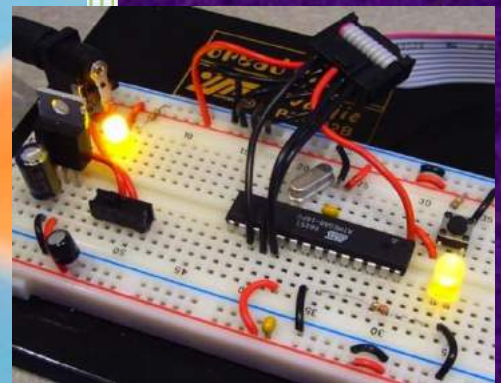
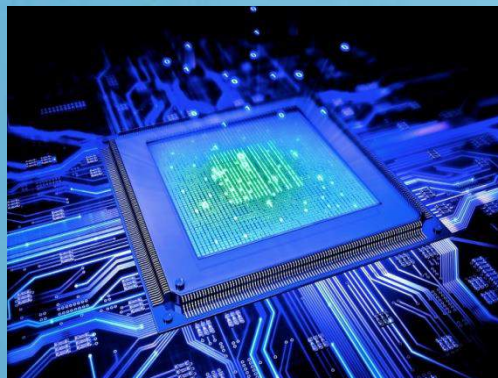


# पव्हरॉई



***A VOICE OF ECE DEPARTMENT***

**RAJ KUMAR GOEL INSTITUTE OF TECHNOLOGY**





## **EDITORIAL BOARD:**

### **CHIEF PATRON**

SHRI DINESH KUMAR GOEL (CHAIRMAN) PATRON  
PROF. B.K. GUPTA (ADVISOR)  
PROF. LAXMAN PRASAD (DIRECTOR -R &D)  
PROF. R.P. MAHESHWAR I (DIRECTOR)

### **CHIEF EDITOR**

DR. DHIRENDRA KUMAR (HOD, ECE  
DEPARTMENT)

### **EDITORS**

MS. RIJU JINDAL (ASST. PROFESSOR, ECE)  
MS. ANAMIKA GUPTA (ASST. PROFESSOR, ECE)  
MS. RICHA GUPTA (ASST. PROFESSOR, ECE)  
MR. KUNAL LALA (ASST. PROFESSOR, ECE)

### **STUDENT TEAM**

#### **4<sup>TH</sup> Year**

SHYAM GUPTA

#### **3<sup>rd</sup> Year**

SHASHANK BINDAL  
RIDHI TIWARI  
NARVADESHWAR CHAUBEY

#### **2<sup>nd</sup> Year**

AMAN SINGH YADAV  
ROHAN SHARMA  
PAARUL RAI  
VARUN MISHRA  
ASHISH TYAGI  
ALOK BHARTI  
INDRANEEL GANGULI  
TWINKLE TEKRIWAL  
RAJAT YADAV  
SHUBHANGI DUBEY

## **WHAT'S INSIDE**

1. FDP
2. REPUBLIC DAY
3. KALRAV 2K17
4. FACULTY TECHNICAL CORNER
5. TECHNICAL CONTRIBUTION
6. INTERACTION WITH OUTSIDE  
WORLD
7. STUDENT TECHNICAL  
CORNER
8. PLACEMENT INFORMATION
9. ALUMINI SPEAK
10. STUDENT ACHIEVEMENT
11. SOCIAL CONTRIBUTION
12. COROLLARY
13. NOBEL PERSONALITIES
14. BRAIN TEASERS
15. UPCOMING EVENTS



# FDP ON ELECTROMAGNETIC FIELD THEORY

*Faculty Development program on Electromagnetic Field Theory was organized jointly by the Department of ECE & EEE from 9th January to 13<sup>th</sup> January.*

*In this 5 days FDP, prominent experts from the field of EMFT apprised the participants about the recent innovations and research options in the field.*

## **Day-1:**

➤ *FDP started with the inaugural session by:*

*Chief Guest: Prof A.P. Mittal, Member Secretary, AICTE*

*Guest of Honour: Prof. Sachin Maheshwari, Head, MPAE Dept. (NSIT DELHI)*

*Prof. B.K. Gupta, Group Advisor, RKG Group of Institutions*

*Dr. Laxman Prasad, Director R&D, RKG Group of Institutions*

*Dr. R.P. Maheshwari, Director RKGIT*

*Dr. Dharendra Dwivedi (HODECE)*

*Dr. T.N. Shukla (HOD EN)*

➤ *Prof. V.K. Tripathi, IIT Delhi, was the guest speaker for the day.*

➤ *In the first session he shared his valuable knowledge on the following topics:*

### *1. Fundamentals of Electromagnetic Analysis*

*a) Circuit and Field*

*b) Introduction to vector*

*c) Concept of Gradient, Divergence and Curl*

*d) Coordinate System and its Transformation*





## **Day-2:**

*On the second day of FDP, Dr. Amlendu Patnaik, IIT Roorkee, was the guest speaker. He explained electrostatic field theories involving the following topics:*

- 1. Electrostatic Field*
  - a) Fundamental relations of Electrostatic field*
  - b) Coulombs Law, Gauss Law, Electric potential etc.*
  - c) Field due to continuous distribution of charges*
  - d) Capacitance & Electrostatic Energy*
  - e) Poisson and Laplace equations*
  - f) Boundary condition between different mediums.*

## **Day-3:**

*It involved the detailed demonstration of magnetostatic field theories and concepts by Prof. M.V. Kartikeyan, IIT Roorkee, including following:*

- 1. Magenostatic Field*
  - a) Theories of Magnetic Field*
  - b) Biot-Savart, Amperes Circuitual Law etc.*
  - c) Magnetic Induction and Faraday's law*
  - d) Field and Potential*
  - e) Force and Energy*



## **Day-4:**

*On the fourth day, Prof. Dharmendra Singh, IIT Roorkee, shared his valuable knowledge on Maxwell's wave equations and wave propagation, following topics were discussed:*



1. *Time-dependent fields and waves*
  - a) *Maxwell equations, Wave equations etc.*
  - b) *EM waves propagation in different medium*
  - c) *Reflection by a Perfect Conductor- Normal/Oblique Incidence*
  - d) *Reflection by a Perfect Dielectric- Normal/Oblique Incidence*
  - e) *Poynting Vector and Power Flow*

### **Day-5:**

*The concluding day covered Transmission Lines and Guided Waves. Dr. Akhilesh Mohan, IIT Roorkee, spoke on the following topics:*

1. *Transmission lines & Guided Waves*
  - a) *Guided Medium*
  - b) *Transverse Electromagnetic Wave*
  - c) *Unguided Medium*
  - d) *Transmission Line Charts*

*The whole session was very beneficial for the faculty members in enhancing their knowledge in the field of EMFT.*





# Republic Day Celebrations

RKGIT celebrated 68<sup>th</sup> Republic day on 26<sup>th</sup> January 2017. The event was held in front of D Block, in which Prof. B.K Gupta, Advisor, RKG group of institutions, Dr. Laxman Prasad, Director (R&D), RKG group of institutions, Prof. R.P Maheshwari, Director, RKGIT and Prof. Y.K. Gupta, Dean Academics, RKGIT gave their valuable time, showcasing their love and pride for our Nation. The event was conducted in three segments. The first segment was of flag hoisting followed by National Anthem. In the second phase Dr. Laxman Prasad, Prof. R.P Maheshwari, Prof. B.K Gupta, and other dignitaries delivered their speeches; their patriotism moved the hearts of the audience. This phase also included patriotic performances like poetry, singing performed by the various students. Sweet distribution took place in the third phase along with photo session. The whole event was anchored by Mr. Shashank Bindal of third year.

