# Dr. T. THIMMAIAH INSTITUTE OF TECHNOLOGY

## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

# NEWSLETTER

# ECE-AUTRONICS

## 2018-2019

### Volume-4,  Issue-1

# Dr.T. THIMMAIAH INSTITUTE OF TECHNOLOGY
**(Estd. 1986) Oorgaum, Kolar Gold Fields, Karnataka – 563120**
**(Affiliated to VTU, Belgaum, Approved by AICTE - New Delhi)**

### DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

# AUTRONICS 2018-19

## *President's Message*

Dr.T. Thimmaiah Institute of Technology has been serving many young engineering aspirants for more than three decades. The evolution of the institution for the past three decades has witnessed strong blend of state of the art infrastructure and human resources committed to provide professional education with thrust on creativity and innovation. Special emphasis is given to outcome based education. Our institution provides ample opportunities for the students to acquire both technical and life coping skills which would enable them to empower themselves as useful citizens.

We encourage our faculty members to take up research activities, to acquire knowledge, innovation and newer insights that make teaching more vibrant and scientific.

I congratulate all the students who have been placed in various companies through our Placement and training cell. My appreciation to all the staff for their team works in getting good results.

I am extremely happy to release the newsletter Electronics & Communication Engineering and also confident that the editorial team has covered all the recent happenings in the campus.

I wish all the students to excel in all fields and make their parents, institution and nation proud.

-**Dr.T. Venkat Vardhan**,
President, GVET

## Principal's Message

*I congratulate the Department of Electronics & Communication Engineering faculty for their achievements in the current academic year. I also congratulate the editorial team for their constant effort for the outcome of the newsletter.*

Dr. Syed Ariff

Principal

Dr. T. Thimmaiah Institute of Technology, KGF

## HOD's Message

*The newsletter provides an overview of current activities that took place on our campus. The newsletter includes noteworthy accomplishments by the Department of Electronics & Communication Engineering, Dr. T. Thimmaiah Institute of Technology, KGF. I am delighted to publish the achievements of the Department of Electronics & Communication Engineering.*

**Prof. Ruckmani Divakaran**
HOD Dept of ECE , Dean (Administration)

## From the Editor's Desk

*We congratulate the editorial team for release this newsletter brings out all the important achievements of faculty and students and other development activities under taken in the department. On behalf of the editorial committee, I thank our management for the support and encouragement rendered to keep up the standards of this edition of the newsletter.*

*Editorial Committee*

*Chief Editors*: 1. **Prof. Ruckmani Divakaran**
             HOD Dept of ECE , Dean (Administration)
             2. Prof.Vijaya Bharathi M, Associate Professor
             3. Prof.Jenitha A, Associate Professor

*Editor :* Ms. Devika S, Assistant Professor
*Students Editors: 1.Ashwini S.-1GV15EC005*

*2. Rohith.S-1GV15EC043*

## *About the Department*

The Department of Electronics & Communication Engineering was started in the year 1993 with the idea of equipping young people with the necessary technical knowledge and professional skills needed to address the challenges in the rapidly growing field of Electronics & Communication Engineering and promoting research in this area headed by Prof. Ruckmani Divakaran.

ECE department is a dynamic and vibrant department with highly qualified, experienced and dedicated faculty members. The curriculum in Electronics and Communication Engineering lays greater emphasis on design principles and development of Communication models, Signal Processing, Image processing, Embedded Systems and VLSI.

The young, dynamic and dedicated Staff members have succeeded in coaching the students and to equip themselves to face the future with confidence. The department is also successful in achieving VTU ranks.

The major areas of faculty expertise of the department include Communication Systems, Computer Networks, Signal Processing, Image Processing, RF and Microwaves, and VLSI Systems. The department offers B.E in Electronics & Communication Engineering.

The department has various laboratories such as VLSI Design lab, Digital Signal Processing Lab, Circuits and Simulation Lab, Advanced Communication Lab, Computer Networks Lab, Microprocessor Lab, HDL Lab and Embedded Systems Lab to implement the required curriculum and skills.

