariya, S. Swathi And Santa Monica, International Journal Of Chemical Science: 14(S3), 2016, 801-804 ISSN 0972-768xi
6. Crash Data Recorders For Vehicles, P. Subramanian\*, K. M. M. Ajmal, Sahajas V. Sainudeen And Suhail K. Basheer, International Journal Of Chemical Science: 14(S3), 2016, 801-804 ISSN 0972-768xi
7. E-Gateway: A Smart Home Automation System, L. K. Hema\*, Akhil Menon, Abhilash V. Vishnu And Lubab Abdul Nasser, International Journal Of Chemical Science: 14(S3), 2016, 801-804 ISSN 0972-768xi
8. Image Registration Methods, P. Subramanian\*, K. Faizal Leerar, K. P. Hafiz Ahammed, K. Sarun And Ziyad Mohammed International Journal Of Chemical Science: 14(S3), 2016, Regular Issue ISSN 0972-768xi

9. Wearable Safety Wristband Device For Elderly Health Monitoring, L. K. Hema\*, T. C. Krishnanunni, V. K. Abdul Majid And Athul George International Journal Of Chemical Science: 14(S3), 2016, Regular Issue ISSN 0972-768xi
10. Smart System For Vehicle Emission Testing, L. K. Hema\*, Prathyush, Prince Kumar And Punit Anand International Journal Of Chemical Science: 14(S3), 2016, Regular Issue ISSN 0972-768xi
11. Camera Based Label Reader For Blind People, A. Subbiah\*, T. Arivukkarasu, M. S. Saravanan And V. Balaji International Journal Of Chemical Science: 14(S3), 2016, Regular Issue ISSN 0972-768xi
12. Fire Safety Robot, A.Subbiah\*, P.Chiranjeevi, K.Shanmuganathan And C. Vignesh, International Journal Of Chemical Science: 14(S3), 2016, Regular Issue ISSN 0972-768xi
13. Six Legged Sound Follower Robot, A. Subbiah\*, N. Shankar Ganesh, Jabin James, And S. Rajish Raja International Journal Of Chemical Science: 14(S3), 2016, Regular Issue ISSN 0972-768xi
14. Rfid Based Assistance For Bus Travel For The Blind, B. Sridhar\*, C. Amarnath, D. Logeswaran, B. Roopan And S. Santhosam, International Journal Of Chemical Science: 14(S3), 2016, Regular Issue ISSN 0972-768xi
15. A Microcontroller Based Remote Tracking System Integrated With Social Websites For The Monitoring And Rescue Of Dementia Patients, B. Sridhar\*, U. Venkata Vikash, K. Rakesh Varma And J. Sai Mano Theja International Journal Of Chemical Science: 14(S3), 2016, Regular Issue ISSN 0972-768xi
16. An Intelligent Automobile Anti-Theft System, L. K. Hema\*, Achal Mercy Banra,Raju Kumar And Ranu Rakesh Singh International Journal Of Chemical Science: 14(S3), 2016, Regular Issue ISSN 0972-768xi
17. Method Of Fingerprint Identification And Deduction Of For Automated Teller Machine Using Gsm, B. Sivachandra Mahalingam\*, M. D. Safder Ali Khan, Santosh Kumar

Yadav And Deepak Kumar Ravi International Journal Of Chemical Science: 14(S3), 2016,  
Regular Issue ISSN 0972-768xi