Here are some powerful phrases of the speeches:-

*"Next war will be on water so let's pledge to save water" - Dr. Laxman Prasad*

*"Life goes on like a sine wave" - Prof. R.P Maheshwari*





# KALRAV 2K17

A two day intra college cultural and art fest KALRAV was organized by Raj Kumar Goel Institute of Technology, Ghaziabad on 14<sup>th</sup> and 15<sup>th</sup> February 2017. The extravaganza comprised of many art and cultural events like dancing, singing, skit, extra talent etc. The fest concluded by the energetic performance by MILIND GABA (the celebrity) and the melodious hits by the AGASTYA BAND.

Also AKTU gave the opportunity to RKGIT to host its STATE LEVEL "ART AND CULTURAL FEST". Various participants from 10 zones showcased their talents in several events like dancing, singing, skit and many more. I would like to express my deepest sense of gratitude to all the organizing committee members, students, faculty members and staff, for making KALRAV a huge success.

Thanks & Regards,  
Mr. Pawan Shukla  
Chairperson  
SAC, RKGIT





A large crowd of people is gathered at a night event, likely a college fest. Bright stage lights illuminate the scene, creating a vibrant atmosphere. The crowd is dense, and many people are looking towards the stage area.

A two days intra college cultural and art fest KALRAV was organized by Raj Kumar Goel Institute of Technology, Ghaziabad on 14<sup>th</sup> and 15<sup>th</sup> February 2017.

The event was inaugurated in the esteemed presence of Dr. B.K. Gupta(Group Advisor),Dr Laxman Prasad(Director R&D),Dr. R.P. Maheshwari(Director),Shri H.C. Garg(Dean Student Welfare),Dr. Y.K. Gupta(Dean Academics),H.O.D's of various departments, dignitaries and faculty members.

The extravaganza comprised of many art and cultural events. On the first day of the fest-solo singing, duet singing, solo dance, duet dance, street play and the first round of ramp walk were held.The first day was concluded by the prize distribution followed by the rocking performance by one of the bands.

The second day started with the Skit by the dramatic societies which was followed by the extra talent,last round of ramp walk and prize distribution.The day concluded by the energetic performance by MILIND GABA(the celebrity) and the melodious hits by the AGASTYA BAND.

Many students of ECE department participated and bagged various prizes in art and cultural events. We heartly congratulate them.

- Kritika Singh(ECE 2<sup>nd</sup> Year),one of the leading dancers in Krystal Spark,bagged the first position in Group Dance.
- Anu Gupta(ECE 3<sup>rd</sup> Year),one of the leading dancers in Rollins, secured second place in Group Dance.
- Indraneel Ganguli(ECE 2<sup>nd</sup> Year),played guitar, got first position in Extra Talent.
- Paarul Rai(ECE 2<sup>nd</sup> year),participated in Picturesque, stood first in Monochrome and silhouette theme.





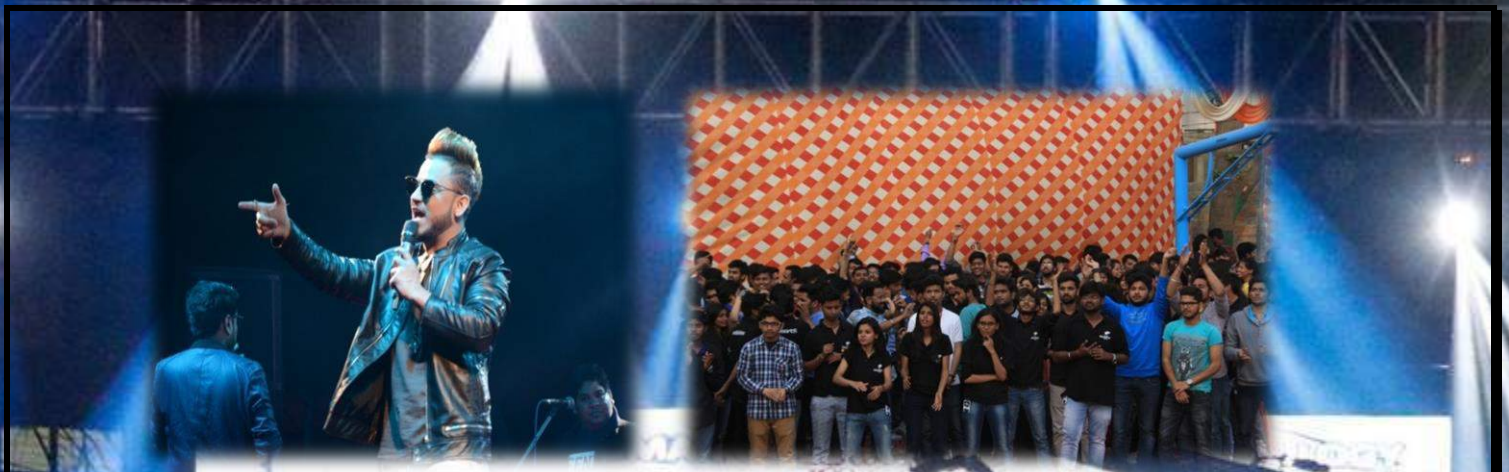
- Varun Mishra(ECE 2<sup>nd</sup> Year) and Shubham Gupta(ECE 3<sup>rd</sup> Year),participated in Circuitronics,secured the second position.
- Paarul Rai(ECE 2<sup>nd</sup> year),Varun Mishra(ECE 2<sup>nd</sup> Year) and Rohan Sharma(ECE 2<sup>nd</sup> Year),participated in Ad Mad Show, seized the third spot.
- Naman Singh(ECE 2<sup>nd</sup> Year), Sarvesh Tiwari(ECE 2<sup>nd</sup> Year) and Shashank Bindal (ECE 2<sup>nd</sup> Year),participated in Ad Mad Show, bagged first position.
- Shashank Bindal(ECE 2<sup>nd</sup> Year),participated in English Debate, Spin a Yarn, Campus Recruitment, Press Conference, acquired first position.
- Shivani Tripathi(ECE 3<sup>rd</sup> Year)and Vishalakshi Singh(ECE 3<sup>rd</sup> Year),participated in Composharade, got the first position.
- Piyush Giri, Mukesh Kr. Maurya and Md. Sharique (ECE-3<sup>rd</sup> Year), participated in Ad mad Show, seized the second position.





