



# Connections

Quarterly Newsletter for Institute's Friends, Patrons, Mentors and Students

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## NEWS IN GENERAL

### LIBERATION DAY, 2019



The 58<sup>th</sup> Goa Liberation Day was celebrated by the Staff, Students' Council and NSS volunteers on 19<sup>th</sup> December 2019. The Chief Guest for the ceremony was Mr. D. S. Prashant, CEO, Forum for Innovation, Incubation, Research and Entrepreneurship. Among the dignitaries present were Director, Rev. Fr. Kinley D'Cruz, Rector, Rev. Fr. Paul D'Souza and Principal, Dr. Neena Panandikar. Director, Rev. Fr. Kinley D'Cruz welcomed the Chief Guest with a bouquet of flowers.

NSS Officer, Prof. Chetan Gaonkar conducted the ceremony and the flag was hoisted at the hands of the Chief Guest, Mr. D.S. Prashant, after which the National Anthem was patriotically sung by all led by student, Ms. Sampada.

Principal, Dr. Neena Panandikar then introduced the Chief Guest to the gathering saying that Mr. D.S. Prashant is currently the CEO of FiIRE, Forum for Innovation, Incubation, Research and Entrepreneurship. He is also the Member of the Programme Advisory & Monitoring Committee on Entrepreneurship Training, Member of the Goa State Innovation Council, Member of Startup Screening Committee, Department of IT, Government of Goa and Trustee of Manovikas Charitable Trust among many other professional accolades that he has achieved. He was then requested by the Principal to address the gathering.

In his speech, Mr. D. S. Prashant gave his college experience saying that his friends and he used to

debate about the outcome of the Liberation of Goa and how he felt that there was a need to go back to the factual roots of what really happened in the year 1961. Laying out the factual history of the Liberation of Goa and how the then Prime Minister Jawaharlal Nehru had sought intervention of the British but to no avail. Mr. Prashant read out the reply of Nehru and said that history always repeats itself. He also said that to move forward, it is imperative to understand what has gone by. We need to understand what is happening in the country, put it into context and fight against the wrong to build new history.

Rector Rev. Fr. Paul D'Souza, then presented a memento to the Chief Guest. Compere, Ms. Sonia Vasco Da Gama thanked the dignitaries and all the working and non working staff who helped in the smooth conduct of the function.

### REPUBLIC DAY 2020

Republic Day was celebrated on the 26<sup>th</sup> January 2020. The Chief Guest, Dr Vivek Kamat, unfurled the National Flag. Also present on the occasion were the Fr. Paul D'Souza, Fr. Kinley D' Cruz, Fr. Julius, Dr. Kala Nayak and CEO of FIRE, Mr. D. S. Prashant. Prof. Sweta Morajkar from the Department of Computer Engineering led the national anthem.

Fr. Kinley D' Cruz introduced the Chief Guest- Dr. Vivek Kamat. Dr. Vivek Kamat gave a motivating speech to the audience. In his address he spoke on how along with rights we also have duties to perform. Duties vary based on different stages of life. For college students certain rules are directly applicable such as traffic rules and cleanliness. He stressed on how there should be a relation between



Swachh Bharat, Swachh Ghar and Swachh college. He also said to be aware and conscious of not just rights but also the Constitution. He ended his speech by saying true spirit will be attained when you are aware and wished everybody a dutiful, rightful republic day.

A floral tribute was presented to the Chief Guest by Director Fr. Kinley D' Cruz and Rector, Fr. Paul D'Souza presented a memento as a token of appreciation. Compere, Ms. Sonia Vasco Da Gama thanked the dignitaries and all the working and non-working staff who helped in the smooth conduct of the function.

## SCIFFI 2020

The fifth edition of Science Film Festival of India, SCI-FFI 2020, began at Inox Panaji - Goa. The four-day-long festival was inaugurated by Chief Minister, Dr. Pramod Sawant.

