

# FLASH

Electronics & Computer Science  
(formerly known as Electronics and Telecommunication Engineering)  
Departmental Newsletter

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Editors: Prof. Flavia Leitao Student Coordinator: Mr. Clarence Dias

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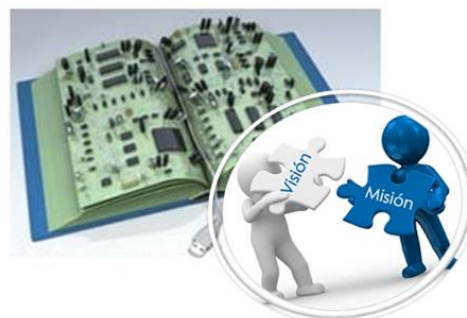
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## VISION

To evolve into a Holistic Learning Hub that moulds technologically proficient engineers in the field of Electronics and Computer Science; contributing to the global industry and society with Integrity, Ethics and Professionalism as envisaged by Don Bosco



## MISSION

- To impart quality education abreast with advances in technology and transform students into competent professionals.
- To promote innovation, research and entrepreneurship through collaboration and networking.
- To encourage various skill enhancing activities and extra-curricular activities to foster high levels of work ethics and responsibility for a better society.

# DEPARTMENTAL DETAILS

Electronics and Computer Science is a cross-discipline integrated program that explores the exciting interface between Electronics and Computer Science (ECS). The fields to be explored are Robotics, Augmented and Virtual Reality, Internet of Things, VLSI Technology, Database Management system, Computer Vision, Cyber Security, Artificial Intelligence and Machine Learning.

The department has been organizing various programs to enhance the Industry -Institute interaction through field visit and workshops. The students are also provided an opportunity to choose specialization electives to focus on their identified areas of interest.



Department has 11 fully functional Laboratories as listed below, along with the different Software.

- Signal Processing Laboratory
- EDA tools Laboratory
- e-Yantra Robotics Lab

## ➤ LABORATORIES

- Basic Electronics Engineering Laboratory
- Microwave Engineering Laboratory
- Analog Electronics Laboratory
- Digital Electronics and Instrumentation Laboratory
- Communication Engineering Laboratory
- Embedded system laboratory supported by Cypress
- Project laboratory
- Control and automation Laboratory

## SOFTWARES

MATLAB  
Xilinx 14 Version  
OSCAD  
MAGIC  
LabVIEW  
OCTAVE  
POISARPro

## KITS

8051 kits  
ARM kits  
PIC kits  
PLC kits  
LAN Trainer kits  
OFC Kits  
PSoC ARM Cortex Kits

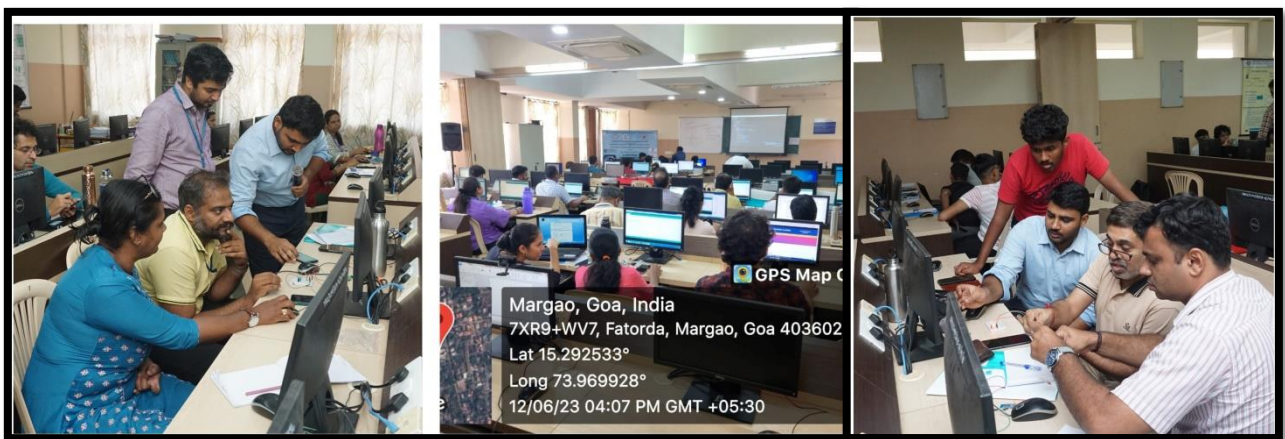
## One Week ISTE STTP on “A Practical Approach to IoT and its Applications”

The Department of Electronics and Computer Science, Don Bosco College of Engineering in association with Government College of Commerce and Economics, Margao and Directorate of Higher Education, Government of Goa organised a one week ISTE STTP on “A Practical Approach to IoT and its Applications”. The workshop was an initiative in line with NEP and was held from 12th - 16th June 2023.