- Shivangi Srisvastava(ECE 3<sup>rd</sup> Year) and Vedika Singh(ECE 3<sup>rd</sup> Year),participated in Composharade,secured the second place.
- Ridhi Tiwari(ECE 3<sup>rd</sup> Year) and Sakshi Shukla(ECE 3<sup>rd</sup> Year),participated in Poster Making,captured the first position.
- Shivani Tripathi(ECE 3<sup>rd</sup> Year),Vishalakshi Singh(ECE 3<sup>rd</sup> Year),Riddhi Tiwari(ECE 3<sup>rd</sup> Year), Shivangi Srivastava(ECE 3<sup>rd</sup> Year),participated in rangoli, bagged the first position.
- Narvadeshwar Chaubey and Rakesh Kumar,participated in Circuitronics,seized the second spot.





RKGIIT was the host to conduct a two days state level cultural and art fest on February 17 and February 18, 2017. The extravaganza comprised of 20 events. Various competitions like solo singing, duet singing, group singing, solo dance, duet dance, group dance, battle of bands, skit and fashion show graced the stage. In the category of arts rangoli making, t-shirt painting, bouquet making, single colour painting, collage making, poster making, face painting, mehendi competition, tattoo making and green card making were there.



Many colleges of Bareilly zone, Ghaziabad zone, Moradabad zone, Meerut zone, Allahabad zone, Kanpur zone, Lucknow zone, Gorakhpur zone, Noida zone, Agra zone participated in the event. The event was inaugurated in the esteemed presence of Dr. B.K. Gupta(Group Advisor), Dr. Laxman Prasad(Director R&D), Dr. R.P. Maheshwari (Director), Shri H.G. Garg(Dean Student Welfare), Dr. Y.K.



Gupta(Dean Academics),H.OD's of various departments, dignitaries, faculty members of various colleges.

Two students of ECE department also participated and bagged first prize in the art event. We heartly congratulate them.

- Aditi Vishnoi (ECE) and Astha Pandey(ECE) in Tshirt Painting.





# FACULTY TECHNICAL CORNER

BY: **Dr. PUSHPA GJRJ**

## **ZnO Thin Film devices for Electronic and Photonic Applications**



In many respects, ZnO is considered to be an alternate to GaN for device applications owing to its relatively low production cost and superior optical properties. However, reproducible and stable p-type doping remains to be the most daunting obstacle to producing bipolar ZnO-based devices. It is a given that GaN device technology is much more mature as GaN-based very high-performance electronic and optical devices have already been commercialized. GaN-based power field effect transistors (FETs) are capable of producing over 800 W of continuous-wave (CW) power in the communication band, light-emitting diodes (LEDs) have created a large market with emphasis in performance being on the efficiency although they are already more efficient than even the fluorescent bulbs, and blue lasers are already used in game consoles and high-definition video players. The same, however, cannot yet be said about ZnO particularly when its potential applications overlap considerably with those of GaN.

On the electronic side, the relatively low mobility of ZnO as compared to GaN and nearly four times stronger electron-phonon coupling together with relatively low thermal conductivity are serious shortcomings for ZnO. However, transparent thin film transistors (TFTs) built from poly-ZnO appear to hold some potential.

Furthermore, the potential worldwide shortage of indium in the face of growing demand for indium tin oxide (ITO) seems to be stimulating the exploration of



ZnO-based transparent oxides, which if successful, could become a huge application area. It remains to be seen, however, as to how competitive ZnO would be with the existing technologies. On the optical device front, ZnO needs to show high p-type conductivity along with high-quality heterojunctions for realization of competitive light emitters.

One major advantage of ZnO is its high 60-meV exciton binding energy compared to 25 meV of GaN. If lasers utilizing excitonic transitions were to be built, ZnO would have an advantage over GaN provided that p-type conductivity is obtained and other necessary processing capabilities are developed for ZnO. Another promising application area of ZnO is acoustic wave devices owing to its large electromechanical coupling, particularly along the c-direction. Further yet, ZnO appears to be well suited for producing nanostructures, which may be used for devices.

A significant part of the recent research in the field of ZnO-based devices and applications deals with ZnO nanostructures (nanowires, nanobelts, etc.) and their integration with the mainstream semiconductor materials—such as Si, GaN, and organic semiconductors. ZnO nanowires have attracted a lot of attention due to their good charge carrier transport properties and high crystalline quality. Such 1-D systems have unique properties that make them potentially attractive for nanoscale devices (LEDs, lasers, photodetectors, chemical/biosensors, and surface acoustic wave (SAW) devices).

*Biographical note:* Pushpa Giri earned her B.E. and M. Tech. degrees from the UIT RGPV Bhopal and MNNIT Allahabad in 2010 and 2013 respectively. She also qualified GATE Examination – 2011 (99.10 percentile). She received the Ph.D. degree in Electronics and Communication Engineering, MNNIT Allahabad, India, in 2016. She was an assistant professor in RKGITM Ghaziabad from July 2016 to Dec 2016. She is currently an assistant professor in RKGIT Ghaziabad, Uttar Pradesh, India. Her area of research includes Fabrication and Characterization of semiconductor devices, Microelectronics and Photonics.

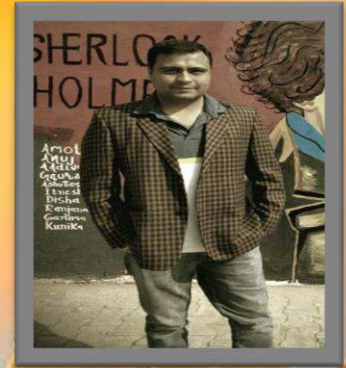


# TECHNICAL CONTRIBUTION

## 1) Mr. Kunal Lala (Asst. Professor)

*Published a Paper On- "Wide Band Triangular Patch Textile Antenna With The Partial Ground Plane"*

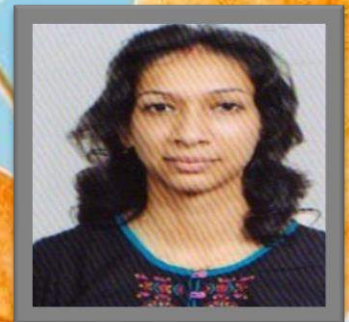
*Springer International Conference on Intelligent Computing and Application (ICICA-2016) held at D Y Patil College of Engineering, Pune*



## 2) Ms. Neha Goel (Asst. Professor)

*Published a Paper On- "Design Device for Subthreshold Slope in DG Fully Depleted SOI MOSFET."*

*JOURNAL OF NANO AND ELECTRONIC PHYSICS  
UKRAINE Vol. 9 No 1, 01022 (4app) (2017) (Scopus Indexed)*