The festival that took place at the Inox Complex and Maquinez Palace in Goa, aims at instilling the knowledge of science among the youth with the help of exhibitions, masterclasses, workshops, and other activities. "India has produced great scientists, and through film and workshops, the endeavour is to harness talent and give direction to students to choose the right career path and empower themselves and the country," said Chief Minister Pramod Sawant at the opening ceremony of the event.

"It is necessary that schools take the initiative to inculcate science quotient among students. This has to be done by organizing field trips and visiting organisations that conduct research in the field of science," he added. Besides, Goa Government and Government of India, the event was being supported by Satyajit Ray Institute of Film and



Television and National Institute of Science Communication and Information Resources (NISCAR).

Films that were screened at the event were 'Mission Mangal', 'Antariksham 9000 KMPH', 'Everest', 'Aamorie', 'Terminator: Dark Fate', 'Geostorm' and 'Virus' among others. A special workshop titled 'Million SoUL' was also conducted by IIT BOMBAY on training about making solar lamps. The workshop is aimed at empowering people from backward communities. The workshop also aimed at teaching participants about the health, educational and environmental benefits of solar energy.

During the SCI-FFI 2020, students of different schools got hands-on experience in different physics and chemistry experiments.

Prof. Gaurish Samant from Don Bosco College of Engineering - Fatorda was a Joint organizing Secretary for Science film festival of India 2020.

## DON BOSCO COLLEGE OF ENGINEERING STARTS THE YEAR WITH A SURGE OF PLACEMENT ACTIVITY

The placement activity begin as early as August with a campus drive by Persistent Systems Ltd. (PSL). 12 B.E. Computer students were selected by PSL for the Nav Yuva role of Software Developer for a package of Rs. 4.41 Lakhs. The next interview scheduled was the telephonic interview of PinClick- the online real estate startup that selected 16 students for different roles. Two students from B.E. Computer were also selected by TCS through the CodeVita and Ninja hiring process that was conducted nationally.

Collaborating with Don Bosco Institute of Technology, Kurla Mumbai, the students from the Goa campus visited the Mumbai campus for the Sportz Interactive drive for the role of software developer. Four students were selected through the process. Meanwhile Chegg visited the campus in September and hired 32 final year students and 19 other students for the role of Chegg Expert. This opportunity allows students to earn while they are learning and answer subject related questions from

Chegg users across the world. IBM conducted a pool drive which was hosted on campus at which 13 students were placed as Technical Support Associate.

Wipro selected our college Don Bosco College of Engineering as Nodal Centre for the Wipro National Elite hiring in October 2019 and students not only from Goa but as far as Sindhudurg, Kankavli and Karwar answered the online test on campus. Don Bosco College of Engineering also hosted the dream campus of Jaro Education that offered a package of Rs. 12 lacs per annum that was bagged by our Mechanical student Keegan Pinto.

Our students also attended the campus drives of Indus Valley Partners hosted at Goa College of Engineering. Besides, drives of Deltax, Cloudsek and Odessa Technologies were also conducted.

With two weeks of campus season still remaining before examinations, the college has already lined up several more drives giving students the opportunity to secure their dream job. Godrej, Coditas, Capgemini are some of the other drives scheduled in October 2019. The T&P office also conducted various career guidance sessions for the students on Careers in the Navy, Fellowship program by Nova Semita among others.

## DEPARTMENT OF CIVIL ENGINEERING

### INTERNATIONAL CONFERENCE “TRENDING MOMENTS AND STEER FORCES-CIVIL ENGINEERING TODAY” (TMSF-2019)

A two day International conference was organised by the Civil Engineering Department in association with National Institute of Technology Karnataka on October 31<sup>st</sup> and November 1<sup>st</sup> 2019 at our College.

The conference was inaugurated by the Chief guest- Dr. Vivek Kamat, Guest of honour - Prof. M.R Madhav, visiting Professor from AICTE-INAE, invited guest Dr. Rishi Gupta from University of Victoria, Canada, Director- Fr. Kinley D'Cruz, Principal -Dr. Neena S. Panandikar, Convenor and HOD, DBCE - Dr.



Shwetha Prashana, Prof. Varghese George the convener -NITK-Surathkal. An abstract proceeding of International Conference was released during the Inaugural function. Vote of thanks was delivered by Assistant Professor Satyesh Kakodkar.