Asst. Prof. Anisha Cotta, Asst. Prof. Melba D’Souza from DBCE and Dr. Kissan Gauns Dessai, Asst. Prof. of Computer Science, Govt. College of Commerce & Economics- Margao were the coordinators of the workshop. The workshop was attended by 38 participants from institutes like Shree Rayeshwar Institute of Engineering & Information Technology, Goa University, Bhatikar Model High School, P.E.S's RSN College of Arts and Science, NIT-Goa, Loyola Higher Secondary School, Estellar Higher Secondary School of Excellence & Don Bosco College of Engineering- Fatorada.



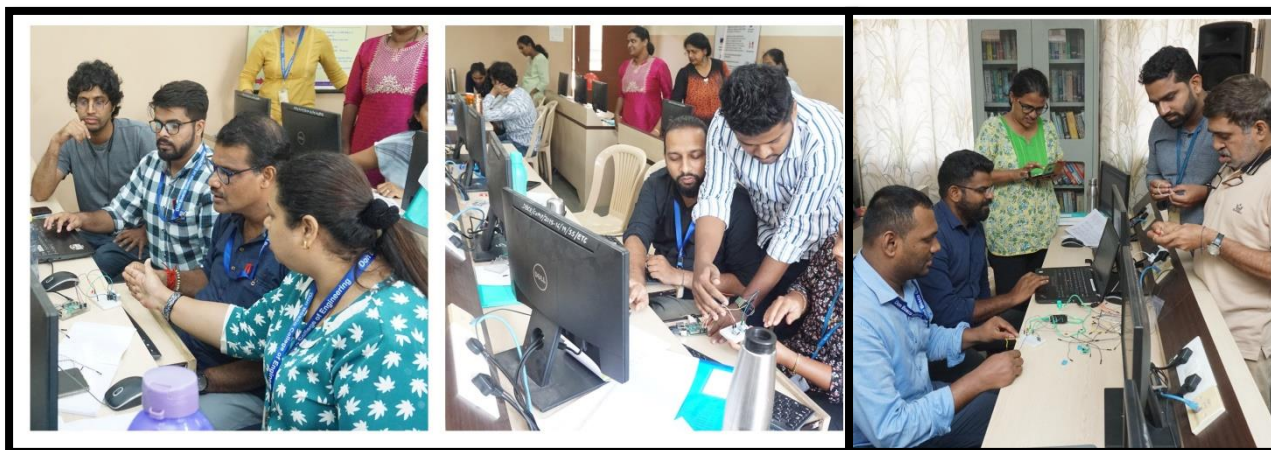
The inaugural ceremony of the workshop was held on 12th June 2023. The Chief Guest of the function was Dr. Niyam Joseph Savio Marchon, Professor Teaching, Learning and Educational Technology, Goa State Higher Education Council, Directorate of Higher Education (DHE) Government of Goa, while Dr. Trilochan Panigrahi, Associate Professor, Dept. of Electronics & Communication Engg. NIT- Goa was the guest of honour and keynote speaker for the day. The inaugural function was also graced by the presence of the Director of Don Bosco College of Engg., Rev. Fr. Kinley D’Cruz, Principal Dr. Neena Panandikar, Mr. Anvesh Reddy, Trainer and Consultant Innovians Technologies Noida, Registrar Dr. Kala Nayak, and Head of Department, of Electronics and Computer Science Department, Dr. D.S. Vidhya.





In the key note address Dr. Trilochan Panigrahi explained the various applications of IOT in the real world. This was followed by a hands-on session by the resource person Mr. Anvesh Reddy, Trainer and Consultant Innovians Technologies, Noida. He started with introduction of IOT and Node MCU platform followed by programming using Arduino IDE.

Session on “Energy Optimization in Internet of Things”, was taken by Dr. S. Mini, Associate Professor, Computer Science Department, NIT-Goa. The sessions for the rest of the days of the workshop were conducted by Mr. Anvesh Reddy, Trainer and Consultant Innovians Technologies, Noida. Projects done during this session included interfacing of Node MCU with IR sensor. Bluetooth module, voice controlled home automation etc. The post lunch session was a hands session on cloud computing in IoT using ThingSpeak and Blynk.