18. Svm Based Life Threatening Arrhythmias Detection, B. Sivachandra Mahalingam\*, P. Ajai Rai,J.  
K. Prasanth Singh And U. M. Kavin Karthikeyan International Journal Of Chemical Science:  
14(S3), 2016, Regular Issue ISSN 0972-768xi
19. Implementation Of Bidirectional Voice Communication Between Normal & Deaf & Dumbpeople  
Using Hand Wave & Voice Recognition, B. Sivachandra Mahalingam\*, D. Jaya Kishore  
Reddy,M. Harish And M. Kishore Kumar Reddy International Journal Of Chemical Science:  
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21. Visual Surveillance Study By Using Absolute Difference Motion Detection, J. Salai Thillai  
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24. A Smart Network: Iot To Monitor Temperature And Heart Beat Of A Person Using Rfid  
Technology, R. Mohana Priya\*, M. Akshaya, S. Gomathi And S. Lavanya International Journal  
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25. Rtos-Car Using Arm Processor, R. Pathamuthu\*, Muhammed Sadath Ali,Rahil And V. Rubin  
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26. Atm Machine For Blind People, K. Sasirekha\*, M. Nivetha, A. Indumathi And D. Renukadevi  
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27. Digital Pressure Sensor Tracking Using Depth Of Field, K. Sasirekha\*, M. Meenakshi, S. Nidharshana And V. Priyanka International Journal Of Chemical Science: 14(S3), 2016, Regular Issue ISSN 0972-768xi
28. Study Of Link Protection Mechanism Using Visible Light Communication For Smart Industry, R. Pathamuthu\*, Shantkar, Vikash Kumar And Vivek Kumar International Journal Of Chemical Science: 14(S3), 2016, Regular Issue ISSN 0972-768xi
29. Lung Lesion Parenchyma Segmentation Algorithm For Ct Images, R. Indumathi\*, R. Haripriya And S. Akshaya International Journal Of Chemical Science: 14(S3), 2016, Regular Issue ISSN 0972-768xi
30. Nerve Stimulation Based Prosthetic Arm For Amputees, Hema.L.K.\*<sup>1</sup>, Krishnakumar.B<sup>2</sup>, Mohammad Abdul Wahed Faisal<sup>3</sup>, Muvva Praveen<sup>4</sup>, Jeethika.R<sup>5</sup> International Journal Of Chemical Science: 14(S3), 2016, Regular Issue ISSN 0972-768xi
31. Image Segmentation And Matching Based Dental Biometric System- A Survey  
Hema Lk, Ankit Singh<sup>1</sup>, Aravindan.A<sup>2</sup>, Chalam charla Kalyan<sup>3</sup>, Vadavalli Naga Tejaswi<sup>4</sup>  
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32. Advanced Traffic Clearance System For Ambulance Clearance Using RS434 Module Algorithm For Ct Images, R. Suresh Kumar, R.Balaji, G.Manikandan, Mastan International Journal Of Chemical Science: 14(S3), 2016, Regular Issue, ISSN 0972-768xi

## **FACULTY AWARDS**

### **PHD DEGREE AWARDED**

Ms. L.K.Hema has been conferred with the Ph.D. degree from Manonmaniam Sundaranar University for the thesis titled, “A Novel Approach to Enhance the Life time of Nodes in WSN based Agriculture Field Monitoring” under the supervision of Dr. D. Murugan, Professor, Manonmaniam Sundaranar University, Tirunelveli, Tamilnadu.

Mr.P.Subramanian Associate Professor,ECE,has been selected as the Chairperson of IEEE Communication Society Madras Chapter for the Year 2016-2017

Mr.P.Subramanian Associate Professor,ECE,has been selected as the Chairperson of Education Committee IEEE Madras for the Year 2016-2017

Mr.P.Subramanian Associate Professor,ECE,has been awarded as the Executive Committee Member of IEEE Madras section for the Year 2016-2017

The Project proposal for woman entrepreneur“ Indian spice from the flavours of tradition” By Dr. L.K.HEMA, Assoc. Prof/ECE, Mrs. R. Mohanapriya AP Gr. II ,ECE, Mrs. R. INDUMATHI, A P Gr. II/ECE has won the SECOND prize in the International Women’s Day celebrations held on 8<sup>th</sup> March 2017

The Project proposal for woman entrepreneur “Solar Powered Led Lighting” submitted to women empowerment cell Aarupadai Veedu Institute of Technology, Paiyanoor, submitted by Dr.A.Sivagami, Ms.K.SasirekhaAP Gr. II,ECE, Mr. K. Balabathiran, Lab Asst,ECE has won the III prize in the International Women’s Day celebrations held on 8<sup>th</sup> March 2017

Dr. L.K.Hema, Asso. Prof, Ms. R. Mohanapriya, AP Gr. II ,Ms. R. Indumathi, AP Gr. II Ms. K. Sasirekha, AP Gr. II Ms. C. Manibharathi AP of ECE department have won the FIRST Prize in the Team event “ CELEBRATING MYSELF” in the International Women’s Day celebrations held on 8<sup>th</sup> March 2017.



Dr. L.K. Hema, Assoc. Prof/ECE have won the Overall Achiever and First Prize in the Solo event “CELEBRATING MYSELF” in the International Women’s Day celebrations held on 8<sup>th</sup> March 2017.

