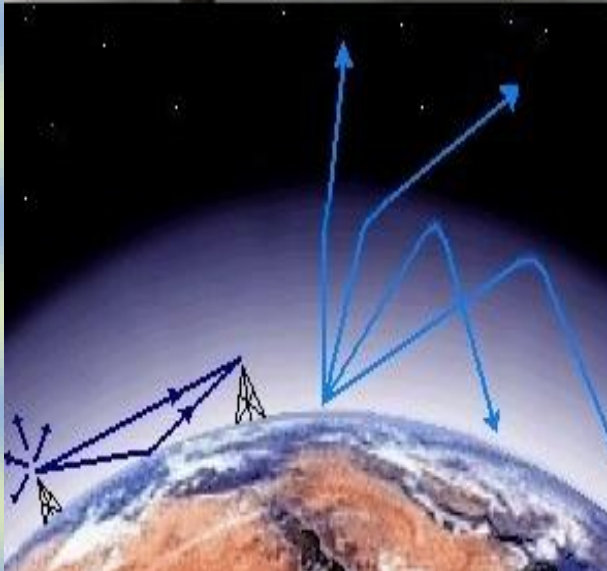
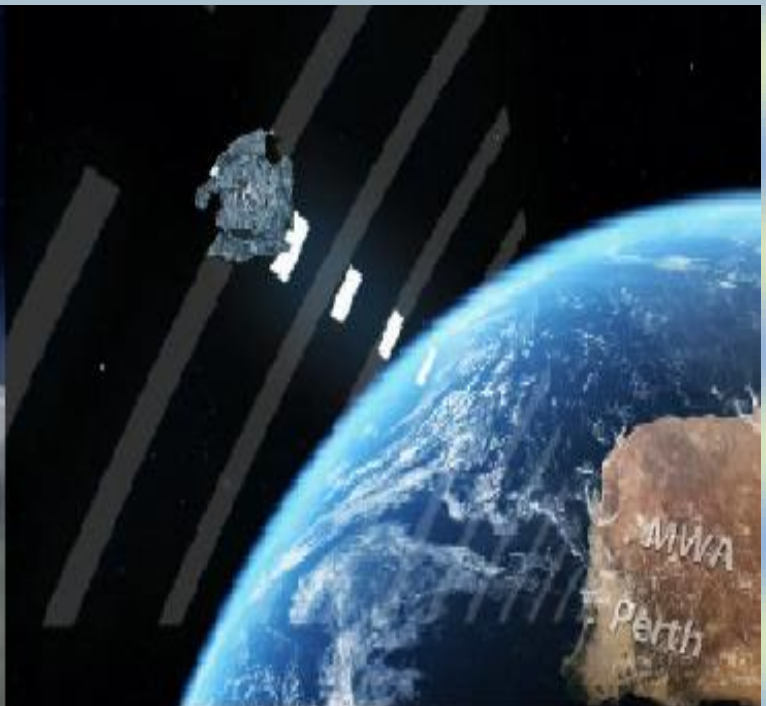
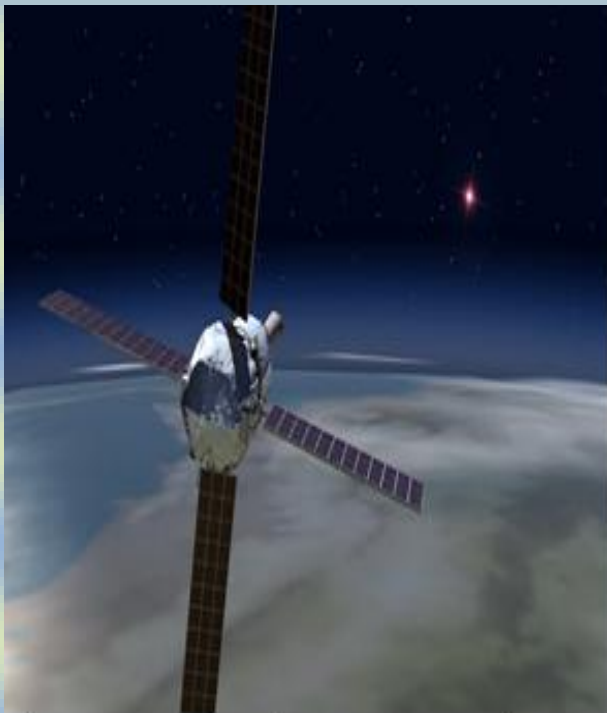


Raj Kumar Goel Institute of Technology

UDGHOSH

A VOICE OF ECE DEPARTMENT



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AMULYA BAJPAI (2ND YR.)