The department also nurtures the inclination of the students towards Research and Development, besides giving them the necessary and sufficient backing of practical knowledge that they need. The Department provides access to high end software like Xilinx, Multisim, Code Composer Studio, Network Simulator, Cadence and MATLAB. Technical co-curricular and extra-curricular activities of the students include participation in Paper Presentation, Workshops, Seminars, Quiz, Technical competitions, Project Demonstration and participation in cultural activities channelized through the forum (EC GOLDEN ANWESHA) and events in the institution.

Those candidates desiring to pursue further studies are doing immensely well in their respective fields. The qualities inculcated in students make them not only good engineers but also good human beings.

# DR. T. THIMMAIAH INSTITUTE OF TECHNOLOGY

## Vision

To produce technically competent engineers having innovative skills positive attitude, leadership and professional ethics, with a focus on developing sustainable and new technology.

## Mission

• Create a conducive environment for teaching, learning and innovation by providing state of the art infrastructure.

• Learn sustainable and new technologies through industry institute collaborations.

• Produce technically competent engineers with ethics, discipline and social consciousness through holistic education.

# DEPARTMENT OF ELECTRONICS & COMMUNICATION

## Vision

"Graduates to be recognized in the field of Electronics & Communication Engineering ensuring academic excellence with innovative technical skills and professional ethics."

## Mission

- Imparting quality technical education through innovative teaching learning process.
- Active association with industry to meet the growing challenges in the society.
- Develop overall competency with professional ethics by providing training programs.

# CONTENTS

# STUDENTS ACTIVITIES

**Papers published/Presented**

1. Byrareddy, 4<sup>th</sup> sem , M.Tech H.C ,Mr.Srinivas Babu N , Assistant Professor ,presented a paper on title "Design and Implementation of an Efficient RISC Processor on FPGA "in First International conference at Dr.TTIT on 12<sup>th</sup> April 2019 and published in IJCESR, Volume-6, Issue-6, 2019.

2. Chandini D B , Indhu V, Jayasudha J , Swetha D of 8<sup>th</sup> semester ,Mrs. Inbalatha.K, Associate Professor presented paper on title " Intellectual Green Corridor for Crisis Wellbeing Transference" in First national conference at Dr.TTIT on 12<sup>th</sup> April 2019 and published in IJCESR, Volume-6, Issue-6, 2019.

3. Ajay J, Pavithra S, Pooja Eronisha A, Vanijayam Kof 8<sup>th</sup> semesterDr. Vijayalakshmi G V,Associate Professor presented paper on title " An EMG Based Hand Gesture Recognition System using SVM" in First national conference at Dr.TTIT on 12<sup>th</sup> April 2019 and published in IJCESR, Volume-6, Issue-6, 2019.

4. Arshiya Taj A., Nikhath Suman, Sneha S., Sweety Lydia Bof 8<sup>th</sup> semester, Prof. Ruckmani Divakaran, HOD presented paper on title "High Speed and Low Area FIR filter implementation based on Shift and add multiplier design for Machine Learning Applications "in First national conference at Dr.TTIT on 12<sup>th</sup> April 2019 and published in IJCESR, Volume-6, Issue-6, 2019.

5. Harini. T, Pavithra Lency.D, Sandhya.T and Soniya.Pof 8<sup>th</sup> semester, Mr. Rajesh Kumar Kaushal , Assistant Professor presented paper on title " IoT Based Smart Food Monitoring System" in First <sup>t</sup> national conference at Dr.TTIT on 12<sup>th</sup> April 2019 and published in IJCESR, Volume-6, Issue-6, 2019.

6. Radhika M V, Shreemathi N., Supriya G of 8<sup>th</sup> semester ,Mrs. Kanimozhi S, Assistant Professor presented paper on title "ECG Monitoring and Analysis System for Rural/Remote Areas "in First <sup>t</sup> national conference at Dr.TTIT on 12<sup>th</sup> April 2019 and published in IJCESR, Volume-6, Issue-6, 2019.

