Funding Projects Proposed to Department

Digital Air Pressure Controller

This project is sponsored and funded by JAL Automation Pvt. Ltd. Pune a private organization which is working in pharmaceutical automation sector at industrial estate Pune.

The project named as DIGITAL AIR PRESSURE CONTROLLER is newly developed PID controller based on ATMEGA 2560 microcontroller. It is basically used for the precise control of pneumatic air pressure control needed for different machines in an pharmaceutical organizations. This project developed on microcontroller ATMEGA 2560 along with sensors and actuators used in conjunction with controller. Our software & hardware development team have been worked hard to complete the project within time.

Team Members:
Prof. Mr. Kumbhar M.A.
Mr. wankhede S.D.
Ms. Shinde R. W.
Mr. Valte P.S.

DESIGNED BY-KAWALE S.M.

Upcoming Events

In this semester we are planning for our annual student event CENTIA

In CENTIA students are going to organize various events like Robo-racing, Puzzle, Quiz contest and LAN Gaming. Winner will awarded with trophies and certificates. Last year 200 students were participated in this events. Through this we got success in front of motivating our student to participated in competitive events, not only for our institute but also national as well as international competitions.

Industrial visit for 2nd and 3rd year students

We are planning industrial visits for our students to Akashwani Satara and Hem Electronics pvt. Ltd. Miraj and Welspun Energy Solapr power generation plant located at Mangalwedha.

Expert Lecture

We plan expert lecture over the syllabus which conducted by industry experts for students.

Student Development

Department conducted short term professional courses in that we take 10 to 15 days workshop for student. Last vacation we conducted workshop for Embeded System and PLC programming . Upcoming vacation we plan for arduino project development and PCB Design.

"Becoming a Electronics Engineer means
Finding new era in world of technology and Communication
with out this world is nothing

Editorial

It gives us great pleasure to present the Forth issue of our departmental newsletter "ELETRA", which gives us the opportunity to focus the achievements in our department and new trends in Electronics and Telecommunication filed.

I am thankful to all the students and faculties who have contributed during the preparation of this newsletter. We have tried our best and given positive efforts, expecting creative responses from everyone to continue the flow of knowledge through this newsletter.

Mr. M. A. Kumbhar

Volume 4
ISSUE
01
August
2016

Celebrating 70th Independence Day

SVERIs College of Engineering (Polytechnic), Pandharpur.

Department of Electronics and Telecommunication Engineering

ELETRA TIMES

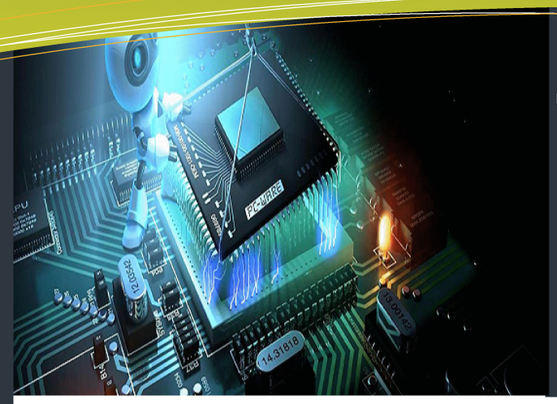
Electronics Trends and Applications

About Department

Electronics And Telecommunication Engineering Departments had been start in 2008, with intake of 60 . Our departments have 6 well-equipped laboratories. We have established the association " CENTIA " in which we conduct various activities like Quiz competition, Power point presentation, Robotics, Poster presentation, LAN gaming etc. These departments have organized various expert lectures and workshops like Embedded System, PLC and PCB Designing for the overall development of students. This type of activities are used to get better result in academic and overall development of students.

Our students and faculties are also developing "Digital presser control" kit for Jal Automation pvt. ltd. Pune. In this project with the collaboration with IEI India.