The workshop further focused on basics of Raspberry Pi, followed by installation of OS on SD Card, OS Configuration, network setup, study of GPIO pins, configuring GPIO pins and using python. Post lunch session included hands on session on interfacing IR sensors, ultrasound sensor and temperature and humidity sensor, 7 segment display etc to Raspberry Pi. Next was introduction to MQTT and communication protocol for IOT, followed by understanding MQTT broker, publish and subscribe method. The mosquito MQTT publish subscribe model was implemented using Raspberry pi. Various cloud platforms for IoT like Amazon, Azure and Google cloud, were also discussed. Later the participants were introduced to Microsoft Azure.



The valedictory function was held on June 16th 2023. Mr. Anish Sousa, founder of Sun 360 was the Chief Guest on the occasion while Mr. Anvesh Reddy, Trainer & Consultant of Innovians Technologies- Noida was the Guest of Honour. The coordinators for the 5 day workshop were Asst. Prof. Anisha Cotta and Asst. Prof. Melba D’Souza.

# STUDENT'S CORNER

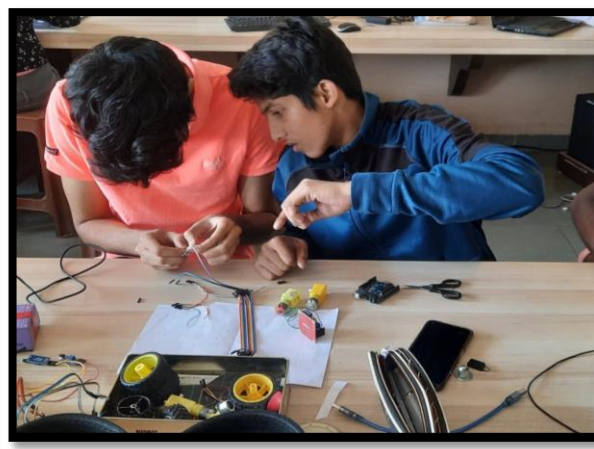
## Workshops/Seminars/In-house Trainings/ Competitions

### Workshop on “Robotics”

The e-Yantra Robotics Team of ECS department of DBCE organized a Workshop on Robotics on 25<sup>th</sup> of February 2023. The purpose of the Workshop was to spread education in Robotics, so as to help students to participate for Technical Events and Competitions related to Robotics. The resource persons for the workshop were Mr. Gilferd Gonsalves, Mr. Maynard Gomes and Ms. Simmi Mhapsekar. The workshop was conducted in the Embedded Systems Lab and saw the participation of 20 students from FE ECS and SE and TE ETC.



The Hardware team led by Mr. Gilferd Gonsalves, started off with building the Line follower and the Robo-Soccer. The chassis was designed and cut on the laser cutter. A brain storming session of all the students from the hardware team helped in identifying the different motors and other parts required. The Software team led by Mr. Maynard Gomes started work on the Line Follower code and looked into the different possibilities that needed to be taken care of.



The students had great time learning while doing the Robots. The Workshop was coordinated by Prof. Flavia Leitao.



## National Level Project Competition – “TECHNIX 2023”

The Final Year Project Quality Assurance Committee, Department Of Electronics and Computer Science in association with Don Bosco Electronics and Telecommunication Society (DBEATS) organized Technix 2023 from May 5th to May 13th, 2023. The primary aim of this competition is to encourage budding engineers to exhibit their novel ideas and innovative projects. The jury for Technix 2023 were Mr. Rishu Shrivastav, Lead-Software delivery- Spintly,Goa and Ms. Ashika Verenkar, Manager-enterprise sales at Schneider Electric, Mumbai.



More than 50 groups registered for the competition. The event saw entries from various colleges all over India. The project were based on latest trending domains like Augmented Reality, Robotics, Embedded Systems, Signal Processing, Machine Learning, Artificial Intelligence, Biomedical Engineering, Communication Engineering, 3D printing, Mechatronics.





The competition saw 2 phases: Phase I was the abstract shortlisting phase and Phase II was the final presentation. A total of 21 abstracts were shortlisted for the final presentation. Some of the criteria for judging included innovation, design and methodology, construction and testing and overall presentation.

The valedictory function of Technix 2023 was held on May 13, 2023. The dignitaries present were Mr Rishu Shrivastav and Ms Ashika Verenkar; Director of DBCE, Rev Fr.Kinley D’Cruz and the HOD of the ETC/ECS Department, Dr. D.S Vidhya.



First Place was bagged by Josten D'souza, Samarth Savalkar, Clive Rodrigues, Delton Fernandes, Artika Vernekar from Don Bosco College of Engineering for their project titled “Design and Development of UAV for the Harvesting of Coconuts”. The second place was won by Vaibhav Ramesh Kashid and Bhoomy Durgesh Lingras from KIT's College of Engineering, Kolhapur, Maharashtra for their project titled Spy Tank. The winners of the third place were Nadim Shah, Nabirasul Kuntoji, Sameer Bankapur and Sanmeet Ghatge from Padre Conceicao College of Engineering for their project titled Wall Climbing Robot.