# INTERACTION WITH OUTSIDE WORLD

## 1) Dr. DHIRENDRA KUMAR

1. Dr. Dhirendra Kumar (HOD ECE) visited the Vikram Sarabhai Space Centre, Tiruwananthpuram, for an expert meeting on recent innovations in space technologies. This 3 day seminar was held from 30 November 2016 to 2<sup>nd</sup> December 2016. *Vikram Sarabhai Space Centre (VSSC) is the largest among the ISRO facilities. It is a centre for the design and development of satellite launch vehicles and associated technologies. The centre pursues research and development in a host of distinct technology domains including aeronautics, avionics, and composites, primarily for the purpose of advancing the development of launch vehicle technology in India.*
2. *A two day workshop – (Vigyan Bharti) was held at M. P. Council of Science & Technology, Bhopal on 14-15 Jan 2017. The workshop was attended by several renowned academicians around the country. Dr. Dhirendra Kumar (HOD ECE) also attended this workshop. The workshop focused on promoting the students towards science and technology. Making technology available at the door step of every common man was also the key agenda of the workshop.*





3. *Dr. Dharendra Kumar (Dean R&D) attended the industry academia meet as an expert in the panel discussion. The Chief Guest of the program was Prof. R.P Maheshwari, Director RKGIT.*



## 2) Mr.MANEESH KUMAR SRIVASTAVA

Maneesh Kumar Srivastava, Assistant Professor (Dept. of ECE) attended a five days FDP, on the topic "Wireless, Sensor System and IoT" held during 13<sup>th</sup>-17<sup>th</sup> Feb 2017, sponsored by Dr. A. P. J. Abdul Kalam Technical University and organized by Raj Kumar Goel Institute of Technology and Management Ghaziabad.

## 3) Dr. PAWAN KUMAR VERMA

Dr. Pawan Kumar Verma was one of the speaker in the FDP: "Wireless Sensor System IOT" held at RKGITM during 13<sup>th</sup>-17<sup>th</sup> Feb 2017.

Topics covered: Basics of Machine-to-Machine Communications, System Model, Applications, M2M Standards, Data Traffic, Future research directions, Basics of MAC Layer Protocols, Recent Advances in MAC layer protocols for M2M Communications.





# STUDENT'S TECHNICAL CORNER



## IEEE Members 2017



<b>Name</b>	<b>Year</b>	<b>Membership No.</b>
1) Mayank Kumar Jaiswal	ECE 2 <sup>nd</sup>	94016850
2) Himanshu Verma	ECE 2 <sup>nd</sup>	94022813
3) Himanshu Singh	ECE 2 <sup>nd</sup>	94020487
4) Disha Srivastava	ECE 2 <sup>nd</sup>	94029319
5) Aditi Srivastava	ECE 2 <sup>nd</sup>	94030081
6) Manisha Chauhan	ECE 2 <sup>nd</sup>	94029451
7) Lakshay Panwar	ECE 2 <sup>nd</sup>	94019613
8) Lovleen Kumar	ECE 2 <sup>nd</sup>	94200429
9) Sachin Anand	ECE 2 <sup>nd</sup>	94029106
10) Alok Mishra	ECE 2 <sup>nd</sup>	94022706
11) Rahul Anand	ECE 2 <sup>nd</sup>	94029092
12) Akhil Gupta	ECE 2 <sup>nd</sup>	94029408
13) Neha Mishra	ECE 3 <sup>rd</sup>	94206055
14) Abhinav Kumar	AEI 3 <sup>rd</sup>	94209027

A program was conducted by the IEEE members which was basically to interface an led with help of Arduino Uno board. The program was conducted so that we could get familiar with the board . It'll help us on our next project in which we would connect the board with our android devices with the help of Bluetooth Module.





# VIGYANAM-2017

The VIGYANAM-2017 is an inter college technical paper presentation competition for engineering students. It was an initiative taken by Dr R.P. Maheshwari (Director,RKGIT) to promote research activities among the students. The papers were invited from students of different engineering colleges in India. The students of under graduate level got this brilliant opportunity to showcase their technical talents. Also they got to witness the abilities of their peer minds. The competitive spirit kept up the enthusiasm of the students and they strived for the best.



- + There were a total of 55 paper presentations presented in which 12 paper presentations were presented by the different colleges of NCR.
- + 17 paper presentations were presented by the CSE/IT department.
- + 20 paper presentations were presented by the ME/CE department and 18 paper presentations were presented by the ECE department.





A very exciting and tough competition prevailed among the students in which the best one's were emerged as winners and runners up.

Last but not the least, I would like thank to all the organizing committee because this event could not have been a successful one without the efforts by the faculty members and the organizing committee.

**Thanks & Regard:**

**Dr. Puneet C. Srivasatava**  
**Professor & Dean**  
**(B.Tech-2<sup>nd</sup> Shift )**





# AECE SOCIETY

Association of Electronics and Communication Engineering(AECE) organised two events COMPOCHARADES and CIRCUITRONICS in the fest KALRAV organized by Raj Kumar Goel Institute of Technology on 14<sup>th</sup> and 15<sup>th</sup> february 2017. More than 20 teams each consisting of two participants participated in these events.



Compocharades was conducted in two phases. The first phase was a quiz round in which the students had to answer all the questions asked and the second phase was a guessing round in which one member of each team had to guess the electronic component by understanding the hand movements of the fellow team member.

Circuitronics was also conducted in two rounds. In the first round, the participants were asked to describe 3-4 characteristics of each asked component and in the second round, each team had to design and connect the given circuit under the limited time period.

Many Students of ECE department participated in these events and below are the list of students who seized various positions.





### Winners of Compocharades:

1-Shivani Tripathi(ECE 3<sup>rd</sup> Year) & Vishalakshi Singh(ECE 3<sup>rd</sup> Year)

2-Vedika Singh(ECE 3<sup>rd</sup> Year) & Shivangi Srivastava(ECE 3<sup>rd</sup> Year)

### Winners of Circuitronics :

1- Narvadeshwar Chaubey (ECE 3<sup>rd</sup> Year) & Rakesh Kumar(ECE 3<sup>rd</sup> Year)

2-Shubham Gupta(ECE 3<sup>rd</sup> Year) & Varun Mishra(ECE 2<sup>nd</sup> Year)





# *Designing Dijkstra Shortest Algorithm in Wavelength-Routed WDM Network*

BY: *NEHA (ECE 4<sup>th</sup> Year)*



WDM provides the tremendous bandwidth of an optical fiber to meet the growing network demand. In WDM network, the optical spectrum is divided into different channels. Therefore, WDM technique enables us to route multiple lightpath connections onto different wavelength channels in an optical fiber. Such networks where connections are routed on distinct wavelength channels of a fiber link are called wavelength-routed WDM networks. In wavelength routed WDM network, a connection is realized by a lightpath. In order to establish connection between a source destination pairs, a wavelength continuous route needs to be found between the node pairs. An algorithm use for selecting routes and wavelength to establish lightpaths is known as a routing and wavelength assignment algorithms. When connection request arrives to network, the main problem is to provide route to the light-path requests and to assign a wavelength on each of the links along it is known as the routing and wavelength assignment (RWA) problem. The algorithm proposed by Dijkstra to find a shortest path from a source node  $s$  to destination  $d$  on a directed graph. The edges are assumed to have non-negative weights. The nodes are numbered from 0 to  $N-1$ . This algorithm finds the length of the shortest path from  $s$  to  $d$  which can easily be modified to find the corresponding shortest path. In this project, we have analysed Dijkstra's Algorithm by its performance in terms of blocking probability . We have used attenuation and time factor for solving the routing problem in WDM Optical Network. The routing Algorithm is implemented in MATLAB R2013a (8.10.604). From the observation of simulation graph it is observed that Dijkstra Algorithm has good performance in terms of delay. And also demonstrated that delay increases as network increases with fixed wavelengths. Result of the project is that Traversal from source to destination can be done using many possible paths but Dijkstra's algorithm yields the shortest minimum path to reach to the destination.