SHASHANK BINDAL (2ND YR.)

SHIVANGI SRIVASTAVA (2ND YR.)

DEEKSHA SRIVASTAVA (2ND YR)

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From the desk of HOD

As NBA team visit in our institute was approaching, preparation in the department was at its full zeal. After the hard work of last years, the department was all set to welcome the NBA team on 29th April to 1st May 2016 with every lab renovated and improved in all respects. All the faculty members were ready with the NBA files assigned to them. The ambience of the department becomes quite attractive.



Accreditation for any department has a great significance and of great value.

NBA & ITS SIGNIFICANCE:

The National Board of Accreditation (NBA), India was established by AICTE (All India Council of Technical Education) as an autonomous body in 1994 for periodic evaluations of technical institutions & programmes according to specified norms and standards as recommended by AICTE. It has

the full authority to recognize or derecognize institutions and programme under them

ACCREDITATION:

Accreditation means International Recognition & Guarantee of Quality Education in an Educational Institute.

AFTER NBA ACCREDITATION, ANY INSTITUTION WILL:

- Be able to identify its program with Excellence in Technical Education
- Be assured of conformity to good practices and bench marks of global requirements.
- Be able to rate its program on a national platform to attract better student intake.
- Be able to appraise itself of its own facilities, faculty vis-à-vis-performance.

ACCREDITATION SIGNIFIES:

For the Parents: It signifies that their child goes through a teaching-learning environment as per the International Practices following Educational Excellence

For the Students: It signifies that he / she has entered the portal of an institution, which has the desirable & essential features of Quality Education in Technical and Professional streams.

For the Employers: It signifies that the students passing out from an accredited college has the competence based on well groomed technical inputs & industry standards.

For the Institution: It signifies its Strength and Opportunities that it has in its possession for the future growth of students in terms of their career through Quality Education and ultimately making a better society.

THE DEPARTMENT HAS ITS VISION AND MISSION WHICH HAS CLEARLY DEFINED AS BELOW:

VISION

To Develop the Department into a full-fledged Centre of Learning in various fields of Electronics & Communication Engineering keeping in view the latest Developments in the World

MISSION

To Educate the students in Contemporary Technologies in Electronics & Communication Engineering to meet the Industrial and Societal needs.

Department has developed ***PROGRAMME EDUCATIONAL OBJECTIVES*** to achieve Vision & Mission

PEO1: *Knowledge Acquisition*

PEO2: *Competency for Employment*

PEO3: *Innovative skills*

PEO4: *Social Contribution*

PEO5: *Entrepreneurship*

ECE department has also developed PROGRAMME OUTCOMES for the attainment of Vision & Mission.

The “programme outcomes” are broad statements that describe behaviour and nature of work of students after graduation beyond the span of four years.

- **PO1** Function effectively as an Engineering professional, as individual, and as a member or leader in diverse technical teams (practical, mini project and major project).
- **PO2** Apply knowledge of mathematics, science, basic engineering fundamentals and core engineering subjects to define and apply them to solve Electronics and Communication Engineering problems.
- **PO3** To solve the Electronics and Communication related problem by Identify, formulate, literature study, and analyze broadly-defined engineering problems in reaching substantiated conclusions using analytical tools appropriate to respective discipline or area of specialization like Micro electronics, Embedded Systems, Communications and Signal Processing blended with interdisciplinary technologies (mini project, major project, Industrial visits, Guest lectures, Workshops).
- **PO4** Select and apply appropriate techniques, resources, and modern engineering and simulation tools (MATLAB, EDWIN XP, Simulation tools-Multisim, XILINX Software).
- **PO5** Understand and commit to professional ethics and responsibilities and norms of engineering technology and practice (T&P, co-curricular activity).
- **PO6** Nurture the graduates to become effective communicators [Communicate effectively on broadly-defined engineering activities with the engineering community and with society at large, by being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions] (Business

communication, Project work, Mini project, Seminars, co-curricular activity, extracurricular activity).