The event was concluded with the Vote of thanks by the Technix Coordinator Prof. Melba D’ Souza. The event was coordinated by Prof. Anisha Cotta and Prof. Melba D’ Souza. The student coordinators were Ms. Karen Mendes and Mr. Benson Fernandes.

## Workshop on “PCB Design & Fabrication”

Forum for Innovation Incubation Research and Entrepreneurship (FiiRE) in association with Don Bosco College of Engineering, Fatorda – Goa (DBCE), organized a hands-on workshop on PCB Design & Fabrication on 13th May 2023, from 10:00am to 5:00pm. The resource person for the workshop was Ms. Flavia Leitao Asst. Professor, Electronics and Computer Science Department (ECS), DBCE, along with the assistance of Mr. Aloysius Baptista Laboratory Assistant, ECS Dept. DBCE.

The workshop covered the basic concepts of PCB Design, Schematic and Layout Design in Eagle, Generating the Gerbers and G-codes and fabricating the PCB on the Nvis 72 CNC Machine.



The Workshop saw the participation of both students from various colleges and Industry persons from companies like CommScope India Pvt. Ltd., Diagogreutic Pvt. Ltd., Devki Traders, etc. Overall it was an enriching experience for all the participants. The resource person was greatly appreciated and was asked to conduct similar workshops in Commscope Industry as well, which would benefit a greater crowd.





## IEEE DBCE SB Organizes an Educational Tour to Kerala

Under the guidance of the IEEE Branch Counsellor, Prof. Yeshudas Muttu, the IEEE student branch of Don Bosco College of Engineering, Goa organized an educational tour to Kerala exclusively for the IEEE Student members from 14th to 19th February 2023. A total of 90 IEEE student members along with 4 Faculty members, Prof. Yeshudas Muttu, Prof. Deron Rodrigues, Prof. Trima Fizardo and Prof. Vidhya D.S. visited various industries in Kerala including – IroHub Pvt.Ltd, Asaies Pvt.Ltd, CUSAT University and IPCS.

The IEEE Student Branch of Don Bosco College of Engineering visited the office of iROHUB Infotech which is an internship and training institute that offers training expertise in IOS and Android Application Development while also providing hands on experience via live projects for candidates to improve their knowledge in the most premium segments in the Software Industry.



The students visited IPSC global industry located in Kochi, Kerala which offers perfect solutions to a vast array of industries including software, marine, construction engineering while also providing core products such as HMI systems, PLC's and SCADA systems.

Later in the day, the students visited Cochin University of Science and Technology (CUSAT) which is a public university located in Kochi, Kerala which eventually turned out to be the

highlight of the entire educational tour. The main objective of the visit was to make the young minds aware about the recent research activities in fields such as oceanography, robotics, VLSI, signal processing etc. The students were then escorted to the Microwave Propagation Research Lab where they were enlightened about Radar Cross Section techniques followed by a visit to the Research in electromagnets and antennas Lab where they were explained about the working of antennas as well as the uses of nano-materials.



Further, the students visited the VLSI lab where they were introduced to circuit design and the constituents of integrated circuits. The next lab to be visited was the AI and robotics lab wherein the students were made aware about Robot Operating Systems for various advancements while also providing cross platform support. Moving further, the students were then introduced to the Advance Signal Process and Instrumentation Research Lab where most of the projects built were based on the availability of high performance computing facilities consisting of a network hub, powerful CPU and GPUs. Finally, the students visited the SONAR lab where precise knowledge about active and passive SONAR was shared.

The last visit was in Asaies Automation Pvt. Ltd., which provides industrial electronics and automation solutions to the printing industry.

All in all, it was a great and soulful learning experience for all the students as well as the faculty members inculcating team spirit, leadership and networking.





## FIELD VISITS

### Field visit at NIO (National Institute Of Oceanography)

The Department of Electronics and Telecommunication Engineering of Don Bosco College of Engineering under DBEATS organised a field trip on April 20, 2023.

The group of students who were accompanied by Prof. Michelle Viegas -DBEATS Coordinator went on an industrial field trip to NIO (NATIONAL INSTITUTE OF OCEANOGRAPHY), Goa. The purpose of this field visit was to understand the practical aspect of Engineering in Oceanography.