The co-ordinators for the conference were Assistant Professor Satyesh Kakodkar, Swaroopa Sail from our college, and Prof. Babunaryan from NITK, Surathkal.

This conference aimed to explore innovative applications and research in the areas of Structural and Concrete Engineering, Geotechnical Engineering, Transportation Engineering, Environmental Engineering, and Construction Technology and Management. The conference had 4 keynote lectures and the speakers were Prof. Madhav, Researcher, Educator and consultant, Visiting Professor IIT Hyderabad, Dr. Rishi Gupta, Associate Professor and Director of undergraduate program in the Department of Civil Engineering at the University of Victoria, Dr. Christy P. Gomez, Associate Professor, Former Deputy Director of Commercialization & Innovation, Universiti Tun Hussein Onn Malaysia and Dr. Akanshu Sharma, assistant Professor, Institute of Construction Materials, University of Stuttgart, Germany.

Altogether, 149 delegates from different Institutions across different parts of the world registered for the conference. Total 99 abstracts and 99 full length papers were received out of which 79 papers got accepted after meticulous review and these papers were presented during the conference at different sessions.

Out of 79 papers, 29 papers were from structural and concrete Engineering, 19 papers from geotechnical engineering, 16 from construction Technology and

Management, 11 papers in Environmental Engineering and 4 in the area of Transportation Engg. Paper presenters were from various institutions like National Institute of Technology Karnataka, Surathkal, Karnataka, JSS Science and Technology University, Mysuru, Karnataka, MIT, MAHE, Manipal, Karnataka, M.S. Ramaiah Institute of Technology, Karnataka, Visvesvaraya Technological University, Bangalore, Karnataka, A. J. Institute of Engineering and Technology, Mangalore, Karnataka, Goa College of Engineering, Farmagudi, Goa, Don Bosco College of Engineering, Fatorda-Goa, National Institute of Technology, Farmagudi, Ponda-Goa, PSG College of Technology, Coimbatore, National Institute of Construction Management and Research, Goa, Birla Institute of Technology & Science, Pilani, Rajasthan, Acharya Institute of Technology, Karnataka, KLE Technological University, Hubballi, Karnataka, Shree Devi Institute of Technology, Mangalore, Karnataka, K.L.S Gogte Institute of Technology, Udyambag, Belagavi, Karnataka, S.D.M Institute of Technology, Karnataka, Ujire, College of Engineering Pune, Maharashtra, Central University of Karnataka, Gulbarga India. Karthikeyan Associates, Tamilnadu, and Shekhar Panandiker & Associates, Goa.

1<sup>st</sup> key note lecture was delivered by Prof. M.R. Madhav. He spoke about “Practice of Geotechnical Engineering-Examples”. Based on his years of experience he mentioned the IS code doesn't always necessarily help to solve a problem. He also spoke about the gabions provided for coastal protection along the Gujarat coast and development of the new airport in Pakyong Sikkim, the tower of Pisa.

The second keynote speaker Dr. Aakashu Sharma from University of Stuttgart, Germany spoke about “Performance based seismic assessment and



retrofitting of RC structures with focus on fastenings”. He explained how reinforced concrete was used for the elevation about 600 m in Dubai for Burj Khalifa, also the Stuttgart tower which was built 60 years ago. He elaborated about different ways that seismic structures are designed for nonlinear response, force re-distribution, ductility and energy dissipators.

He mentioned the use of seismic performance graphs, also explaining about moment distribution which is the relative stiffness method developed by Hardy cross, non-linearity, joint failure, horizontal cracks due to shear force, the degradation of strength, anchorage and strengthening performance of fastening.

In the afternoon session technical paper presentation (Structural Engineering and Materials, and Geotechnical Engineering) was held in Auditorium and Seminar hall respectively.

On the second day, Dr. Christy P Gomes from Malaysia commenced the lecture on “Holistic planning for better construction project site performance” by explaining how a project has a definite start and a definite end. He also stated that how planning a project is important for proper implementation, the sequence of activities, degeneration role of planning, Importance of performance than productivity and the difference between work structure and WBS.