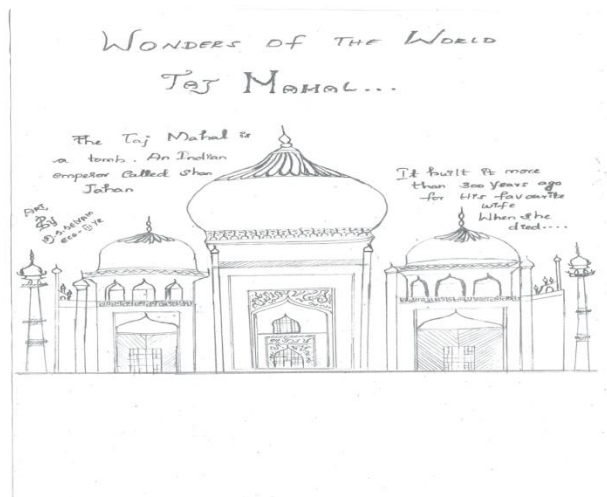


### ***STUDENTS ACHIEVEMENT***

1. Mr.M.S.SelvaKumar,Mr.S.Nagaraj of Final year ECE got First Prize in the event “Technical Quiz” in the National level Technical Symposium conducted on 02.09.16 by ECE Department SMK Fomra Institute of Technology, Chennai
2. Mr.M.S.SelvaKumar of Final year ECE got First Prize in the event “Think Different” in the National level Technical Symposium conducted on 02.09.16 by ECE Department SMK Fomra Institute of Technology, Chennai
3. Mr.M.S.SelvaKumar of Final year ECE got First Prize in the event “Surprise Event” in the National level Technical Symposium conducted on 02.09.16 by ECE Department SMK Fomra Institute of Technology, Chennai
4. Mr.Satish Jacob of Final year ECE got First Prize in the event “ADZAP” in the National level Technical Symposium conducted on 02.09.16 by ECE Department SMK Fomra Institute of Technology, Chennai.
5. Mr.Nagaraj S of Final year ECE got Second Prize in the event “Circuit Debugging” in the National level Technical Symposium conducted on 02.09.16 by ECE Department SMK Fomra Institute of Technology, Chennai.
6. Mr.U.Prabakaran, Mr.P.Saravana Kumanan, Mr.Shengol Vishal of Final Year ECE got Second Prize in the event “Poster Presentation” in the National level Technical Symposium conducted on 02.09.16 by ECE Department SMK Fomra Institute of Technology, Chennai
7. Mr.U.Prabakaran of Final Year ECE got First Prize in the event “Paper Presentation” in the National level Technical Symposium conducted on 02.09.16 by ECE Department SMK Fomra Institute of Technology, Chennai
8. Mr.Yasarrafthchoudhary, Mr.Vimal L J , Mr.Yogeshwaran V of III Year ECE got First Prize in the Event “TECHXPO2K17” For the Miniproject “Metal detector” conducted by AVIT,Chennai
9. Mr.Ramakrishanan,Mr.Ramki, Mr.Sriram of III Year ECE got Second Prize in the Event “TECHXPO2K17” for the Miniproject “Cell Phone Detector Using Solenoid” conducted by AVIT,Chennai
10. Mr.Sathesh Kumar S,Mr.Prabhu Raj S B, Mr. Jayakumar S of III Year ECE got Third Prize in the Event “TECHXPO2K17” for the Miniproject “Temperature And Humidity Sensor Using IOT” conducted by AVIT, Chennai

11. Mr.Ajeet Kumar Jha,Mr.MithunKumar, Mr.Aditya Kumar Singh, of Final Year ECE got First Prize in the Event “TECHXPO2K17” for the Project “Android Mobile Phone Control Bluetooth Using ARM 7 Microcontroller” conducted by AVIT, Chennai
12. Mr.Muvva Praveen, Mr. Mohamed Musthafa S ,Mr.Ashique.C.P of Final Year BME got Second Prize in the Event “TECHXPO2K17” for the Project “IOT Based ECG Signal Monitoring” conducted by AVIT, Chennai
13. Mr.Justine P James,Mr.Kiran Krishnan N V, Mr.Libinraj B R of Final Year ECE got Third Prize in the Event “TECHXPO2K17” for the Project “Consultation Services Using IVR Telephony Based On Expert System” conducted by AVIT, Chennai
14. Mr.Justin James and Mr.Amal Thomas of Final Year ECE has won the Third Prize in the Event “Football 5’s,KCG Trophy-Tamilnadu State level Intercollegeiate Tournament, held at KCG College of technology,Chennai on 28.03.17
15. Ms.Siva Sujintha of III Year BME got the Best Poster award for “Driverless Car” in the One day International Technical symposium HORSEPOWER 2K16 on 19.08.2017 Conducted by Mechanical Department AVIT.
16. Mr. Mohamed Musthafa S of Final Year BME has won the Third Prize in the Event “Football 5’s,KCG Trophy-Tamilnadu State level Intercollegeiate Tournament, held at KCG College of technology,Chennai
- 17.Ms. Sripada Anuradha, Bijitha Bhanudass , Ayyala Rupace raj III year ECE, Nohapriya, Priyavarshini, Sivasujintha of III year Biomedical have won the **First prize** in the skit played in the theme of Women Empowerment during International Women’s Day celebrations held on 8<sup>th</sup> March 2017.
17. Ms. Sindhu of IV year ECE has won the **FIRST PRIZE** in English essay writing during the International Women’s Day celebrations held on 8<sup>th</sup> March 2017.