It started with a detailed presentation on the History, Research, Contribution and Services. NIO researchers have undertaken a number of projects in service of the industry. One of the first projects taken up by NIO on acquiring its Research vessel RV Gaveshani was demarcation of a pipeline for carrying oil from India's first offshore oil field at Bombay High. Thereafter, the students also got an opportunity to interact with the company's engineers and managers, who provided a detailed explanation on the robots used underwater for multiple applications. Mr. Prenner explained about the robot Coral Bot, which is a fully autonomous robot with pre-programmed mission and multiple applications like seabed photography, underwater pipeline inspection, harbour surveillance, ocean research and water quality studies.

The industrial visit was a great learning experience for all of the students who gained an understanding of how Engineering principles are applied in Oceanography and its importance.

## Field trip to Qburst

The Department of Electronics and Computer Science Engineering – Don Bosco College of Engineering organized a field trip to Qburst for the students of final year Electronics and Telecommunication Engineering branch from May 4 - 6, 2023. Students were accompanied by Mr. Selvyn Fernandes and Ms. Kimberly Morais.

On May 5, 2023, the students visited Qburst Visvesvaraya Industrial & Technological Museum, Bangalore where they got an opportunity to learn about the various aspects of software development. They were also guided on how to work in the corporate world. The students were able to interact with the senior manager and team leaders of the various departments.



Overall, the industrial visit was very informative. The visit provided the students with a exposure to industry experts and growth in learning soft skills. The visit was successful in achieving its objectives and was appreciated by the students.

Faculty Co-ordinator for Industrial visit was Ms. Kimberly Morais.



## EXPERT TALKS

### Talk on “Introduction to Cryptography”

A Talk titled “Introduction to Cryptography” was conducted for second year Electronics and Telecommunication Engineering students in association with DBEATS on 25th March 2023. The talk was delivered by Asst. Prof. Trima P. Fernandes e Fizarido.

Nowadays in the world of internet, security has become very important. The session enlightened the students about the various aspects of Cryptography and Network Security.



### Talk on “Application of 3D Bio printing”

A lecture on application of 3D bio printing was conducted on 12 May 2023 for SE ETC students by NDLI Club. The resource person for the talk was Prof Samantha Cardoso. She covered the topics of how organ printing using 3D technology can be carried out, she stressed on the challenges faced in the printing process and also the ethical implications of the same.

The different types of bio printing methods such as extrusion based bio printing, inkjet based and laser jet bio printers were also explained in detailed. The students were also explained the importance of scaffolds and how the shape of the construct will influence the cell behaviours. The session was attended by 44 students and faculty members for the ECS Department. The event was coordinated by Prof. Trima Fernandes e Fizarido.



## STUDENT'S ACHIEVEMENTS & FELICITATION

- The DBCE Robotics Team participated for the technical Event “Resonance”, held in Goa College of Engineering on 16<sup>th</sup> and 17<sup>th</sup> March 2023, and scored eight goals against the opponent and won the first round, making it for the semi-final round, where they lost by just one goal to the opponent team.



- Received Grants of Rs. 1,38,532/- for the project “Underwater ROV” by DSTE GOA
- Students involved: Adarsh suryawanshi, Abdullah Abbad, Utkarsh Balaji, Pradin chitari
- Guides : Prof. Mohini Naik & Prof. Kimberly Morais



- Received Grants of Rs. 1,44,354/- for the project “Automated Turret System with Intelligent Object Tracking” by DSTE GOA
- Students involved: Ajinkya Naik, Aniruddha Surawase, Jefin Sam John
- Guides : Dr. Shreyas Simu & Prof. Melba D’Souza



- Ms. Preksha Pravin Karpe, Mr. Sayed Abul Fazal, Ms. Anrea Peixoto, Ms. Jemimah Gonsalves, Ms. Rashee Tushar Gude, Ms. Britney Viendra Mascarenhas, and Mr. Eshan Hitesh Lotlikar will be awarded honour degree after earning 20 credits through NPTEL exam
- Mr. Eshan Lotlikar and Ms. Diana Joaquina Estibeiro, have been awarded as NPTEL Stars, for the period between Jan-Apr 2023, under the Electronics and Communication Engineering Domain
- Ms. Britney Mascarenhas, Mr. Eshan Lotlikar, Ms. Pranita Bhide, Ms. Aiyana Sacrafamilia, Ms. Kaveri Mundaragi, Mr. Maynard Rodrigues, Mr. Pradin Chitari and Mr. Ajinkya Naik, received Elite Nptel certificate for, “Leadership and Team Effectiveness”