Dr. Rishi Gupta from Canada spoke about “The innovations in infrastructure monitoring using UAV's. He explained how to inspect bridges not by visually looking at them but by actually performing tests. One of the test that he mentioned was using a survey chain and dragging it on the bridge and wherever a change in sound is heard, mark and check the depth of the cracks. He mentioned the benefits





and limitations of drones/UAVs.

In the afternoon session, technical paper presentations with parallel sessions were held on construction technology and management, Environmental engineering and transportation engineering.

The Technical sessions were chaired by Dr Christy Gomes, Dr. Akanshu Sharma, Prof. Varghese George, Prof. K. E. Prakash, Dr. K. G. Gupta, Dr. Purnanand Savoikar, Prof. B. B. Das, Prof. Srihari S and Prof. B. M. Sunil.

The two day event ended with the Valedictory function with Dr. Christy Gomes as the Chief guest and Dr. Akanshu Sharma as Guest of honour. Fr. Kinley D'Cruz, Dr. Neena Panandikar, Dr. Shwetha Prashana, Prof. Babu Narayan and editor of the proceedings Prof. P.B Das were present. Three best paper awards from Springer, three best paper awards from Don Bosco College of Engineering, Goa and two poster presentation awards were given. Vote of thanks was delivered by Assistant Professor Satyesh Kakodkar.

## NBC WORKSHOP

The Department of Civil Engineering, organized one day workshop on “National Building code of India 2016 & Updates on Civil Engineering Standards” on 24<sup>th</sup> January 2020. The workshop was jointly organized by our College in association with Bureau of Indian Standards (BIS). The workshop was inaugurated by the hands of the Chief Guest -Mr. Amandeep, Guest of Honour - Mrs. Madhurima Madhav, Director - Fr. Kinley D'Cruz, Principal - Dr. Neena S. Panandikar, HOD - Dr. Shwetha Prasana, and CESA Chairman - Mr. Godwin Fernandes. The

resource persons for the workshop were Mrs. Madhurima Madhav, Mr. Amandeep and Mr. Ashok Menon. The workshop was conducted to introduce the students to the changes made in the latest National building Code of India and other Civil Engineering Standards.

Mrs. Madhurima Madhav presented on “Overview on NBC India 2016 and updates on important Indian standards Published/Revised”. In her presentation, she gave a general overview of different parts of National building code 2016 and briefed about each part.

Mr. Amandeep in his presentation, focused on Part 6 of NBC 2016 that deals with structural design and informed about the latest inclusions in materials and testing standards. He also presented a case study on Design Construction and Retrofitting of structures with reference to Udaipur Railway station Project.

Mr. Ashok Menon in his presentation, focused on Part 4 of NBC 2016 concerned with Fire and life safety. He gave an insight about latest inclusions in NBC 2016 with planning regulations in relation to Fire and life safety.



The students displayed keen interest in the workshop and asked several questions on the role of BIS in revision of codal provisions and process of incorporating new materials and methodologies in the codes. The workshop was attended by students from Goa college of Engineering, students and faculty of Civil Engineering department of our College.

## FIELD TRIP TO OPA WATER TREATMENT PLANT

The students of third year civil engineering attended

a field trip at Opa Water Treatment Plant, Khandepar organized by CESA (Civil Engineering Students Association) on 25<sup>th</sup> January 2020. The students were accompanied by Prof. Prachi Desai and Prof. Nadya Baracho.

Mrs. Sneha Prabhu guided the students throughout the field trip. Opa Water Treatment Plant is the first treatment plant in Goa and was commissioned in the year 1967. The plant has a capacity of treating 12 MLD (million litres per day) of fresh water. The plant gets its source from the Khandepar River. The plant is divided into four units. The plant is responsible for the supply of water to Ponda area upto Bambolim. The intake of water from the river is done with the help of a Jackwell, bandharas and a barrage.