- **PO7** To provide suitable environment and motivation for research activity.
- **PO8** Able to show the impact of engineering solutions on the society, economy to the environment.
- **PO9** Able to demonstrate an ability to acquire new knowledge in the electronics discipline and to engage in life-long learning.
- **PO10** Knowledge of contemporary issues in the social sciences and the humanities using electronics tools.
- **PO11** An ability to use the techniques, skills, and modern engineering tools necessary for electronics engineering practice.
- **PO12** An ability to apply engineering and management knowledge and techniques to estimate time and resources needed to complete an electronics engineering project.
- **PO13** An ability to recognize the importance of professional development by pursuing higher studies or face competitive examinations that offer challenging and rewarding careers in electronics.

ECE Department was ready for NBA visit with the following achievements to glorify.

- NO. OF FACULTY WITH PhD -06
- NO. OF FACULTY PURSUING PhD -04
- ASSOCIATION OF ELECTRONICS & COMMUNICATION ENGINEERS “AECE”
- IEEE STUDENT BRANCH
- MOU SIGNED WITH ALTTC
- MOU SIGNED WITH EFY

- MOU SIGNED WITH PINE TRAINING ACADEMY
- MOU SIGNED WITH MRDC
- ECE DEPARTMENT NEWSLETTER “UDGHOSH”
- NATIONAL CONFERENCE “FUTURE TRENDS IN INFORMATION & COMM. TECHNOLOGY (FTICT)-2010”
- DST SPONSORED INTERNATIONAL CONFERENCE “FTICT-2011”
- DST, DRDO & CEERI SPONSORED SYMPOSIUM CUM EXPOSITION “VACUUM ELECTRON DEVICES AND APPLICATION-2011”
- AICTE SPONSORED NATIONAL CONFERENCE “RECENT TRENDS IN GENERATION & APPLICATION OF MICROWAVE IN INDUSTRY & SERVICE SECTOR-2014”
- DRDO SPONSORED NATIONAL SEMINAR “ADVANCEMENT IN SEMICONDUCTOR DEVICES AND ELECTRONIC CIRCUITS FOR ENGINEERING APPLICATION-2015”
- FDP “ANALOG & DIGITAL CIRCUIT DESIGN
- FDP ON “VLSI DESIGN”
- INDUSTRIAL INTERACTION AND ENTREPRENEURSHIP DEVELOPMENT”
- TALK ON ADVANCEMENT IN COMMUNICATION TECHNOLOGY
- FACULTY AND STUDENT’S INTERACTION WITH INDUSTRIES/ACADEMIC INSTITUTE OF WELL REPUTE
- CONSISTENT ACADEMIC EXCELLENCE
- UNIVERSITY RANK HOLDERS

Several strengths and weaknesses of department had been observed by NBA team. They appreciated our department in different aspects as well as they have suggested improving the research and development activities in the department.

TECHNICAL ACTIVITIES

Industrial Visit to BSNL- ALTTC

Department of ECE has organized 2 days Industrial visit at ALTT Centre (Govt. of India Enterprise), Ghaziabad on 4th and 5th march 2016 for 2nd year EC students. Total 120 students got opportunity to visit ALTTC. The visit was held with the valuable accompany of Mr. Vinod Choudhary, Mr. Vaibhav Sharma, Mr. Amit Pandey, and Mrs. Sharmila Verma.

The visit started with lots of excitement & enthusiasm. The students visited following labs:

1. DWDM lab
2. OFC Lab
3. SDH lab
4. Nokia lab

- In DWDM lab, the experts explained about networks and its contribution in the field of education in telecommunication.
- In OFC (Optical Fibre Connection) lab, students learned about the working of OFC system and the process of converting electrical signal into optical signal along with the use of unlimited bandwidth for this system.
- In switching lab, switching process for networking was demonstrated. A cupboard with several frames & their working was shown.
- In SDH lab, working of SDH ring topology, DWDM mesh topology, and protection schemes for continuity, sync, etc were shown.