7. Naveen.R, Balaji.R, Ashwini.R, Sweeta.S of 8<sup>th</sup> semester, Dr.Palaniswamy.K.M, presented paper on title "IoT Enabled Carbon Dioxide and Carbon Monoxide Monitoring and Control to Reduce Air Deterioration Form Vehicles "in Firstnational conference at Dr.TTIT on 12<sup>th</sup> April 2019 and published in IJCESR, Volume-6, Issue-6, 2019.

8. HashithaD,Pushpalatha B,Lohith B, Nethra B V of 8<sup>th</sup>semester,Mr. Shashikiran S, Assistant Professor presented paper on title "Design and Implementation of IoT-Based Automation System for Smart Home" in First national conference at Dr.TTIT on 12<sup>th</sup> April 2019 and published in IJCESR, Volume-6, Issue-6, 2019.

9.  Navasanthanalakshmi A , Savitha C,Varalakshmi V, Thejeshwini H of 8<sup>th</sup> semester, Mr. Rakesh B N,Assistant Professor  "Smart Green House Monitoring and Controlling System Using IoT" in First national conference at Dr.TTIT on 12<sup>th</sup> April 2019 and published in IJCESR, Volume-6, Issue-6, 2019.

10. Ashwini S, Bharath Reddy S, Dinesh Kumar R, Sahana Rof 8<sup>th</sup> semester, Mrs.Jenitha.A,Associate Professor presented paper on title  "Partial Product Array Height Reduction using Radix-16 for 64-Bit Booth Multiplier" in First national conference at Dr.TTIT on 12<sup>th</sup> April 2019 and published in IJCESR, Volume-6, Issue-6, 2019.

11. Pomila Srinivasa Murthy, Sainath P A, Vishnu J K of 8<sup>th</sup> semester,Mr. Srinivas Babu N,Assistant Professor  presented paper on title "Packet Collision Avoidance in Energy Efficient CC-MANETs" in First national conference at Dr.TTIT on 12<sup>th</sup> April 2019. VOLUME-6, ISSUE-6, 2019 and published in IJCESR, Volume-6, Issue-6, 2019.

12. Chetan. S, K. Deepika, Kishore. R, Likitha.S of 8<sup>th</sup> semester, Mrs. Vijaya Geetha. R,Associate Professorpresented paper on title " A Multiscale Approach Based Automatic Ship Detection "in First national conference at Dr.TTIT on 12<sup>th</sup> April 2019 and published in IJCESR, Volume-6, Issue-6, 2019.

13. Ajay J, Pavithra S, Pooja Eronisha A, Vanijayam Kof 8<sup>th</sup> semester, Dr.Vijayalakshmi G V, Associate Professor presented paper on title "An EMG Based Hand Gesture Recognition System using SVM" in First [t] national conference at Dr. TTIT on 12<sup>th</sup> April 2019 and published in IJCESR, Volume-6, Issue-6, 2019.

## Best Paper Award

Ajay J, Pavithra S, Pooja Eronisha A, Vanijayam K of 8<sup>th</sup> semester, Dr.Vijayalakshmi G V, Associate Professorwon received best paper award for on title " An EMG Based Hand Gesture Recognition System using SVM" in First national conference-IJCESR  at Dr.TTIT on 12<sup>th</sup> April 2019.

# DEPARTMENT ACTIVITIES

## INDUSTRIAL VISIT

Students of Second and Final Year visited BEML Limited , KGF on 23rd March 2019 organized by Mrs. Manjushree K Chavan, Assistant  Professor accompanied by Ms. Kanimozhi S,Assistant Professor,  Mr. Srinivas Babu, Assistant  Professor Mr. Shashikiran, Asst. Professor  and Mr. Rajesh Kumar Kaushal Asst. Professor.Students were taken to various Departments in BEML and exposed to the industrial environment.