# PLACEMENT INFORMATION

S. No.	ROLL NO.	Name Of The Students	Branch	Name of company	Month
1	1303331081	SARTHAK VARMA	ECE	XCEEDANCE	DECEMBER
2	1303331088	SHIVANGI SHARMA	ECE	GENPACT	JANUARY
3	1303331052	MEGHA GUPTA	ECE	GENPACT	JANUARY
4	1303331010	AKASH KUMAR CHOUDHARY	ECE	GENPACT	JANUARY
5	1303331038	HARSHITA KUSHWAHA	ECE	ETEA INC.	JANUARY
6	1303331840	SACHIN DWIVEDI	ECE	WYWID	JANUARY
7	1303331042	ISHA DIXIT	ECE	QSPIDERS	JANUARY
8	1303331064	PARAS MITTAL	ECE	QSPIDERS	JANUARY
9	1303331046	RACHNA PAUL	ECE	QSPIDERS	JANUARY
10	1303331845	SHARAD TRIPATHI	ECE	QSPIDERS	JANUARY
11	1303331807	ANKITA MATHUR	ECE	QSPIDERS	JANUARY
12	1303331071	PRIYAM TRIPATHI	ECE	MAINTEC TECHNOLOGIES PVT. LTD.	JANUARY
13	1303331045	MANEESHA JHUNJHUNWALA	ECE	YUGASA SOFTWARE LABS	JANUARY
14	1303331061	NISHITHA RAI	ECE	THINK & LEARN	JANUARY
15	1303331852	UTKARSH KUMAR SINGH	ECE	DIGITAL MANTRA	JANUARY
16	1303331809	ANURAG KUMAR	ECE	AIRTEL	JANUARY
17	1303331061	NISHITHA RAI	ECE	AIRTEL	JANUARY
18	1303331077	RUCHIR SRIVASTAVA	ECE	AIRTEL	JANUARY
19	1303331090	SHUBHANGI SHANKAR	ECE	AIRTEL	JANUARY
20	1303331092	SONANGI SHANKAR	ECE	AIRTEL	JANUARY
21	1303331061	NISHITHA RAI	ECE	PROLIFICS	JANUARY
22	1303331095	VAIBHAV GUPTA	ECE	AMAZON	FEBRUARY
23	1303331096	VIJAY KANOJIA	ECE	SEO CORPORATION	JANUARY
24	1303331030	BRIJENDRA PRATAP SINGH	ECE	HINDUJA GLOBAL SOLUTIONS	FEBRUARY
25	1303331065	PARTH KHANNA	ECE	HINDUJA GLOBAL SOLUTIONS	FEBRUARY
26	1303331010	AKASH KUMAR CHOUDHARY	ECE	COGENT E SERVICES	FEBRUARY



# ALUMINI SPEAK

**Priya Srivastava**

**2012-2016**

**Software Engineer at FIS Global Business Solution**



- *Rkgit Faculty members are capable of inspiring youngsters and their mode of teaching is marvelous. I am very grateful to the faculty who sacrifice their important time to building our future. Today what I am is just because of their motivation and hard work.*
- *I really admired Prof. Vinita Sharma, she taught us maths. She makes class so interactive that no one really wants to miss it. Prof. Ramender Singh taught us control system, the way he teaches us that subject no one other can do like him. Prof Vikas Katoch expert in Physics with outstanding Practical Approach, he knows very well how to make class interesting with his physics concepts.*
- *Hostel life would always be the unforgettable days. These are the very special moments which you miss throughout your life. There are many moments which you cannot forget and also can't describe in words, all those late night group chats, party, eating Maggie and one night study just before the exam makes you more confident. Playing Badminton, fighting with your roomie, late night birthday celebrations and most imp were "Friends Turns into Family". Only I would like to say, I miss my college days and hostel too.*
- *RKGIT taught us to be confident, disciplined and being independent. The various competitions like literary events organized by college made us smarter so that we can fight in tough world. We all not only became successful engineers but also good human beings.*
- *College days are the best days in life so enjoy it because these are never ever goanna come back. I only suggest you, stay focused on your studies means both Practical and Theoretical Knowledge. . At the end I would like to wish all of you **ALL THE BEST** for your Bright future.*



# STUDENTS ACHIEVEMENT

## 1. NATIONAL CONFERENCE ON RECENT TRENDS IN ELECTRICAL AND ELECTRONICS ENGINEERING (NCRTEEE-2017)

a) SHYAM NARAYAN GUPTA (B.TECH ECE 4th Year)

TOPIC ~ Wireless Communication over fading channel and stimulation.

Under the guidance of Dr. Ramendra Singh (Prof. ECE Dept. IPEC, GZB) and Mr. Ankit Tripathi (Asth. Prof. ECE Dept. RKGIT, GZB)

b) NEHA (B.TECH ECE 4th Year)

TOPIC ~ Algorithm in wavelength routed WDM network.

Under the guidance of Mr. Ankit Tripathi (Asth. Prof. ECE Dept. RKGIT, GZB) and Ms. Vartika Anand (Asth. Prof. ECE Dept. RKGIT, GZB).





### 3) KASHIYATRA'17

Aman Singh Yadav, one of the leading actors in the team UNWAAN, got selected in the fest conducted by IIT BHU (KASHIYATRA'17) for his brilliant performance.



### 4) PRASTUTI' 17

Aman Singh Yadav, one of the leading actors in the team UNWAAN, participated in the fest conducted by KIET (PRASTUTI' 17) and secured second position.