### FIELD TRIP TO CUNCOLIM INDUSTRIAL ESTATE

A field trip to Cuncolim Industrial Estate was organized on 25<sup>th</sup> of January 2020 for the students of SE Civil. The students were accompanied by Asst. Prof. B. R. Anirudha and Asst. Prof. Oswyn Soares.

The students were taken to two sites of Cuncolim Industrial Estate area. The first site was of PET bottle factory which has completed foundation stage. The plan contains elevation of building, information of total area, structural details of the building and its plan (top view). The plan also shows that post tensioning beams would be used to compensate on the depth of the beam as the span was large.

The second site was a warehouse whose construction was completed. The area was 2100 sq m and height was about 10 m. 3 warehouses were separated by walls with windows for ventilation. The area above the wall was insulated by GI sheets from outside and inside puff insulation was used. The floor was fully concreted.



### EDUCATIONAL TOUR HELD AT PUNE FOR CIVIL STUDENTS OF DON BOSCO COLLEGE OF ENGINEERING



50 Students of final year Civil Engineering accompanied by Prof. Satyesh Kakodkar, Prof. Starina Dias, Prof. Akshata Kudchadkar and Prof. Madhuraj Naik visited Central Water and Power Research Station, Military College of Engineering, plumbing lab of College of Engineering Pune and Kolte Patil Life Republic Construction site during their Educational tour to Pune.

On the first day, students visited the Central Water and Power Research Station (CWPRS), Pune. It is the major research organization in the field of hydraulic and allied research as a subordinate office of the Ministry of Water resources of Government of India and deals with planning, organizing and undertaking specific research and development studies related to optimizing designs of river, coastal, water storage and conveyance hydraulic structures. It is the largest laboratory of its kind in the world devoted to water and energy resource development.

At the site, a model of Kerala port was explained, also a demonstration on current meter working was also shown to the students which is used for measuring the velocity of flow in channels.

In the afternoon, the students visited the plumbing lab at College of Engineering, Pune, where the students were explained about importance of plumbing for a building and models of sanitation along with fresh and waste water piping system was demonstrated.

Day 2, the Students visited College of Military Engineering where the students first saw 2 model buildings. In those buildings students saw various

types of masonry, wall finishes, different type of arches, plaster finishes, distemper, fireplace, different types of roofs etc. The 2 model buildings covered the different topics covered in Building Construction and Materials subject. Students were taken to different laboratories which included Transportation, PHE, Structural Model Room and Building Material Room. The students also saw the international rowing channel.

Later in the evening, the students visited the Kolte-Patil Mega-Township, biggest Township in Pune. On the site, Mr. Mangesh Shende- the Project Head, Mr. Rahul Talele –Business Head and Mr. Pravin Mahajan - Quality Manager were present to address the students. The students were informed that the size of the Project was 500 acres and the buildings constructed were of 21 storeys each. They were also informed that a new method of construction called Kumkang Aluminium formwork system was used due to which they could complete a single building of the project within a year. They also mentioned that M30 grade high flow concrete was used for construction.

## DEPARTMENT OF MECHANICAL ENGINEERING

### TRAINING SESSION ON VIRTUAL LABS CONDUCTED FOR THE FACULTY OF MECHANICAL DEPARTMENT

The Department of Mechanical Engineering conducted a training session on Virtual Labs for the faculty members of Mechanical Department on 16<sup>th</sup> January 2020.

Prof. Saurabh Raikar gave an introduction to Virtual Labs and explained its benefits for the students. The faculty members then performed experiments in



their respective subjects using Vlabs and also discussed applications of this tool in the curriculum. The faculty also showed positive response and willingness to use this tool to conduct some experiments for the students.

### FIELD TRIP TO SALAULIM



The Third year Mechanical Engineering students visited Salaulim Dam on 25<sup>th</sup> January 2020 along with faculty of Mechanical Engineering Department.