Students and faculty members during the visit to BEML , KGF

A visit to All India Radio, (Akashvani, AIR ) in Bangalore and Hoskote Divisions was organized for the students of Third Year and Final Year  .Mrs. Manjushree K Chavan, Asst Prof. E&C organized the visit on 07/05/2019. The students were accompanied by Dr. Palaniswamy, Professor , Dr. Vijayalakshmi G V, Associate professor and Ms. Tamil Vani R , Assistant Professor . The visit was aimed at enhancing the knowledge of students about the studio and FM Transmitters along with concepts of the Base Station.



Students and faculty members during the visit to All India Radio, Bangalore

## GUEST LECTURE

1. A Guest Lecture Programme was conducted on 5th April 2019. Mr. Mithilesh, Project Manager in DUPOINT and Mr. Pathaleshwar, Scientific Officer in Tata Institute of Fundamental Research, the alumni of Dr. TTIT delivered the lecture on "Overall Development of Student" for students of 4th and 8th semester . The content of the talk was Personality development of Student, emphasizing various fields of electronics engineering including the research.



Mr. Mithilesh delivering the lecture

2. A Guest Lecture Programme was conducted on 3rd April 2019. Mr. Sreeramulu B V, Founder and Architect, iSignal Research Labs, delivered a lecture on "LTE Channels, Channel Mapping and Data Flow" for students of 8th semester organised by Mrs. Manjushree K Chavan. The content of the talk was LTE Protocol Stack Overview, LTE Channels, Channel Mapping and LTE Stack in-depth for Data Flow.



Mr.Sreeramulu delivering the lecture

## SEMINAR ORGANISED

1. One day seminar on modern tool usage in control systems was organised by the department on 17-05-2019.

2. One day seminar on "overall development of students" was organised by the department on 05-04-2019.

3. One day seminar on "LTE Channels, channel mapping and data flow" was organised by the department on 03-04-2019.

4. One day seminar on "Industrial challenges on 4G/LTE Wireless" was organised by the department on 12-11-2018.

# FACULTY ACHIVEMENTS

## FACULTY DEVELOPMENT PROGRAMME

Dr.K M Palani swamy , Professor , Dr.Vijayalakshmi G V , Associate professor , Mrs.Jenitha A , Associate professor, Ms.Tamil Vani R , Assistant Professor , Ms. Mohana C , Assistant Professor attended five days faculty development programme on " Patent Drafting and filing " from 24-06-19 to 28-06-19 organised by Chase Research and Development Solutions , Chennai.

## PROJECT EXHIBITION – 2019

Project exhibition was conducted by Dr. TTIT were the students of the department exhibited the projects and showcased their talents.



ECE students exhibiting their projects

# VTU RANK HOLDER



VTU Rank Holder Suganthi S K receiving award  on college day

# Program Educational Objectives (PEOs)

Graduates shall have the ability to

**PEO 1 :** Develop the engineering design, problem–solving skills and aptitude for innovations in multi-disciplinary areas.

**PEO 2 :** Manage resources skillfully as members and leaders to solve complicated real world problems.

**PEO 3 :** Be receptive to new technologies and attain professional competence through lifelong learning with Advanced degrees, innovation and other Professional Activities.

# Program Specific Outcomes (PSOs)

Graduates will have the ability to

**PSO 1:** Apply the principles of Electronics in the field of VLSI and Embedded systems.

**PSO 2:** Apply the domain knowledge to design, analyze and develop optimal solutions in the field of Signal Processing and Communication with social concern.

**PSO 3:** Utilize acquired technical knowledge in Applied electronics and multidisciplinary domains.

# Program Outcomes (POs)

At the end of the B.E program, students are expected to have developed the following                                                                                                    outcomes:
Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialisation to the solution of complex engineering problems.

1. Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialisation to the solution of complex engineering problems.
2. Problem analysis: Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. Modern Tool Usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
6. The Engineer and Society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. Environment and Sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of need for sustainable development.
8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. Individual and Team Work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. Project Management and Finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent
and life-long learning in the broadest context of technological change