AMRITA
VISHWA VIDYAPEETHAM | School of Engineering

Bengaluru

Electronics and Communication Engineering Department

2022

Chairperson

Dr. Navin Kumar

Professor, Chairperson

Department of Electronics and Communication Engineering
Amrita School of Engineering Bengaluru –560035
Email: k_navin@blr.amrita.edu

Vice chair

Dr. Sreeja Kochuvila

Assistant Professor [Sr. Gr.]

Department of Electronics and Communication Engineering
Amrita School of Engineering Bengaluru –560035
Email: k_sreeja@blr.amrita.edu

About the Department

B. Tech. in Electronics and Communication Engineering is a four-year professional undergraduate program offered by Amrita School of Engineering since 2002. Electronic and communication engineering is concerned with applying knowledge in electronics to facilitate communication and solve engineering problems. The curriculum is organized such that it enables students to get a strong foundation on various aspects of electronics and communication engineering such as digital systems design, electromagnetic theory, digital signal processing, microprocessors and microcontrollers, electronic circuits, VLSI design, digital communication, analog communication, control engineering, and microwave engineering. While building a solid foundation of the fundamentals, the students are also exposed to emerging trends in the industry and are molded to be quality professionals of the future. The students are also provided an opportunity to choose specialization electives to focus on their identified areas of interest such as embedded systems, wireless communication, satellite communication, biomedical signal processing, VLSI fabrication technology, speech processing, and optical communication.

THE VISION

To provide a value-based learning environment for producing engineers with a blend of technical skills, moral values and leadership qualities in the field of Electronics, Communication and Computing channelized towards technological advancement to cater to the needs of the industry and the society

THE MISSION

- Achieving excellence in teaching and learning with an emphasis on fundamental knowledge and hands-on exposure to match the state-of-the-art in technology.

- Providing an environment for core competency development and enhancing quality research in emerging areas.

- Facilitating professional growth to the students for higher education and career in industry and academia.

- Imbibing the essence of human values, ethics and professional skills to sustain socio-economic development.

Department at Glance

01

ACADEMICS

Programs - UG, PG and Ph.D.

- UG – B.Tech in Electronics and Communication Engineering (ECE)
  B.Tech in Electronics and Computer Engineering (EAC)
- PG - M.Tech in VLSI Design
- Ph. D. - 70+ Scholars pursuing research in all areas of ECE
- Faculty - 37 (with 19 Ph.D.)

02

LABORATORIES

- VLSI Design Lab
- Microwave Laboratory
- Communication Laboratory
- Digital circuit and Systems Laboratory
- Microcontroller/ Microprocessor and Signal Processing Laboratory
- Intrumentation and Process Control Laboratory

Digital circuits and systems Lab

Communication Lab

Microwave Lab

Instrumentation and Process Control Lab

03

RESEARCH

- Research Areas under TAGs - 9 of 18
- Research Labs -   4
- Funded Projects - 5
- Research Collaborations - 12 National & International Collaborations,
  4 Industry Support Projects
- Research Outcomes - 10 Proposals, 2 crore funds, 57 Journal articles,
  300 Conference Publications, 3 Patents applied.

04

STUDENT ACTIVITIES

- Placements - 93%
- Student Projects - B.Tech students underAmrita Robotics Research Lab
  (ARRL) have devised wearable glove "MUDRA".
- Exchange Programs- KTH, Aalto University, NTU (Internships)
- Clubs – ECIF Forum, IEEE ComSOc

ECE Faculty

Dr. Navin Kumar
Professor, Chairman

Dr. Sreeja Kochuvila
Assistant Professor (SG),
Vice Chair

Dr. Dhanesh Kurup
Professor

Dr. T.K. Ramesh
Professor

Dr. Manoj Kumar Panda
Associate Professor

Dr. Ganapathi Hegde
Associate Professor

Mr. Giriraja C. V.
Assistant Professor (SG)

Ms. Latha
Assistant Professor (SG)

Dr. Abhilash Ravikumar
Assistant Professor (SG)

Dr. Mamatha I
Assistant Professor (Sr. Gr.)

Dr. M. Vinodhini
Assistant Professsor (Sr. Gr.)

Ms. Kirthi S. Pande
Assistant Professor (Sr. Gr.)

Ms. R. V. Sanjika Devi
Assistant Professor (Sr.Gr.)

Dr. Lalitha S.
Assistant Professor (Sr. Gr.)

Ms. Sunitha R.
Assistant Professor (Sr.Gr.)

Ms. R. Jeyanthi
Assistant Professor (Sr. Gr.)

Mr. P. Satish Kumar
Assistant Professor (Sr.Gr.)

Ms. Jayashree M. Oli
Assistant Professor (Sr. Gr.)

Ms. Sudha Yadav
Assistant Professor (Sr.Gr.)

Ms. K Sireesha
Assistant Professor (Sr.Gr.)

Ms. Somali Agarwal
Assistant Professor (Sr.Gr.)

Ms. Priya B. K.
Assistant Professor (Sr. Gr.)

Mr. Vignesh V.
Assistant Professor (Sr.Gr.)