The students visited the Salaulim irrigation project which is located on the river Salaulim, a tributary of the river Zauri. On site, the concerned engineer of PWD explained that the construction of the project started in 1976 and was originally proposed to be completed by 1980, but was completed in May 2006. The students got to see the composite earth-cum-masonry dam of 42.7m height and 95.0 m length with a water spread area of 24 km<sup>2</sup>. They also saw the duckbill spillway through which the excess water starts flowing from, once the reservoir has reached its full capacity. They were made aware that the water from the dam is pumped to the nearby water treatment plant which is placed at a higher level from where the treated water is supplied for drinking purpose to Vasco, Margao, Quepem, Sanguem and other prime towns and villages in South Goa.

In the evening, students along with the faculty visited Varun Beverage, Sanguem. Varun Beverages is one of the largest franchisee in the world (outside US) of carbonated soft drinks (“CSDs”) and non-carbonated beverages (“NCBs”) sold under trademarks owned by PepsiCo. It produces and distributes a wide range of CSDs, as well as a large selection of NCBs, including packaged drinking water. Students were shown the entire production





line for filling of carbonated soft drinks. The entire process is automated. Students also saw blow molding process which is done for manufacturing of plastic bottles.

The visit was organized by Prof. Ajit Salunke, Prof. Sanjeel Naik & Prof Gaurish Samant. Overall, it was a very enlightening and learning experience for the students of TE Mechanical.

### FIELD VISIT OF SE MECH-II TO CUNCOLIM INDUSTRIAL ESTATE

The students of Second Year Mechanical Engineering visited Shanta Coats Pvt. Ltd., Roto Technie Pvt. Ltd. Sunrise Electromelt Limited and Ice Plant at Cuncolim Industrial Estate on 25<sup>th</sup> January 2020.

Shanta Coats is into manufacturing of fan blades and is a supplier for Crompton Greaves. Mr. Prashant Gaude, ex-student of Don Bosco College of Engineering currently working there as a Plant Engineer explained various processes right from entry of metal sheet to output as a ceiling fan blade. Roto Technie Pvt. Ltd. is into manufacturing of stator windings and is a supplier for industries



manufacturing motors. Mr. Nikhil Kakode, the plant in-charge explained various CNC operations and other processes in the manufacturing of the windings.

Sunrise Electromelt Limited are manufacturers of Iron & Steel bars like I-section, C-section, etc. Mr. Pavankumar, Foreman briefed students about various processes, right from procuring raw material to final product. Students got to see the working of Coal pulverizer, Furnance, rollers, shearing machine, shapping machine, etc.

The visit was organized and co-ordinated by Prof. Sharad Shanbhag and Prof. Saurabh Raikar. Students of SE Mechanical had a very good learning experience.

### INDUSTRIAL VISIT TO CITY ALUMINUM; ALCON HYUNDAI AND RAVINDRA BHAVAN FOR SE MECHANICAL - I



On 25<sup>th</sup> January 2020, the students of Second Year Mechanical Engineering (Div I) visited City Aluminum, Nesai; ALCON Hyundai Service Center, Arlem and Ravindra Bhavan, Margao. It was organised under Mechanical Engineering Students Hub (MESH) of Mechanical Engineering Department. A total of 54 students attended the field visit.

City Aluminium is a specialist in design, manufacture, and installation of aluminium and uPVC Windows & Doors and Coatings. Students were guided by Operation's Head, Mr. Shivkumar. They were briefed about various operations like fusion joining of uPVC panels, Powder coating, anodising and sublimation film transfer (wood). Manufacturing of various company products like doors, windows, shower cubicles and ladders were explained.

ALCON Hyundai Service center at Arlem primarily focuses on providing maintenance and repair activities for the Hyundai Cars. The students were guided through the service area thereby allowing them to see the different advanced machinery that is put into practice. The students were addressed by Mr. Bhupesh from ALCON Hyundai Service Department.

Ravindra Bhavan Margao; is a government multipurpose complex. It has air conditioned theaters in addition to open grounds and stages to facilitate hosting of different events. The trip was organized mainly focusing on the visit to the Air Conditioning plant of Ravindra Bhavan. The students were addressed by Mr. Baburao who explained different components of the entire air conditioning system installed in the premises. Students got a great exposure to the heavy utilities such as chillers; cooling towers; Air Handling Units etc. The duct system installed for the theaters was also explained in elaborative manner.