- Ms. Kaveri Suresh Mundaragi, Mr. Eshan Lotlikar, Mr. Ketan Gaonkar, Mr. Utkarsh Balaji, Mr. Sahil Nayak, received Elite Nptel certificate for, “Principles of Management”
- Ms. Kaveri Mundaragi, received Elite Nptel certificate for, “Emotional Intelligence”
- Mr. Ketan Raju Gaonkar, received Elite Nptel certificate for, “Soft Skill Development”
- Mr. Eshan Lotlikar, received Elite+Silver Nptel certificate for, “Soft Skill Development”
- Ms. Shreya Joshi and Ms. Melissa Solomon, won the third Place for Football, for VISTARA- Goa College of Architecture , held on 9<sup>th</sup> -10<sup>th</sup> Feb. 2023
- Mr. Myrus Rodrigues, won the first place for FUTSAL METEORA, Don Bosco College Panjim, held on 23rd-24th Feb 2023
- Ms. Rucha Sawant, Ms. Vanshika Gupta, Mr. Tanmay Bandekar, Ms. Sonal Singh and Mr. Utkarsh Naik, won the first place for Nrityaavishkar, K-OSS S. S. Dempo College Bambolim, held on 14th-15th March 2023
- Mr. Utkarsh Naik, won the third place for War of Dance, K-OSS S. S. Dempo College Bambolim, held on 14th-15th March 2023
- Ms. Vanshika Gupta, Ms. Akshata Audi, Mr. Pradyumn Karapurkar, Nupoor Shirsat, Soham Tulaskar, Muskaan Khan, Shravni Ubale, Jeffin Sam, won the third place for Sui Dhaaga, K-OSS S. S. Dempo College Bambolim, held on 14th-15th March 2023

- Mr. Tanish Lotlikar and Mr. Vanosh Fernandes were the semi finalist for the Basketball tournament held at Goa University (Dr. Shyam Prasad Mukherjee stadium Bambolim), from 24<sup>th</sup> Jan. to 28<sup>th</sup> Jan. 2023



## TRAINING AND PLACEMENTS

### Placements

- Ms. Deepali Singh, in Danlaw Electronics
- Mr. Maynard Gomes, in Godrej
- Mr. Mandar Borkar, Mr. Arbaaz Shaikh and Mr. Mohammad Adnan Khan, in Tangentia
- Ms. Reeva Caldeira and Mr. Duane Antao, in Huron
- Mr. Jefin Sam John and Ms. Adhira Coutinho, in Claysys
- Mr. Deval Verenkar and Ms. Vidula Gaonkar, in Appstrail Technology
- Ms. Anjima Rajesh, HFCL
- Mr. Kingsley Monteiro, Mr. Aniruddha Surawase, Mr. Akash, Mr. Ajinkya Naik and Mr. Gilferd Gonsalves, in Sierra Circuits

# FACULTY INITIATIVES

## CERTIFICATIONS/ AWARDS/ ACHIEVEMENTS

- Prof. Mohini Naik is appointed as the IGARSS IEEE Nodal chair and member from January 2023
  - Reviewer for the Conference Workshop on Microwave Theory and Techniques in Wireless Communications 2023 (MTTW'23) 4 - 6 OCT 2023 RIGA, LATVIA
  - Invited as resource person to delivered a talk at Government Polytechnic Bicholim on 4th May 2023
  - Invited as chief guest and delivered lecture at the Kings High school for the inaugural of the science club on March 3, 2023
  - Invited as resource person to deliver a talk on satellites tracking at Presentation Higher Secondary School on February 6, 2023 as part of "Vidnyan Dhara" DHE initiative
- 
- Prof. Selvyn Fernandes is awarded Elite certification on successful completion of 12 weeks NPTEL FDP and for securing a consolidated score of 90% in the course 'Signal Processing Techniques and its Applications'
  - Delivered a talk on 'Career in Engineering' at Government Polytechnic Curchorem on 10th March 2023.





- Prof. Flavia Leitao was invited as Resource person for the “PCB Design and Fabrication” workshop by FiiRE on 13th May 2023.



- Prof. Yeshudas Muttu was invited as resource person to deliver a talk on "Electronics Simulation using TinkerCAD Circuits" at Bhatikar Model High School, Margao on 8th February 2023
- Delivered a talk on 'Career in Engineering' at DBCE, Fatorda on 2<sup>nd</sup> June 2023



- Prof. Samantha Cardoso conducted a session on “3D bio printing”, on 12th May 2023, under NDLI Club-DBCE.



- Prof. Trima Piedade Fernandes e Fizado, Assistant Professor, Department of Electronics and Computer Science was invited as a judge for 'Project Competition-2023'-a final year ETC Projects Expo organized by the Department of Electronics and Computer Engineering of Padre Conceicao College of Engineering, Verna Goa on 6th June 2023.