- In Nokia lab , students were informed about various technologies like GSM 2G, RF antennas, LOFs, BTS, BTS with PCM wires, BTS LC, BSC, MSCs with proper details and functioning.

Students got the gist of the practical perspective of the theory which they studied in classes.



Industrial Visit to NISE

ECE Department organized an industrial visit for Third year Students at NISE, Gurgaon on 15th March 2016 in the guidance of Dr. Amit Kumar Pandey & Mr. Ankit Tripathi.



Students learned about solar thermal cooling systems which use the heat energy in sun's radiation to produce a cooling effect. They also visited different types of solar panel as well as photo voltaic test lab. 15 to 18 modules (panels) was there and each module consists of 36 Si mono crystalline structures.



Smart watch: a Latest Development

SHIVANGI SRIVASTAVA

ECE 2ND Yr

A **smart watch** is a computerized wristwatch with functionality that is enhanced beyond timekeeping. While early models can perform basic tasks, such as calculations, translations, and game-playing, modern smart watches are effectively wearable computers. Many run mobile apps, using a mobile operating system.

Some smart watches function as portable media players, offering playback of FM radio, audio, and video files to the user via a Bluetooth headset. Some models, also called 'watch phones', feature full mobile phone capability, and can make or answer phone calls.

Internal hardware is various. Most have a rechargeable battery and graphical display and many have a touch screen. Peripheral devices may include camera, thermometer, accelerometer, altimeter, barometer, compass, GPS receiver, speaker and SD card that is recognized as a mass storage device by a computer. Software may include Map display, scheduler, calculator, and various kinds of watch face. The watch may communicate with external devices such as sensors, a wireless headset, or a heads-up display.

Like other computers, a smart watch may collect information from internal or external sensors. It may control, or retrieve data from, other instruments or computers. It may support wireless technologies like Bluetooth, Wi-Fi, and GPS. For many purposes, a "wristwatch computer" simply serves as a front end for a remote system, communicating by various radio technologies.

Functions and applications

- Many smart watch models manufactured in the 21st century are completely functional as standalone products. Some serve as sport watches, the GPS tracking unit being used to record historical data. For example, after a workout, data can be uploaded onto a computer or online to create a log of activities for analysis or sharing. Some watches can serve as full GPS watches, displaying maps and current coordinates, and recording tracks. Users can "mark" their current location and then edit the entry's name and coordinates, which enables navigation to those new coordinates

"Sport watch" functionality often includes activity tracker features (also known as "fitness tracker") as seen in GPS watches made for Training, Diving, and Outdoor sports. Functions may include training programs (such as intervals), Lap times, speed display, GPS tracking unit, Route tracking, dive computer, heart rate monitor compatibility, Cadence sensor compatibility, and compatibility with sport transitions (as in triathlons)