Mr. Nandi Vardhan H. R.
Assistant Professor (Sr.Gr.)

Mr. Sagar B.
Assistant Professor (Sr.Gr.)

Dr. Nizampatnam Neelima
Assistant Professor (Sr. Gr.)

Dr. Ramesh Chintala
Assistant Professot (Sr. Gr.)

Dr. Paramasivam C.
Assistant Professor (Sr. Gr.)

Dr. Kamatchi S.
Assistant Professor (Sr. Gr.)

Dr. Parul Mathur
Assistant Professor (Sr. Gr.)

Dr. Bhavana V.
Assistant Professor (Sr. Gr.)

Dr.Susmitha Vekkot
Assistant Professor (Sr. Gr.)

Mr. Swaminadhan Rajula
Assistant Professor

Dr. Sivakumar K. M.
Assistant Professor

Dr. Nidhin Prabhakara
Assistant Professor

Dr. Salija P.
Assistant Professor

Dr. Pooja Kenchetty P.
Assistant Professor

Thrust Area Groups

The Department has the following focused research areas under various Thrust Area Groups (TAGs)

01 ADVANCED COMMUNICATION

Dr. Manoj Kumar Panda (Lead)
Dr. Navin Kumar
Dr. Salija P.
Dr. Pooja Kenchetty P.
Ms. Priya B. K.
Ms. Latha
Mr. Sagar B.
Mr. Vignesh V.

02 VLSI SYSTEM ARCHITECTURE AND CIRCUITS

Dr. Kamatchi S. (Lead)
Dr. Sudha Yadav
Dr. C. Paramasivam
Dr. Ramesh Chintala
Dr. M. Vinodini
Dr. K. Sireesha
Ms. Kirthi S. Pande
Mr. P. Satishkumar
Ms. Sonali Agarwal
Mr. Vignesh V.
Mr. Swaminadhan R.
Mr. Sivakumar K. M.

03 SIGNAL PROCESSING AND MACHINE INTELLIGENCE

Dr. Neelima N. (Lead)
Dr. Ganapathi Hegde
Dr. Mamatha I.
Dr. Susmitha Vekkot
Dr. Lalitha S.
Ms. Sunitha R.
Ms. Bhavana V.
Mr. Nidhin Prabhakaran

04 INDUSTRY 4.0

Dr. T. K. Ramesh (Lead)
Mr. Giriraja C. V.

05 HUMAN LANGUAGE TECHNOLOGY

Dr. Susmitha Vekkot
Dr. Lalitha S.

06 ROBOTICS AND AUTOMATION

Dr. Navin Kumar
Dr. Sreeja Kochuvila
Mr. Nandi Vardhan H. R.
Ms. Jeyanthi R.
Ms. Priya B. K.

07 RF AND WIRELESS SYSTEMS

Dr. Dhanesh G. Kurup (Lead)
Dr. Parul Mathur
Dr. Ramesh Chintala
Dr. Sanjika Devi
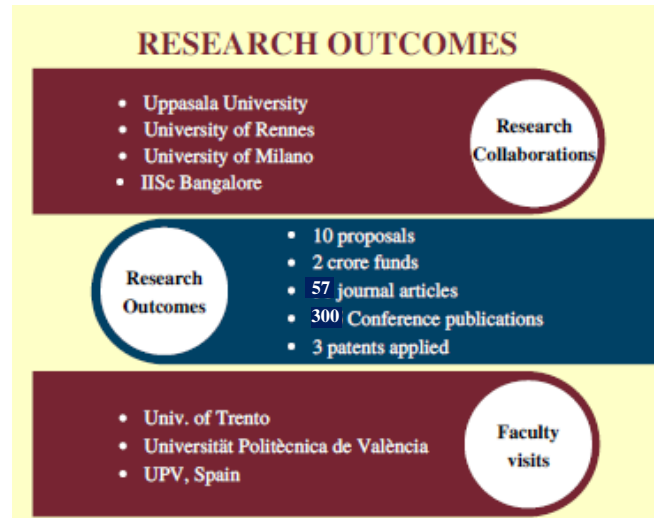
08 COMPUTATIONAL MODELLING AND ENGINEERING SIMULATIONS
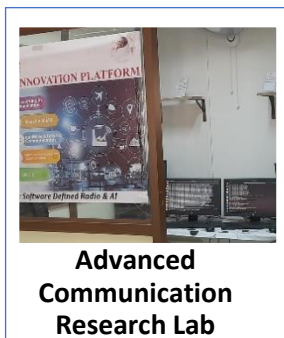
Dr. Abhilash Ravikumar

09 CYBER PHYSICAL SYSTEMS

Dr. Navin Kumar (Lead)
Ms. Jayashree M. Oli

Research Labs

Advanced Communication Research Lab

VLSI Design Lab

RF and Wireless Lab

Nanoelectronics Lab

RESEARCH OUTCOMES

- Uppasala University
- University of Rennes
- University of Milano
- IISc Bangalore

Research Collaborations

Research Outcomes
- 10 proposals
- 2 crore funds
- 57 journal articles
- 300 Conference publications
- 3 patents applied