## CONFERENCE PAPER/ JOURNAL PUBLICATIONS

- Prof. Mohini Naik, published a paper titled, “Phased Array of Microstrip Patch Antenna for Millimeter Wave Applications” in 2nd IEEE International Conference on Smart Technologies and Systems for Next Generation Computing. Theme: Smart Technologies and Systems, April 2023 IEEE Xplore
- Prof. Mohini Naik, published a Journal paper titled, “Design of Microstrip Smart Antenna with DENLMS Beam Steering Algorithm for Millimetre-Wave Frequency Application.” Wireless Personal Communication (2023). <https://doi.org/10.1007/s11277-023-10409-0>

## WORKSHOPS/SEMINARS/EXPERT TALKS ATTENDED

- Prof. Selvyn Fernandes attended 6-Day Online FDP on Universal Human Value - II (UHV - II) organised by All India Council for Technical Education (AICTE) from 13th February to 18th February 2023.
- All Faculty members of the ECS department attended a ISTE STTP on, “Practical Approach on IoT and its Applications”, from 12th June to 16th June 2023, organized by Department of Electronics and Computer Science, DBCE- Fatorda Goa

## WORKSHOPS/SEMINARS/EXPERT TALKS CONDUCTED/ORGANIZED

- Prof. Anisha Cotta and Prof. Melba D’ Souza, organized a one Week ISTE STTP ON “A Practical Approach to IOT and its Applications”, from June 12<sup>th</sup> to 16<sup>th</sup> 2023
- Prof. Flavia Leitao organized a Workshop on Robotics for the Robotics Team on 25<sup>th</sup> of February 2023
- Prof. Anisha Cotta and Prof. Melba D’ Souza, in association with DBEATS organized, National Level Project Competition, “Technix 2023” from May 5th to May 13th, 2023
- Prof. Flavia Leitao conducted a hands-on workshop on “PCB Design & Fabrication” on 13th May 2023
- Prof. Trima P. Fernandes e Fizardo delivered a Talk titled “Introduction to Cryptography” for SE ETC Students in association with DBEATS on 25th March 2023
- Prof. Samantha Cardoso conducted a talk on “3D bio printing”, on 12th May 2023, under NDLI Club-DBCE

## UPCOMING EVENTS

- Workshop on Robotics (e-yantra) in August 2023
- Faculty fieldtrip in August 2023
- IEEE GRSS (Talk on Remote sensing and its applications) in September 2023
- Fieldtrip for SE and TE students in September 2023
- DBEATS Installation Followed by technical Event in October 2023
- Fieldtrip for BE students in November 2023



# COMMUNITY OUTREACH

## Vidnyan Dhara Session on "Electronics Simulation using TinkerCAD Circuits"

As a part of 'Vidnyan Dhara' – a mega science series programme by Directorate of Higher Education, Goa, Prof. Yeshudas Muttu delivered a Session on "Electronics Simulation using TinkerCAD Circuits" at Bhatikar Model High School, Margao on 8th February 2023. The workshop was aimed at providing students with an opportunity to design and simulate circuits without needing physical components.

Prof. Yeshudas Muttu began the session by providing real-life examples to introduce the concept of simulation. He then delved into the distinction between hardware and software, and elaborated on the significance of software in the field of electronics. Additionally, he introduced a range of electronics simulators to the students and highlighted the benefits of using TinkerCAD, particularly for beginners.

As the session continued, IEEE student member, Mr. Benson Fernandes provided a brief overview of the TinkerCad platform. He explained that the platform is a web-based tool that allows users to design, simulate and prototype circuits without the need for physical components. He also demonstrated how to navigate the platform and access its various features. To emphasize the significance of the TinkerCad platform, several everyday circuits were simulated. The workshop was a valuable addition to the students' educational journey, and it provided them with a practical and relevant skillset that they can apply in the future.



## Vidnyan Dhara Session on “Satellite Communication”

The Directorate of Higher Education (DHE) and Goa State Higher Education Council (GSHEC) organized “Vidnyan Dhara”, a mega science series programme from 12th January-28th February 2023. A total of 250 events in the form of lectures, demonstration, exhibitions, public lecture etc. are being organized at Goa University, Colleges, Higher Secondary and High Schools. The uniqueness of this event is to energise a multidisciplinary education approach amongst the faculties and students in Goa. Hence, the students from various Schools and Higher Secondary Schools will be participating in the lecture session.

On behalf of “Goa State Higher Education Council (GSHEC)”, Prof. Mohini Naik was invited you as a Resource Person to deliver talk on satellite communication: development of Ground station . The talk was held at the presentation higher secondary school on 6th February 2023 and was attended by over 130+ students from 11th and 12th science stream. Prof. Mohini Naik talk started the session with the introduction to the basic concept of communication and it's applications. She also demonstrated on tracking the satellites and receiving satellite signals and thereby converting it into the image. She also introduced the ISS(International space station) and life on ISS for Astronauts. The talk received a wonderful feedback and students learned some new concepts.