The visit was organized and co – ordinated by Prof. Ramnath Prabhu Bam and Prof. Tanay Rege. Students of SE Mechanical had an enlightening learning experience.

## DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION ENGINEERING

**PROF. MOHINI NAIK, PRESENTED A PAPER AT IEEE  
CONFERENCE ON ANTENNAS AND PROPAGATION  
(INCAP 2019)**



IEEE Indian Conference on Antennas & Propagation (INCAP 2019) held at Ahmedabad from 19<sup>th</sup> - 22<sup>th</sup> December, 2019. INCAP is conceived as an annual flagship conference on Antennas & Propagation in India merging three popular and successful conferences viz. AEMC, IAW and i-AIM.

This conference was jointly organized by IEEE AP/MTT Joint Chapter, Gujarat Section and Space Applications Centre, ISRO.

The key focus of this conference was on expert talks by internationally renowned professionals, workshops/tutorials by eminent speakers, oral/poster paper presentations by researchers and exhibition by global industries. InCAP 2019 is a right opportunity to showcase state of the art technology, measurement of facility and modelling tools available in Antenna/Microwave & RF industries.

Prof. Mohini Naik, Asst. Professor attended a 4 days conference and presented a paper titled “High Gain MIMO Antenna for millimeter wave applications at 60 GHz”. INCAP 2019 was inaugurated by Shri. D. K. Das, Director SAC ISRO, Shri. Rajeev Jyoti, Deputy Director SAC, ISRO, Sudhakar Rao, IEEE APS Liaison, Shri. Debatosh Guha Shri. Puneet Mishra, IEEE Bangalore section & satellite antenna head ISRO. Dr. K. Sivan was the patron for the InCAP2019.

## SPEAKER FOR WORLD CONFERENCE ON APPLIED SCIENCE ENGINEERING AND TECHNOLOGY



Prof. Varsha Turkar, Professor and Head of Department of ETC was invited as a Chief Guest and Keynote Speaker at the 25<sup>th</sup> Prestigious World Conference on Applied Science Engineering and Technology which was held on 29<sup>th</sup> and 30<sup>th</sup> December 2019 at Nanutel Margao, Goa, organized by IFERP-Institute for Engineering Research and Publication. The topic of the talk was “Geographic Information System and Remote Sensing Education in India, the Issues and Solutions”.

## ONE DAY WORKSHOP ON SATELLITE COMMUNICATION AND GROUND STATION DEVELOPMENT FOR THE FIRST YEAR ETC STUDENTS

Parikrama-student satellite club organized workshop on talk on satellite communication and ground station development for the students of First year ETC on 17<sup>th</sup> December 2019. In regards to this, Prof. Mohini N. Naik, Asst. Professor of ETC Engineering, DBCE, took sessions from basics to the design of satellite. Prof. Mohini Naik started the session with various projects under space technology and satellite missions. Various other topics which were addressed were Satellite communication using artificial intelligence (AI), earth station development, design of transmitter and receiver, and antenna system.

### SESSION ON VIRTUAL LABS

Due to the rapid growth of Information and Communication Technologies (ICT) it has now become possible for virtual laboratories to be used as an alternative to physical labs by providing the merits of being used at anytime, anyplace, in this 'on-line learning' world of engineering education. Keeping this in mind, the Department of Electronics and Telecommunication Engineering conducted a session on Virtual Labs for the faculty members of the Department on the 10<sup>th</sup> January 2020 in the Signal processing lab, at our College.

The aim of this session was to create an awareness on the utilization of web-based experiments, virtualization and simulations towards enhanced learning.

The session commenced with a brief introduction to virtual labs followed by registering to IIT Bombay site, filling all the details. Faculty members were explained about various labs and were assisted as



they performed experiments in their domain.

The faculty members showed their enthusiasm in knowing about v-labs and they were keen on implementing it for the students.

The session ended with the feedback session. It was a very informative and interactive session. The entire session was coordinated by Prof. Mathilda Colaco.