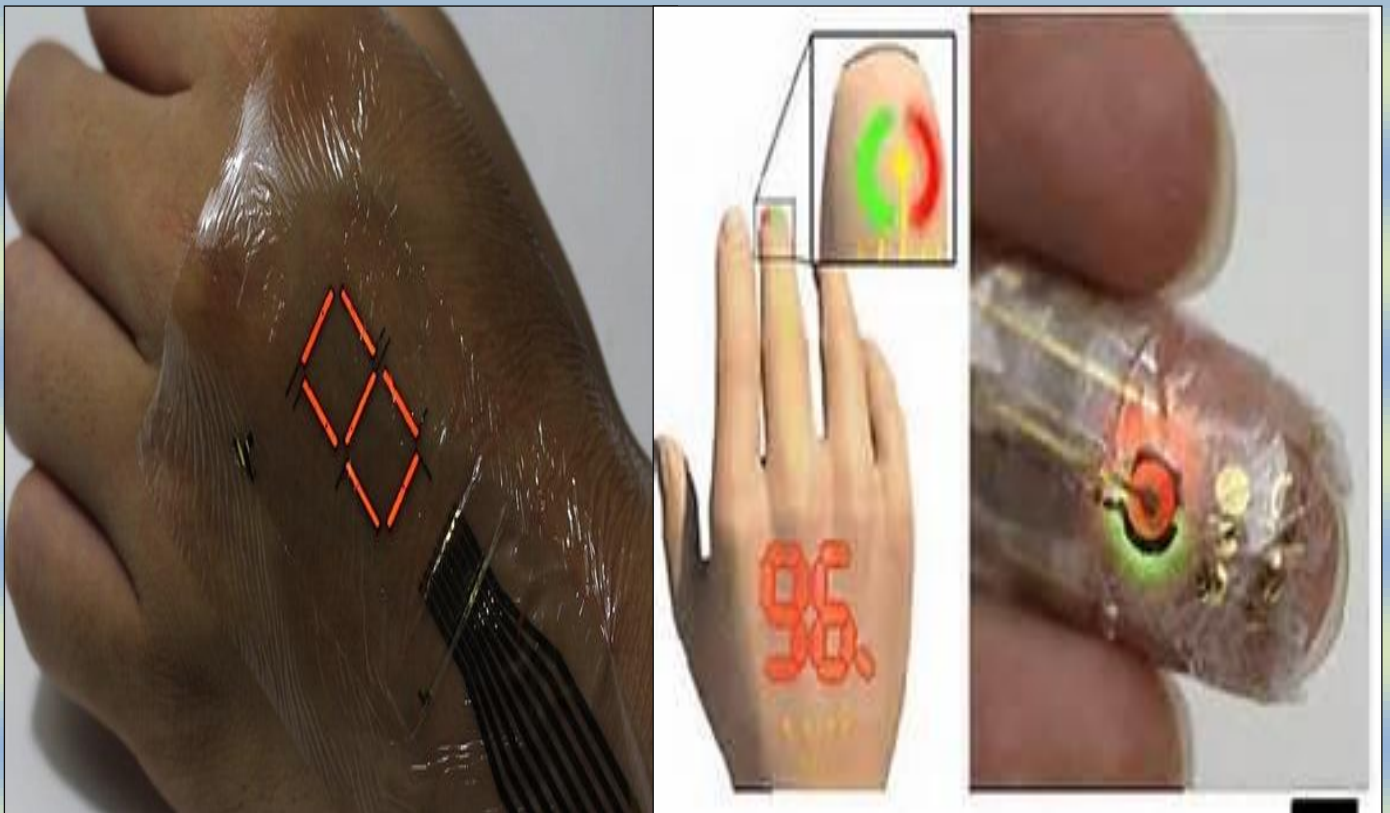
Other watches can cooperate with an app in the smart phone to carry out their functions. They may be little more than timepieces unless they are paired, usually by Bluetooth, with a mobile phone. Some of these only work with a phone that runs the same mobile operating system.

Ultra thin “E SKIN” turns in digital display

SHASHANK BINDAL

ECE 2ND YR

Your smart phone could one day be replaced by an electronic display laminated to the back of your hand, if the inventors of a new ultrathin "e-skin" have their way.



For the first time, Japanese scientists have demonstrated a super flexible electronic skin (or e-skin) display, made from organic electronics, that doesn't degrade when exposed to air. And crucially, the researchers used processes similar to the way organic light-emitting diode (OLED) displays are manufactured for conventional smart phones and TVs.

Organic electronics, made from carbon-based polymers, hold huge promise for wearable devices because they are far lighter and more flexible than traditional electronics made from inorganic materials, such

as silicon and gold. But OLEDs and organic light detectors normally degrade in air, so they typically need bulky protective coatings that decrease their flexibility. [Body Bioelectronics: 5 Technologies that Could Flex with You]

Now, a team from the University of Tokyo has developed a unique method to create a protective coating that can shield the electronic components from the air while remaining thin enough to stay flexible.

"Our e-skin can be directly laminated on the surface of the skin, allowing us to electronically functionalize human skin," said Takao Someya, a professor in the Department of Electrical and Electronic Engineering at the University of Tokyo, and author of a paper on the new device published April 15 in the journal *Science Advances*.

"We think that functionalizing the skin may replace the smartphone in the future," Someya told Live Science. "When you carry an iPhone, it is a bulky device. But if you functionalize your own skin, you don't need to carry anything, and it's easy to receive information anywhere, anytime."

Previous organic electronic displays have been built using glass or plastic base materials, or substrates, but their flexibility was limited by their thickness. [Important to point out thickness is the problem] Other, thinner versions have been manufactured; however, these materials have not been stable enough to endure in air for more than a few hours.