- Univ. of Trento
- Universität Politècnica de València
- UPV, Spain

Faculty visits

LABORATORY INFRASTRUCTURE/TOOLS

Advanced Communication Research Lab

VLSI Design Lab

RF and Wireless Lab

Nanoelectronics Lab

EDA software tools from

- Cadence
- Mentor Graphics
- Ansys

FPGA prototyping boards from

- Xilinx
- Altium
- National Instruments
- Diligent
- Technology Design kits from
- UMC Foundry Taiwan

Up to 18GHz
- **VNA**
- **Spectrum Analyser**
- **MSO**
- **DSO**
- **Function generator**

Placements and Higher studies
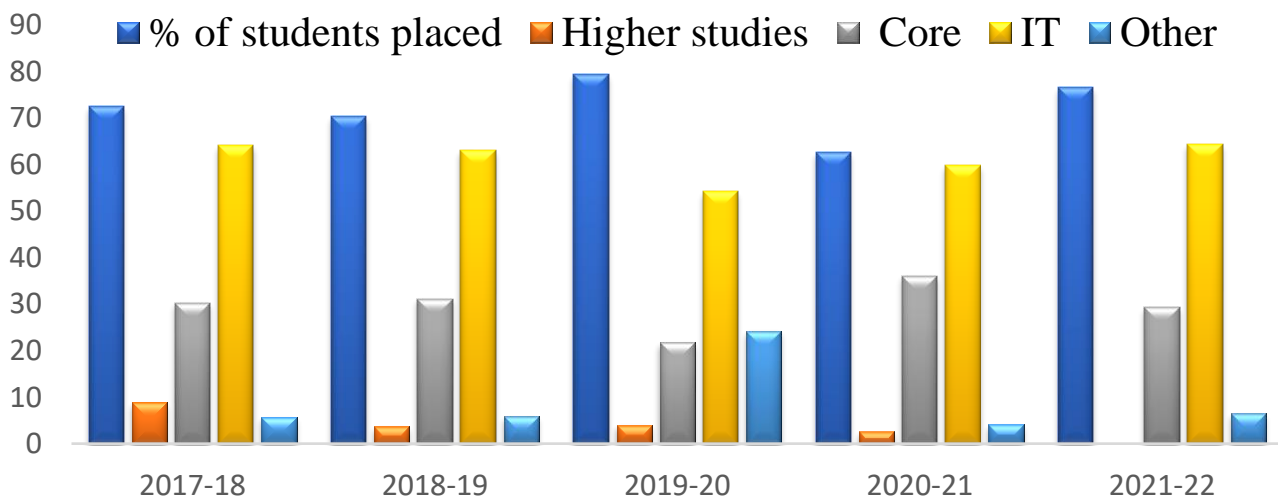
Department Activities
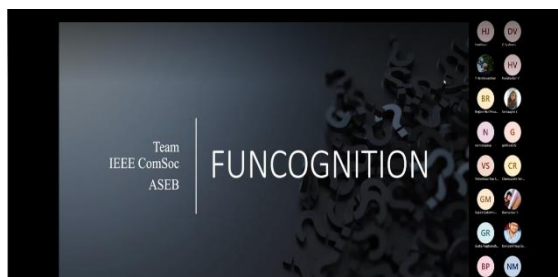

ECiF   RASE

ECIF FORUM

Robophilia 2020

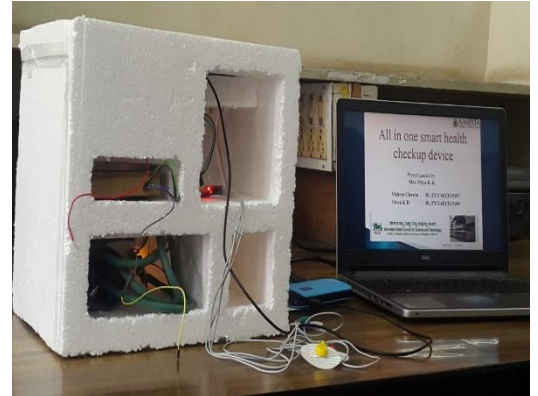IEEE Sensors Inauguration

IEEE ComSoc – Invited Talk

IEEE ComSoc - Funcognition

Talk on Quantum Computing

Student Activities

Clubs, Alumni talks, Student Projects, Achievements.

Message from our Chancellor

When we study in a college, striving to become a doctor, a lawyer, or an engineer - this is education for living. On the other hand, education for life requires an understanding of the essential principles of spirituality; it is about gaining a deeper understanding of the world, our minds, our emotions, and ourselves. We all know that the real goal of education is not to create people who understand only the language of technology; the main purpose of education should be to impart a culture of the heart, a culture based on spiritual values.

Communication through technology has made the world a small place yet there is so much of a division. Today's world needs people who express goodness in their words and in action with which the darkness prevailing in today's society will be dispelled and the light of peace and non-violence will once again illuminate this earth. Let us work together towards this goal.

-   **MATA AMRITANANDAMAYI**