### 5) Vigyanam 2k17

Shanshank Bindal, Naman & Rajan Mishra secured 2<sup>nd</sup> position in paper presentation on the topic- "ADVANCED MOBILE COMMUNICATION TECHNOLOGY- 4G" in Vigyanam 2k17

4G" in Vigyanam





# SOCIAL CONTRIBUTION

## **VIDHYARTHI VIGYAN MANTHAN**

*Vidyarthi Vigyan Manthan (VVM) is a national program for educating and popularizing science among school students of VI to XI standards. VVM also endeavours to identify the bright minds among the student community, who are keen on subjects related to science. This mega program was held on 19 FEB, 2017 at MAIT under the valuable guidance of Shri Praveen Ramdas ji, Dr. Nand Kishore Garg, Chairman MAIT and chancellor of Maharaja Agarsain University was the Chief Guest of this event.*

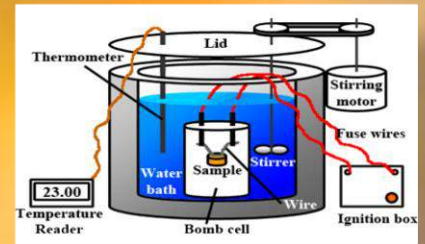
Nineteen students of ECE department of RKGIT, Ghaziabad has volunteered in this mega event under the supervision of Dr. Dharendra Kumar (HOD,ECE) RKGIT Ghaziabad. He gave this opportunity to the students for serving the Society. It was a rigorous academic event to promote the school children towards Science & Technology. Many Scientists/Professors from TIFEC, DST Govt. of India, DTU, NSIT, JNU, IARI, CSIR, NISCAIR were present to grace the occasion.



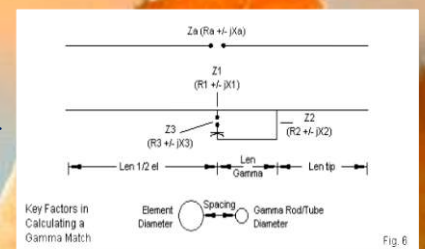


# COROLLARY

**Calorimeter:** An instrument for measuring heat energy. By adaptation, a calorimeter can be used to measure radio-frequency (RF) power—especially at microwave frequencies.



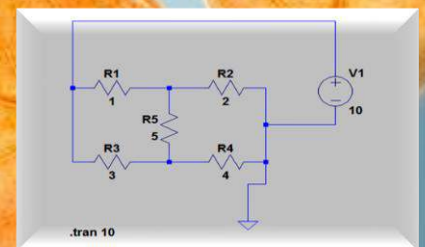
**Gamma Match:** A linear transformer for matching an unbalanced (usually coaxial) feed line to a balanced (usually half-wave) antenna. The outer conductor of the cable is connected to the center of the radiator, and an extension of the center conductor runs for a short distance parallel to the radiator, making a right-angle bend before connecting to the radiator.



**Half-wave Loop Antenna:** A loop antenna having a circumference of 0.5 wavelength with a break opposite the feed point. It is, in effect, a HALF-WAVE DIPOLE bent into a circle or square (although any symmetrical configuration can be used). The circle is the most efficient configuration.



**H-Network:** A network of five impedances: two connected in series between the upper input and output terminals, two between the lower input and output terminals, and one shunted between the junctions of the series-connected impedances. Also, called H pad, balanced tee network, and balanced tee pad.

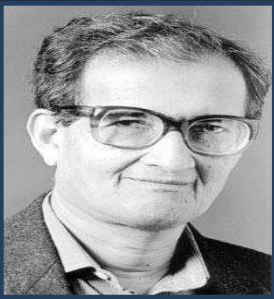


**Illuminometer:** A device for measuring the intensity of visible light, or, less often, infrared or Ultraviolet. In its simplest form, the meter consists of a photovoltaic cell, a potentiometer for adjusting the sensitivity, and a micro ammeter.





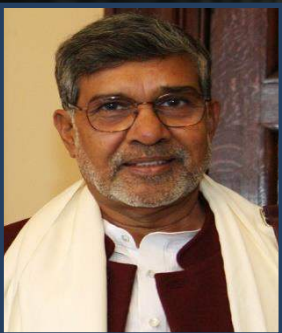
# ***NOBLE PERSONALITY***



## *Amartya Kumar Sen:*

Amartya Kumar Sen (born 3 November 1933) is an Indian economist and philosopher of Bengali ethnicity, who since 1972 has taught and worked in the United Kingdom and the United States. Sen has made contributions to welfare economics, social choice theory, economic and social justice, economic theories of famines, and indexes of the measure of well-being of citizens of developing countries. He was awarded the Nobel Memorial Prize in Economic Sciences in 1998 and Bharat Ratna in 1999 for his work in welfare economics.

He was also awarded the inaugural Charleston-EFG John Maynard Keynes Prize in recognition of his work on welfare economics in February 2015 during a reception at the Royal Academy in the UK. He served as the Chancellor of Nalanda University. He is currently the Thomas W. Lamont University Professor and Professor of Economics and Philosophy at Harvard University. He also serves in the faculty of Harvard Law School. He is also a senior fellow at the Harvard Society of Fellows, a distinguished fellow of All Souls College, Oxford, an honorary fellow of Darwin College, Cambridge and a Fellow of Trinity College, Cambridge, where he served as Master from 1998 to 2004.



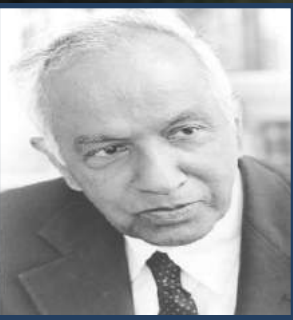
## *Kailash Satyarthi:*

Kailash Satyarthi (born Kailash Sharma; 11 January 1954) is an Indian children's rights and education advocate and an activist against child labour. He founded the Bachpan Bachao Andolan (lit. *Save the Childhood Movement*) in 1980 and has acted to protect the rights of more than 83,000 children from 144 countries. It is largely because of Satyarthi's work and activism that the International Labour Organization adopted Convention No. 182 on the worst forms of child labour, which is now a principal guideline for governments around the world. His work is recognized through



various national and international honours and awards including the Nobel Peace Prize of 2014, which he shared with Malala Yousafzai of Pakistan.

In 1980, he gave up his career as an engineer and became secretary general for the Bonded Labor Liberation Front; he also founded the Bachpan Bachao Andolan (Save the Childhood Movement) that year. He has also been involved with the Global March against Child Labor and its international advocacy body, the International Center on Child Labor and Education (ICCLE), which are worldwide coalitions of NGOs, teachers and trades unionists.



### **Subrahmanyan Chandrasekhar:**

Subrahmanyan Chandrasekhar, FRS (October 19, 1910 – August 21, 1995), was an Indian American astrophysicist who was awarded the 1983 Nobel Prize for Physics with William A. Fowler "for his theoretical studies of the physical processes of importance to the structure and evolution of the stars". His

mathematical treatment of stellar evolution yielded many of the best current theoretical models of the later evolutionary stages of massive stars and black holes. The Chandrasekhar limit is named after him.