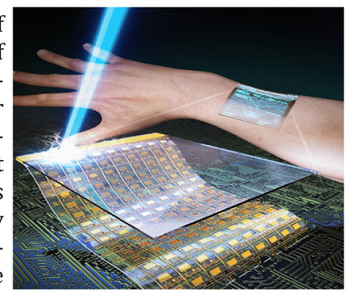
Mr. M. A. Kumbhar
HOD



In this issue

Ultrathin, transparent oxide thin-film

A research team at the Korea Advanced Institute of Science and Technology (KAIST) has developed ultrathin and transparent oxide thin-film transistors (TFT) that can be used to make high performance wearable and transparent displays.



With the advent of the "Internet of Things" era, strong demand has grown for wearable and transparent displays that can be applied to fields like augmented reality and skin-like thin flexible devices. But flexible transparent displays developed in earlier studies face challenges like poor transparency and low electrical performance.

Researcher says "By using our ILLO process, the technological barriers for high performance transparent flexible displays have been overcome at a relatively low cost by removing expensive polyimide substrates. Moreover, the high-quality oxide semiconductor can be easily transferred onto skin-like or any flexible substrate for wearable application.

The team fabricated a high-performance oxide TFT array on top of a sacrificial laser-reactive substrate. After laser irradiation from the backside of the substrate, only the oxide TFT arrays were separated from the sacrificial substrate as a result of reaction between laser and laser-reactive layer, and then subsequently transferred onto ultrathin plastics.

Finally, the transferred ultrathin-oxide driving circuit for the flexible display was attached conformally to the surface of human skin to demonstrate the possibility of the wearable application. The attached oxide TFTs showed high optical transparency of 83 per cent and mobility of 40 cm^2 V^(-1) s^(-1) even under several cycles of severe bending tests.

By Mr. Sawant N. S.

Molecular communications

Advantages in biological science and nanotechnology make it possible to engineer, from biological materials and mechanisms, small-scale functional devices that are capable of interacting with biological molecules and cells in nano to micrometer scale environments. Examples of such biological devices, hereafter referred to as bio-nanomachines include purified protein molecules , genetically engineered cells , artificial protocells, and bio-silicon hybrid devices . Given the unique characteristics of bio-nanomachines, such as their small-scale, bio-compatibility, and energy efficiency, it is envisioned that bio-nanomachines can interface with existing biological systems to enable a set of new functions in health (e.g., nanomedicine and tissue engineering), environmental (e.g., quality control), Information and Communication Technology (ICT) (e.g., implantable bio-sensor and actuator networks), and military applications (e.g., biochemicalsensing). The potential of interfacing bio-nano machines hassled to the emerging interdisciplinary research area of molecular communication or nano networks.

Applications are being considered in biomedical, environmental, and manufacturing areas Here we briefly discuss how molecular communication may apply to the three areas:

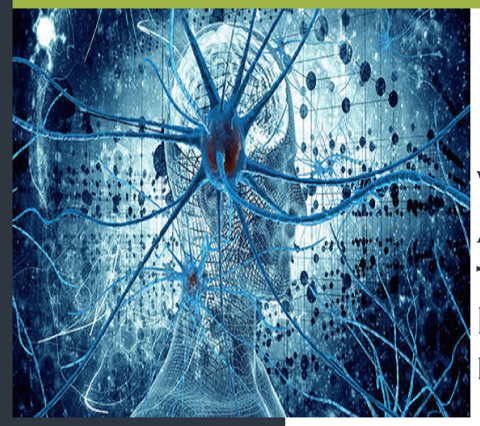
•Biomedical Applications: Lab-on-a-chip, Health monitoring, Drug delivery, Regenerative medicine.

•Environmental Applications: Environment monitoring, Waste/pollution control.

•Manufacturing Applications: Pattern and structure formation.

Molecular communication integrates techniques from biology for interacting with biological systems, from nanotechnology for enabling nano- to microscale interactions, and from computer science for designing scalable and robust networks. Molecular communication has high potential capacity for impact, since biological systems permeate many environments and applications.

By Mr. Valate P. S.



What Electronics and telecommunication Engineer really need to know.