ALUMNI SPEAK

1. **Name-**Parixit Shukla
2. **Batch-** 2002-2006
3. **Current job profile-** Manager in Vodafone (Italy)



4. **Faculty-**

We got great faculty as Prof S.N. Dubey, Prof, B. K. Gupta of which are few names, their mode of teaching was marvelous and very practical approach.

5. **Any particular faculty which had left a deep impact on you-**

Prof S.N. Dubey taught us Maths. Classes were so interactive that no one wants to miss. We really admired him and were motivated during those sessions. The mechanical drawing classes were also superb carried out by Nadeem khan sir. Nadeem sir was expert into the mechanical engineering drawing and we felt like real engineers in the class.

6. **Hostel life-**

Hostel life would always be student's unforgettable days. There are so many moments, sport competitions, our gym, late night chats in other rooms except one's own room, group studies during exams, wearing clothes of room partner during his absence. When power cuts all hostellers filled with patriotism and started screaming so loudly with "angrejo bharat chodo", etc. And once power in, all gone with no clue who was screaming. It was wonderful time; all hostellers were friend and unite irrespective of caste, culture, place etc.

7. **Any particular memory of your college/hostel life-**

Late night snacks in canteen, group studies were some moments which will remain in memory. One instance that we got crazy idea of a road trip to Mathura Vrindavan just a day before our external exams and it became adventurous as my bike got leakage in tank, we all got panic as the chances of missing the exam however we made to reach just half an hour before exam and cleared the paper as well.

8. One thing which RKGIT taught you-

RKGIT taught us to behave and keep pace with your peers. We learnt to be competitive, creative, and enthusiastic. The various functions and competitions made us to manage and become smarter .we all groomed up and just not become successful engineers but successful human beings.

9. How the course you studied helps you presently in your today's work-

I got good learning in both theoretically and practically, which is helping me to put the right approach to managing the things. Yes definitely the course I studied is helping me in present as I am working on information technology and it requires the learning of computer science which I have got in RKGIT.

10. Any message to young engineers-

My message to young engineers to keep focus on your studies and don't be diverted. Both theoretical and practical knowledge are equally important. Try to gain knowledge on current technologies to keep pace with the outer world. Study hard to brighten up your future. College life is best days of every student so keep enjoy those days with no impact to studies.

Corollary

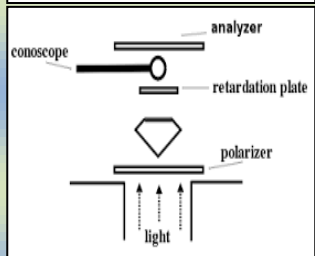
1. Air-cooled transistor- A transistor (particularly A power transistor) from the away, through Radiation and convection, into the surrounding air. The transistor is usually mounted on a heats-ink or fitted with fins.



2. Bifilar resistor -A wire-wound resistor with two oppositely wound filaments. The nature of the winding tends to cancel the inductance, making the device useful at a much higher frequency than an ordinary wire-wound resistor



3. Conoscope- A device that uses focused polarized light to examine crystals (as in checking the optical axis of a quartz crystal) erasure - In tape-recording and digital-computer operations, the process of erasing a recorded signal.



4. Growler- An electromechanical troubleshooting device that indicates the location of short circuits and ground (especially in electric motors) by emitting a growling or rumbling sound.



5. Strobotron-A gas tetrode tube used as the flashing light source in a stroboscope.



6. Televoltmeter-A TELEMETER for measuring voltage generated at a remote point.



ACADEMIC ACHIEVEMENTS

PHD COMPLETED

1. Dr. Praveen Kumar Malik was awarded with PhD on the Topic “Analysis and synthesis of current distribution for parabolic reflector use POCKLINGTON’S equation”, Mewar University (State University), Chittorgarh (Rajasthan).
2. Dr. Vinod Kumar Chaudhary successfully completed his PhD viva on the topic “Gridded gate Pt/Sio₂/Si MOS sensors for Hydrogen and Hydrogen containing gases”, IIT (BHU), Varanasi (Uttar Pradesh).