Chandrasekhar worked on a wide variety of astrophysical problems in his lifetime, contributing to the contemporary understanding of stellar structure, white dwarves, stellar dynamics, radiative transfer, the quantum theory of the hydrogen anion, hydrodynamic and hydro magnetic stability, equilibrium and the stability of ellipsoidal figures of equilibrium, general relativity, mathematical theory of black holes and theory of colliding gravitational waves. At the University of Cambridge, he developed a theoretical model explaining the structure of white dwarf stars that took into account the relativistic variation of mass with the velocities of electrons that comprise their degenerate matter. He showed that the mass of a white dwarf could not exceed 1.44 times that of the Sun – the Chandrasekhar limit. Chandrasekhar revised the models of stellar dynamics first outlined by Jan Oort and others by considering the effects of fluctuating gravitational fields within the Milky Way on stars rotating about the galactic center. His solution to this complex dynamical



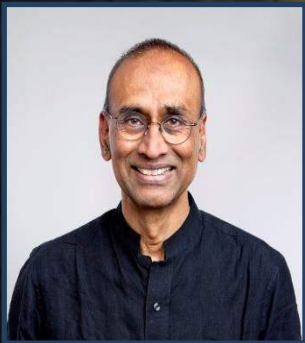
problem involved a set of twenty partial differential equations; describing a new quantity he termed 'dynamical friction', which has the dual effects of decelerating the star and helping to stabilize clusters of stars. Chandrasekhar extended this analysis to the interstellar medium, showing that clouds of galactic gas and dust are distributed very unevenly.

Chandrasekhar studied at Presidency College, Madras (now Chennai) and the University of Cambridge. He spent most of his career at the University of Chicago, spending some time in its Yerkes Observatory, and serving as editor of The Astrophysical Journal from 1952 to 1971. He served on the University of Chicago faculty from 1937 until his death in 1995 at the age of 84. Chandrasekhar married Lalitha Doraiswamy in September 1936. He had met her as a fellow student at Presidency College, Madras.

Chandrasekhar was the nephew of Sir Chandrasekhar Venkata Raman, who was awarded the Nobel Prize for Physics in 1930.

He became a naturalized citizen of the United States in 1953.

### *Venkatraman Venki:*



Venkatraman Venki Ramakrishnan (born 1952) is an Indian-American-British structural biologist of Indian origin. He is the current President of the Royal Society, having held the position since November 2015. In 2009 he shared the Nobel Prize in Chemistry with Thomas A. Steitz and Ada Yonath, "for studies of the structure and function of the ribosome".

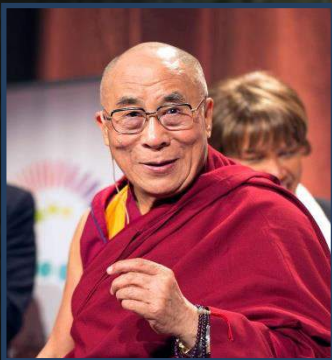
Since 1999, he has worked as a group leader at the Medical Research Council (MRC) Laboratory of Molecular Biology (LMB) on the Cambridge Biomedical Campus, UK, where he is also the Deputy Director.

Ramakrishnan began work on ribosomes as a postdoctoral fellow with Peter Moore at Yale University.<sup>[11]</sup> After his post-doctoral fellowship, he initially could not find a faculty position even though he had applied to about 50 universities in the U.S. He continued to work on ribosomes from 1983-95 as a staff scientist at Brookhaven National Laboratory. In 1995 he moved to the University of



Utah as a Professor of Biochemistry, and in 1999, he moved to his current position at the Medical Research Council Laboratory of Molecular Biology in Cambridge, England, where he had also been a sabbatical visitor during 1991-92.

In 1999, Ramakrishnan's laboratory published a 5.5 Angstrom resolution structure of the 30S subunit. The following year, his laboratory determined the complete molecular structure of the 30S subunit of the ribosome and its complexes with several antibiotics. This was followed by studies that provided structural insights into the mechanism that ensures the fidelity of protein biosynthesis. Ramakrishnan is also known for his past work on histone and chromatin structure.



### Dalai Lama:

The 14th Dalai Lama (religious name: Tenzin Gyatso, shortened from Jetsun Jamphel Ngawang Lobsang Yeshe Tenzin Gyatso, born Lhamo Thondup, 6 July 1935) is the current Dalai Lama.<sup>[1]</sup> Dalai Lamas are important monks of the Gelug school, the newest school of Tibetan Buddhism which is nominally headed by the Ganden Tripas.

From the time of the 5th Dalai Lama to 1959, the central government of Tibet, the Ganden Phodrang, invested the position of Dalai Lama with temporal duties.

The 14th Dalai Lama was born in Taktser village (administratively in Qinghai province, Republic of China), Amdo, Tibet, and was selected as the tulku of the 13th Dalai Lama in 1937 and formally recognized as the 14th Dalai Lama at a public declaration near the town of Bumchen in 1939. His enthronement ceremony as the Dalai Lama was held in Lhasa on 22 February 1940, and he eventually assumed full temporal (political) duties on 17 November 1950, at the age of 15, after the People's Republic of China's invasion of Tibet. The Gelug School's government administered an area roughly corresponding to the Tibet Autonomous Region just as the nascent PRC wished to assert central control over it. During the 1959 Tibetan uprising, the Dalai Lama fled to India, where he currently lives as a refugee. The 14th Dalai Lama received the Nobel Peace Prize in 1989.



# UPCOMING EVENTS IN DELHI/NCR

EVENTS	WEBSITE	DATE	VENUE
<i>Biometrics India expo</i>	<i>10times.com</i>	<i>25-10-2017</i>	<i>DELHI</i>
<i>International Conference on Industrial Electronics and Electrical Engineering (ICIEEE)</i>	<i>www.allconferencealert.com</i>	<i>7-2017 March</i>	<i>DELHI</i>
<i>India E Vehicle Show</i>	<i>10times.com</i>	<i>27-2017 March</i>	<i>DELHI</i>
<i>International Conference on Electrical and Electronics Engineering(ICEEE)</i>	<i><u>www.allconferencealers.com</u></i>	<i>2-2017 March</i>	<i>DELHI</i>
<i>Auto electric Expo</i>	<i>10times.com</i>	<i>18-2017 March</i>	<i>DELHI</i>
<i>Electrical Building Technology India</i>	<i>10times.com</i>	<i>11-2017 March</i>	<i>DELHI</i>
<i>AMPDECS 2K17</i>		<i>29<sup>th</sup> -31<sup>st</sup> 2017 March</i>	<i>RKGIT</i>





- 1) VSB modulation is preferred in TV because
  - a) It reduces the bandwidth requirement to half
  - b) It avoid phase distortion at low frequencies
  - c) It result in better reception
  - d) None of the above
  
- 2) When modulation index of an AM wave is increased from 0.5 to 1, the transmitted power
  - a) remains the same
  - b) increases by 25%
  - c) increases by 33.3%
  - d) increases by 50%
  
- 3) When the carrier is unmodulated, a certain transmitter radiates 9KW when the carrier is sinusoidally the transmitted radiates 10.125KW. The modulation index will be
  - a) 0.1
  - b) 10.15



- c) 0.4  
d) 0.5
- 4) A remote control of TV uses a 10-bit word. The maximum number of total commands it can transmit is  
a) 64  
b) 256  
c) 512  
d) 1024
- 5) A cordless telephone using separate frequencies for transmission in base portable units is known as  
a) Duplex arrangement  
b) Half duplex arrangement  
c) either (a) or (b)  
d) neither (a) or (b)

**Contact us and mail your answer at**

[ecemagazine.rkgit@gmail.com](mailto:ecemagazine.rkgit@gmail.com)



**Join us on  
Facebook**

**<https://www.facebook.com/udghoshrkgit/?ref=bookmarks>**



## Technical Overview

Over the last few decades, the field of microwave & photonics has attracted growing interest worldwide particularly in communication and measurement.