## School Student's visit to DBCE – 15th Feb. 2023

The Students of Rosary high School, Navelim visited Don Bosco College of Engineering as a part of their learning initiative under the NSQF (National Skills Qualifications Framework) Subject, which is a nationally integrated education and competency-based skill and quality assurance framework provided at school level.



The students first visited the Prototyping Lab after which they headed to the Electronics labs to get an understanding of the different areas that are open in the Electronics Domain. They were given exposure to the different types of Motors in the Electrical lab by Mr. Jai Prakash. Mr. Aloysius Baptista explained them the PLC in the Electronics lab, followed by the different instruments by Mr. Roland Gomes. Prof. Flavia Leitao concluded by giving them an insight of the different Robotics tasks performed in the Robotics lab.





## Talk on “Satellite Communication” to Kings High school

Prof. Mohini Naik was invited as the chief guest for the inaugural of the newly formed science club by The Kings High school Margao on 3rd March 2023. On this occasion, Prof. Mohini Naik delivered talk on satellite communication. The talk was attended by the students from 7th to 10th std. Prof. Mohini Naik appreciated the efforts taken by the teachers and students core team to start the science club in the school premises. She mentioned that science is present in our everyday life, only thing we don't notice. When we carefully notice things happening around us, we should read about it, discuss about it and finally put it in terms of experiments so that others can learn from it. She started the session with the introduction to the basic concept of communication. She also demonstrated on tracking the satellites and receiving satellite signals and thereby converting it into the image. She also introduced the ISS (International space station) and life on ISS for Astronauts. The talk received a wonderful feedback and students learned some new concepts.





## DBCE Robotics Team training school students on “Robotics”

The Robotics Club Training Team of Don Bosco College of Engineering, Fatorda, had a thrilling and successful time conducting a “Hands-On Robotics” workshop, on 10<sup>th</sup> April 2023, for the students of Mahatma Gandhi Centenary School, Bandora, which was organized by JCI Ponda. The aim of the workshop was to introduce students to the basics of Robotics and teach them to build robots. The resource persons for the workshop were Mr. Loxley Dias, Mr. Md. Shams Shaikh, Ms. Rucha Sawant, and Ms. Ridhima Vernekar. They were met with a group of students who were brimming with enthusiasm and eagerness to learn, who absolutely nailed it with their attentiveness and participation, making the workshop a roaring success.



The trainers started the workshop by explaining the concepts of Robots and Arduino, and then divided the students into two groups. They then demonstrated how to build an ultrasonic distance indicator bot and taught the students the code required operating it and the functions of all the parts required. After the demonstration, the students were split into three groups and were given the task of building the bot themselves. They worked collaboratively and showed excellent teamwork, absolutely outshining the task at hand.



The team was immensely grateful for the constant support and trust shown by their Director Rev. Fr. Kinley Druz, Principal Dr. Neena Panandikar, Robotics Club Incharge Prof. Flavia Leitao, JCI President Prof. Janhavi Naik and JCI Secretary Prof. Amey Tilve.

## IEEE STEM Workshop on “Arduino Programming”

The IEEE Student Branch Don Bosco College of Engineering, Fatorda - Goa organised a workshop for the students of class 9th and 10th of Government High School – Kudchire on 20th and 21st of April 2023 on “Arduino Programming: a Foundation to Robotics” with the objective to provide an opportunity for students to get exposure to arduino thereby stepping towards the development of Embedded System and Robotics.

IEEE Student Branch Chairperson, Mr. Clarence Dias addressed the students along with the other IEEE members Loxley Dias, Abhishek Hiremath, Siddhant Desai and Diana Estibeiro. The day started with introducing the basics of Arduino, Microcontroller, Arduino UNO, Sensors(IR sensor, Ultrasonic sensors) and Arduino Coding were some of the topics that were covered .

The workshop was completely based on applications of Arduino, practical demonstration and the doubt clearing session. This workshop offered hands on experience on Arduino. Interfacing of LED with Arduino, LED brightness control using potentiometer, Interfacing ultrasonic sensors with Arduino Uno (LED distance indicator) were some of the topics covered. By the end of the session the students had in depth knowledge of Arduino and hence were able to technically know how to work on Arduino and its application in various domain of present technological era.

A deep sense of appreciation to the Principal and teaching staff of the 2nd Lt. J.J Rane Government High School, Kudchire for taking interest in making their students learn about these fields. The program was conducted under the leadership and guidance of Prof. Yeshudas Muttu - IEEE Student branch Counselor.