TECHNICAL CONTRIBUTION

1. Neha Goel et.all, “*Comparison of Three Dimensional partially and fully Depleted SOI MOSFET Characteristics Using Mathcad*”, *Journal of Nano-And Electronic Physics*, Vol. 8 No.1, 01041(4pp) 15 March 2016.
2. Vinod Kumar et.all, “*Effect of RF plasma on gridded gate Pt/Sio2/Si MOS sensors for Hydrogen*”, *IEEE Sensors* (under minor revision).

PhD GUIDANCE

One PhD student has been registered under the guidance of Dr. Dhirendra Kumar from UPTU in broad area of Antenna Technology

M.TECH PROJECT GUIDANCE

One student has been completed M.Tech thesis on “compact patch antenna array using defective ground structure in feedline” under the guidance of Dr. Dhirendra Kumar from UPTU.

TOP FIVE PROJECTS [B.Tech final year students]

Name of Faculty	Name of Student	Project Title
Mr. Abhinav Bansal	Shubham Gupta	Peripheral interface controller based dual axis solar tracking system
	Youganshu Goyal	
	Suyash Srivastav	
	Pradeep Kumar	
Dr. Dhirendra Kumar	Mohit Grover	Band pass filter design for wireless communication
	Paurush Varshney	
	Puneet Kumar Rai	
	Prabudha Swaraj Guatam	
Dr. Dhirendra Kumar	Aparna Mishra	Low profile slot antenna for aircraft application
	Kumari Anjali	
	Aashi Gupta	
	Kumar Anshu	

Ms. Vartika Anand	Pranay Srivastava	Intelligent car with bumper system
	Shubendu Saurav	
	Ravi Verma	
	Anirudh Gupta	
Mr. Sandeep Bhatia	Mohan Swaroop	Recycle waste management ROBOT
	Aman Verma	
	Utkarsh Singh	
	Aayush Verma	

❖ *The project titled, “Peripheral interface controller based dual axis solar tracking system”, under the guidance of Mr. Abhinav Bansal selected as the best project from the department. These students got 5000 cash prize from the institute.*

PLACEMENT

S. No.	Name Of The Students	Name of company
1	Mohit Grover	Qa Infotech
2	Girvanasah Chaurasia	Qa Infotech
3	Gaurang Omar	Emicon
4	Ayush Verma	Ibs Software Services
5	Priya Srivastava	Futiq Technologies
6	Mohammad Asif	Aaron Corporation (I) Pvt. Ltd.
7	Rajat Garg	Iconma Professional Services & Solutions Pvt. Ltd.
8	Richa Agnihotri	Team Computers
9	Avinash Kumar Singh	Aon Hewitt
10	Keshav Singh	Aon Hewitt
11	Prashant Prabhakar Singh	Aon Hewitt
12	Rashmi Pandey	Aon Hewitt
13	Prashant Prabhakar Singh	Fab2u
14	Avinash Kumar Singh	Fab2u
15	Mohit Tejwani	Altametrics
16	Shivam Kumar	Westin Electromech
17	Himanshu Shrivastava	Live-Technician Pvt Ltd
18	Ankita Jaiswal	Torry Harris Business Solutions
19	Sakshi Handa	Torry Harris Business Solutions

20	Rajat Garg	Nmtronics India Private Limited
21	Kuldeep Choudhary	Tata Consultancy Services
22	Aviral Utkarsh	Tata Consultancy Services
23	Arpita Rai	Tata Consultancy Services
24	Rajat Garg	Tata Consultancy Services
25	Ankita Verma	Tata Consultancy Services
26	Avinash Kumar Singh	Capgemini
27	Ayush Verma	Capgemini
28	Kumud Upadhyay	Capgemini
29	Prashant Kumat Tripathi	Authbridge Research Services Private Limited
30	Akanksha Ranjan	Authbridge Research Services Private Limited
31	Divya Sharma	Authbridge Research Services Private Limited
32	Karan Kanojia	Authbridge Research Services Private Limited
33	Ashish Tiwari	Authbridge Research Services Private Limited
34	Abhishek Mishra	Rise Projects Private Limited

UPCOMING EVENTS

- Lecture series on various topics by faculty members of the department.
- Workshop for lab technicians to upgrade their technical skills.