Microwave photonics is an innovative multi- and interdisciplinary field integrating and transforming different technologies. This conference will further give impetus to the researchers for proposing novel efficient techniques in microwave systems.

## Theme of the Conference

This conference is organized to provide a vibrant platform to bring together scientists, researchers, educators, students, practitioners and technocrats across academia, government organization and industry to interact and exchange useful ideas and impart guidelines on technical, research & developments around the world. The impact and application of technology on diverse fields have generated interest worldwide. The aim of AMPDECS-2017 is to bridge the gap between industry and academics. The microwave photonics area is concerned with interactions between the optical and the microwave frequency bands of the electromagnetic spectrum. The eminent speakers from defence laboratory of Govt. of India, leading research organizations and academic institutions have been invited for plenary session, who will present new and innovative ideas and models about the recent advancement in Microwaves, Photonics and other related areas of electronics & communication system.

## About Raj Kumar Goel Institute of Technology (RKGIT), Ghaziabad



RKGIT, since its establishment in year 2000 has been striving hard to provide industry friendly engineering education to its students through an optimal infrastructure with well equipped modern labs and well qualified dedicated faculty members. RKGIT is steadily striding forward in its quest of establishing itself among the top engineering institutions in India.

The vision of the Institute is to continuously excel and enliven the engineering teaching and create awareness about upcoming technologies and provide platform to budding technical students for achieving their rightful place in the scientific and engineering community.

RKGIT endeavors to provide industry and entrepreneurship relevant education and training to its well-crafted practical training programs for the student in different disciplines.

## National Conference

On

## *Advancement in Microwave and Photonic Devices for Electronic Communication Systems* (AMPDECS-2017)

March 29-31, 2017

Organized by

Department of Electronics and  
Communication Engineering

Raj Kumar Goel Institute of Technology  
(RKGIT), Ghaziabad



Sponsored by

Defence Research and Development Organization



Ministry of Defence, Government of India



### Chief Patron

Shri Dinesh Kumar Goel  
Chairman RKG Group of Institutions

### Patrons

Prof. B. K. Gupta, Group Advisor, RKG Group of Institutions  
Prof. Laxman Prasad, Director (R&D), RKG Group of Institutions

### National Advisory Committee

Prof. Asok De, NIT Patna  
Prof. Shibani K. Koul, IIT Delhi  
Prof. A.K. Verma, Adjunct Professor, Australia  
Prof. J.P. Pandey, KNIT Sultanpur  
Prof. Dharmendra Singh, IIT Roorkee  
Dr. Mahesh Abegaonkar, IIT Delhi  
Dr. N. S. Raghava, DTU, Delhi  
Dr. S. K. Raghuvanshi, IIT(ISM), Dhanbad  
Dr. Manoj K. Meshram, IIT(BHU), Varanasi  
Dr. Jigyasa Sharma, NIT, Patna  
Dr. Abhilasha Mishra, MIT, Aurangabad

### Key Note Speakers

Prof. Asok De, NIT Patna  
Prof. Dharmendra Singh, IIT Roorkee  
Dr. Mahesh Abegaonkar, IIT Delhi  
Dr. Alok Jain, SSPL, Scientist G, DRDO, Delhi  
Prof. P. K. Singhal, MITS, Gwalior  
Dr. Vinod Kumar Kanaujia, JNU, Delhi

### Chairperson of Technical Sessions

Prof. Manuddeen, JMI, Delhi  
Dr. S. K. Raghuvanshi, IIT(ISM), Dhanbad  
Dr. N. S. Raghava, DTU, Delhi  
Dr. Meena Mishra, SSPL, DRDO, Delhi  
Dr. Rajender Kumar, NIT Kurukshetra  
Dr. Rajveer Singh Yaduvanshi, AIT, Delhi

### Call for Papers

Prospective authors are invited to submit their full paper through the website

<https://easychair.org/conferences/?conf=ampdecs2017>

The instruction for authors in the proceeding:

- Original papers based on analytical or experimental work.
- The authors must follow IEEE formatting instruction.
- The total length of the paper must not exceed 5 pages. Paper must be in PDF format.

### Organizing Committee

#### Chairperson

Prof. R.P. Maheshwari, Director, RKGIT

#### Convener

Dr. Dharendra Kumar,  
Prof. & HOD, ECE Dept.

### Members

Prof. Y. K. Gupta, Dean Academic  
Prof. T. N. Shukla, HOD, EEE Dept.  
Dr. P. C. Srivastava, ECE Dept.  
Dr. Amit Kumar Pandey, ECE Dept.  
Mr. Pawan Kumar Shukla, ECE Dept.  
Mr. P. C. Mishra, ECE Dept.  
Mr. Vaibhav Sharma, ECE Dept.  
Dr. Pawan Kumar, Applied Science Dept.  
Mr. Ankit Tripathi, ECE Dept.  
Mr. Abhinav Bansal, ECE Dept.  
Ms. Renu Rani, ECE Dept.  
Ms. Vartika Anand, ECE Dept.  
Ms. Anamika Gupta, ECE Dept.  
Dr. Pawan Kumar Verma, ECE Dept.  
Mr. Rohit Kumar, ECE Dept.  
Mr. Kunal Lala, ECE Dept.

### Important Dates

Paper Submission Deadline	07 March 2017
Notification of Acceptance	15 March 2017
Camera Ready Paper	22 March 2017

### Registration Form

Name:.....  
Designation:.....  
Organization:.....  
Present address:.....  
.....  
City:.....  
State:.....Country:.....  
Pin:.....  
Contact no: .....  
Email ID: .....  
Accommodation(yes/no):.....  
Conference: (Attending/Presenting): .....  
Title of the paper (if presenting): .....  
.....  
Place:  
Date: Signature:

Signature of Head of Institution/ Dean/HOD  
with seal

Registration fees: Rs. 1000/-

Venue  
*Seminar Hall, D Block*  
Raj Kumar Goel Institute of Technology,  
Ghaziabad

Time: 9:30 AM – 5:00 PM

For further information, please contact:

Dr. Amit Kumar Pandey, ECE Dept  
Mobile: 8587079523  
Ms. Vartika Anand, ECE Dept  
Mobile: 9718002815  
Ms. Anamika Gupta, ECE Dept  
Mobile: 8588842484

Email: rkgitconference.ece@gmail.com