## TECHNICAL ARTICLES & PAINTINGS



## HYBRID OPERATION ROOMS(OR's)

Hybrid operation rooms are the combination of advanced imaging laboratories (i.e., fixed C-Arms, Computerized Tomography, MR Scanner) and the Surgical Theatres. These Imaging devices disable the long duration of surgery and Enables minimally invasive procedures which are less traumatic to the patient. Here, the scenario of the surgery is completely changed. Surgeon doesn't need to cut open the patient body to access the diseased part but he/she uses certain tools to access, like Catheters or Endoscopes through key holes. These newer procedures require imaging techniques that can able to visualize very smaller anatomical parts like thinner vessels in heart and heart muscle and this can be achieved through INTRA-OPERATIVE 3D IMAGING.



Hybrid OR for Cardiovascular surgery at Gemelli Hospital in Rome.

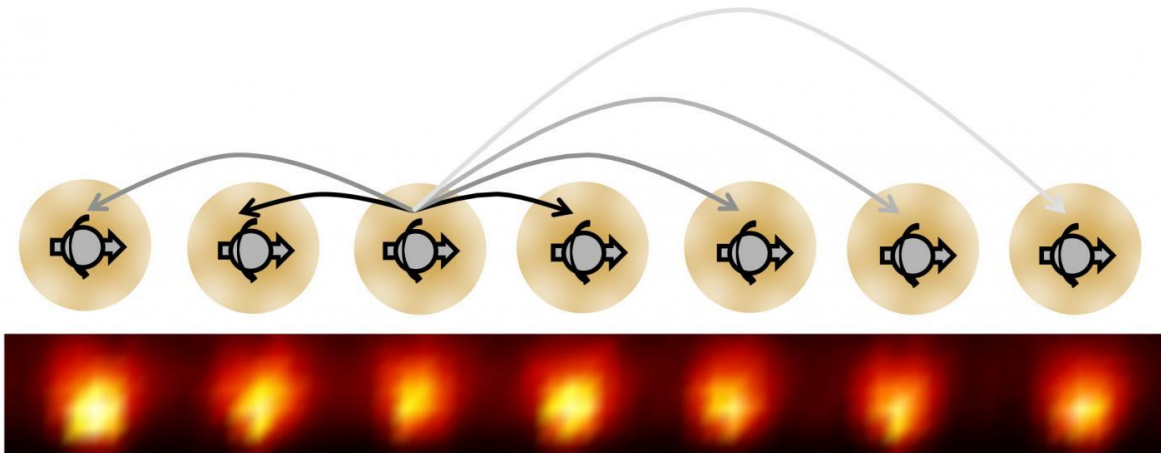
**Muvva Praveen, Biomedical Engineering Final Year.**

### **TIME CRYSTALS**

*We have seen three types of matter in use(solid, liquid and gas). They exhibit different properties. Recently, scientists found a new type of matter, **TIME CRYSTALS**. The discovery might sound pretty abstract, but it heralds in a whole new era in physics - for decades we've been*



*studying matter that's defined as being 'in equilibrium', such as metals and insulators.*



*For months now, there's been speculation that researchers might have finally created time crystals - strange crystals that have an **atomic structure that repeats not just in space, but in time**, putting them in constant oscillation without energy. But it's been predicted that there are many more strange types of matter out there in the Universe that aren't in equilibrium that we haven't even begun to look into, including time crystals. And now we know they're real.*

*The fact that we now have the first example of non-equilibrium matter could lead to breakthroughs in our understanding of the world around us, as well as new technology such as quantum computing.*