Electronic communications engineering is the utilization of science and math applied to practical problems in the field of communications. Electronic communications engineers engage in research, design, development and testing of the electronic equipment used in various communications systems. cellular telephones, radios and television. It is due to electrical engineers that we enjoy such modern communication devices as cellular telephones, radios and television.

Electronics and electrical engineering diploma programs with communication concentrations are typically offered from the diploma to the doctoral level. These programs prepare students for careers as systems engineers, research engineers, controls engineers, communication engineers and electronic engineers, as well as researchers and university professors. The programs are rigorous with an emphasis in math and science. Students study topics such as wireless, digital, data and fiber optic communications. If you'd like to learn more about this career field Students should look for these programs.

"Becoming a electronics engineer means you must actively take the reins in the world of communication"

Electronics and communication engineering course give enormous job opportunities in electronics and software companies. All electronic devices need software interface to run and come with one other or other device controlling programs architected and developed by electronics and communication engineering. It also gives great opportunities for research and development, as everyday consumer need new devices to support them in daily life.....

By Mr. Kumbhar M.

Departmental Achievements in Academic Year 2015-16

Students

- Miss. Vaste P. V. secured 2nd rank and Miss. Patil V. P. secured 3nd rank in college in final year.
- 25 out of 67 students have got above 90 marks in various subjects in final year.
- Students with more than 95 marks

Sr. No.	Name of Student	Subject	Marks
1	Ms. KHANDAGALE A. D.	MCO, ACS	99,96
2	Ms. KALE K. P.	MCO	95
3	Ms. KADAM P. B.	MCO	96
4	Ms. PHALAKE T.G.	MCO, VLSI	95
5	Ms. PATIL V. P.	MCO, VLSI	95

- Two students of our departments have been selected for the nationalize companies at pune.
- Two groups of TY student got sponsorship and fund for projects from ***Institution of Engineers India (Kolkata).***

Faculty

- Our staffs had gone through the various trainings at prasar bharti pune and IIIT Mumbai for short term training and photo-voltaic power generation.
- Four staff of our department are pursuing ME in various field.
- All staff are involved in R & D activities and in the verge of completion of several projects sponsored by agencies like BARC Mumbai, JAL automation PVT. LTD.

Departmental Result for A.Y. 2015-16

Sr. No.	Name of Student	Marks %	Class
1	MS. KORPE VAISHNAVI SANJAY	90.00 %	1st Year
2	MS. JAGTAP SURANJALI BANDU	88.43 %	1st Year
3	MS. KUMBHAR SEEMA RAMDAS	87.86 %	1st Year
1	MS. KATKAR POOJA KISAN	89.63 %	2nd Year
2	MS. DEVAKATE POOJA SHYAM	88.38 %	2nd Year
3	MS. SALGAR DIPALI DEVIDAS	86.75 %	2nd Year
1	MS. VASTE PRADNYA VISHNUPANT	90.71 %	3rd Year
2	MS. PATIL VARSHA PRABHU	90.47 %	3rd Year
3	MS. KHANDAGALE AMRAPALI DEEPAK	90.24 %	3rd Year

EYE ON IT

Technologies developed by DRDO Electronics Dept. Govt. of India.

- •Battlefield Surveillance Radar
- •EOCM-Class Laser System
- •3D-CAR
- •Revathi
- •Weapon Locating Radar
- •Sangraha
- •Samyukta
- •Antenna Systems
- •Communication Systems
- •Briefcase SATCOM Terminal
- •Sectel
- •Sujav
- •Integrated Weapon System Simulation
- •Multi-Detector Temography System
- •Laser Designator PRF Code Recognition Device
- •Palmtop Green Microchip Laser Module
- •Passive Q-Switching
- •Threshold Detector

SOFTWARE Used for Electronics.

- MATLAB
- Xilinx ISE
- Altera Quartus
- Code Composer Studio
- HFSS
- OptSim
- Commsim
- µVision IDE
- Emu8086
- Proteus Design Suite
- PSpice
- Agilent Advanced Design System