## **SOLAR ROADWAYS**

Solar Roadways is a currently trending innovation which focuses on replacing the common roads with structurally engineered solar panels which can withstand the weight of vehicles as well as tough out other environmental conditions. They consist of solar cells placed under hardened glass. The energy received from these roads can power road lights, traffic lights, signs and also local dwellings. If successful, the entire roadway system (if not, a majority) of a country can be turned into a solar power plant. It can also provide a source of electricity to charge electric cars on the go as an added advantage. Solar roads can cut harmful emissions of a country by at least 50% which is a number which cannot be ignored keeping in mind the alarming rate of increase in Global Warming. SolaRoad in Krommanie, Netherlands, is the first solar powered bike path laid in the world which was opened in November, 2014





*Solar roadway artist rendition      2SolaRoad- Solar Cycle path laid in Krommanie, Netherlands*

Pathamuthu R

Assistant Professor (G-II) /ECE

### **CLOUD COMPUTING-R.Sureshkumar,Associate Prof/ECE**

**Cloud computing** is an umbrella term used to refer to Internet based development and services. The **cloud** is a metaphor for the Internet. A number of characteristics define **cloud** data, applications services and infrastructure: Remotely hosted: Services or data are hosted on someone else's infrastructure.

### **CLOUD STORAGE**

Several large Web companies (such as **Amazon and Google**) are now exploiting the fact that they have data storage capacity which can be hired out to others. This approach, known as 'cloud storage' allows data stored remotely to be temporarily cached on desktop computers, mobile phones or other Internet-linked devices. Amazon's **Elastic Compute Cloud (EC<sup>2</sup>)** and **Simple Storage Solution (S3)** are well known examples

### **OPPURTUNITIES**

The use of the cloud provides a number of opportunities:

- It enables services to be used without any understanding of their infrastructure.
- Cloud computing works using economies of scale. It lowers the outlay expense for start up companies, as they would no longer need to buy their own software or servers. Cost would be by on-demand pricing. Vendors and Service providers claim costs by establishing an ongoing revenue stream.
- Data and services are stored remotely but accessible from 'anywhere'

### **CHALLENGES**

- Use of cloud computing means dependence on others and that could possibly limit flexibility and innovation. The others' are likely become the bigger Internet companies like Google and IBM who

may monopolize the market. Some argue that this use of supercomputers is a return to the time of mainframe computing that the PC was a reaction against.

- Security could prove to be a big issue. It is still unclear how safe outsourced data is and when using these services ownership of data is not always clear.

There are also issues relating to policy and access. If your data is stored abroad whose policy do you adhere to? What happens if the remote server goes down? How will you then access files? There have been cases of users being locked out of accounts and losing access to data.

## **FUTURE SCOPE**

Many of the activities loosely grouped together under cloud computing have already been happening and centralized computing activity is not a new phenomena. Grid Computing was the last research-led centralized approach. However there are concerns that the mainstream adoption of cloud computing could cause many problems for users.

## **SKINPUT TECHNOLOGY**

**Skinput** is an input technology that uses bio-acoustic sensing to localize finger taps on the skin. When augmented with a pico-projector, the device can provide a direct manipulation, graphical user interface on the body. The technology was developed by Chris Harrison, Desney Tan, and Dan Morris, at Microsoft Research's Computational User Experiences Group.<sup>[1]</sup> Skinput represents one way to decouple input from electronic devices with the aim of allowing devices to become smaller without simultaneously shrinking the surface area on which input can be performed. While other systems, like SixthSense have attempted this with computer vision, Skinput employs acoustics, which take advantage of the human body's natural sound conductive properties (e.g., bone conduction).<sup>[2]</sup> This allows the body to be annexed as an input surface without the need for the skin to be invasively instrumented with sensors, tracking markers, or other items.

R.MOHANAPRIYA AP G-II/ECE

## RIDDLES

1. Tom's height is six feet, he's an assistant at a butcher's shop, and wears size 9 shoes. What does he weigh?
2. Feed me and I live, yet give me a drink and I die Who am I?
3. What kind of room has no doors or windows?
4. What gets broken without being held?
5. What word describes a woman who does not have all her fingers on one hand?
6. What kind of tree can you carry in your hand?
7. Which word in the dictionary is spelled incorrectly?
8. A girl who was just learning to drive went down a one-way street in the wrong direction, but didn't break the law. How is that possible?
9. If you have me, you want to share me. If you share me, you haven't got me. What am I?
10. Take off my skin – I won't cry, but you will! What am I?

## Answers

1. Meat 2. Fire 3. A mushroom 4. A promise 5 Normally people have half of their fingers on one hand. So she can be called a normal woman 6. A palm 7. Incorrectly 8. She was walking 9. Secret 10. Onion