### INTRODUCTION TO INTERNET OF THINGS



A four day workshop on Introduction to Internet of Things was organized by the Electronics and Telecommunications Engineering Department, in association with DBEATS council, for the students of first year ETC from 13<sup>th</sup> to 16<sup>th</sup> January, 2020.

The resource persons for the workshop were Mr. Rohit Sardesai and Mr. Siddhesh Nayak, both alumni of Don Bosco College of Engineering.

The workshop introduced the students to concepts such as cloud architecture, HTTP protocol, ways to communicate between clients and servers etc.

The students learnt how to stream sensor data to the cloud and receive it back on a remote device. They also learnt how to control outputs on the microcontroller using voice commands from a phone, which can be used for home automation.

This workshop was intended for interested students of first year and those students that attended the workshop gave a positive feedback.

The workshop was coordinated by Prof. Deron Rodrigues.

## WORKSHOP ON “ROADMAP TO 5G ANTENNA” FOR THE SECOND YEAR ETC STUDENTS

Antenna Research Group & Parikrama-student satellite club, conducted half day workshop on “Roadmap to 5G Antenna “for the second year ETC students, on 25<sup>th</sup> January 2020. With regards to this, Prof. Mohini N. Naik, Asst. Professor of ETC Engineering, DBCE, took sessions from basics of electromagnetic waves, to 5G antenna design. Session1 started with basics of electromagnetics, spectrum and applications of each frequency, relation between frequency and dimensions of the designed systems. In Session 2, Prof. Mohini Naik explained various antenna aspects, basics of 1G, 2G, 3G & 4G antenna and introduced 5G antenna design and requirements. At the end of the session, students were given the task of completing mini projects based on the topics provided to them.

## WORKSHOP ON “INTRODUCTION TO NS2 AND MATLAB IN COMMUNICATION AND CONTROL SYSTEMS”

A Half Day workshop on “Introduction to NS2 and Matlab in Communication and Control Systems” was conducted on 25<sup>th</sup> January 2020, for students of Electronics and Telecommunication Engineering. The workshop was conducted by Prof. Michelle Araujo e Viegas, Prof. Trima P. Fernandes e Fizardo and Prof. Anisha Cotta. The workshop was conducted to introduce the students to NS2 and to demonstrate the application MATLAB to study analysis of Control Systems and Communication Systems.

Network Simulator 2 is an event driven simulation tool that is useful in studying the dynamic nature of communication networks. The basic architecture of



NS2 was explained as well as installation process of NS2 on Windows 7 was demonstrated. Students were shown a demo of few codes like creating topology, adding traffic etc.

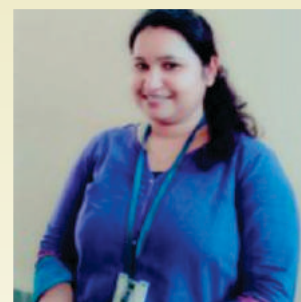
The application of MATLAB in Control System was demonstrated using the Control System Toolbox. The students were given transfer functions and MATLAB codes were written to analyse the systems in time domain and frequency domain. Some of the topics covered using the Control system toolbox were Block Diagram Reduction, Bode plots, Polar Plots, Nyquist Plots, Finding responses for various types of standard inputs, Root Locus etc.

Communication systems were demonstrated using MATLAB. Some of the topics covered using MATLAB were Amplitude modulation and demodulation, Frequency modulation and demodulation, various Pulse Modulation and Demodulation techniques, Multiplexing techniques etc.

The students showed keen interest in the workshop and gained a hands-on experience in the topics of to NS2 and Matlab in Communication and Control Systems.

## PROF. MOHINI NAIK, SELECTED AS THE “REGIONAL MENTOR OF CHANGE FOR GOA” BY NITI AYOJ

Prof. Mohini Naik has been selected as the “Regional Mentor of Change” for GOA state. NITI Ayoj, after competitive rounds of selection and reviews, have identified top 37 candidates. We congratulate Prof. Mohini Naik for the future task under ATL and MENTOR OF CHANGE.



## SEMINAR ON “FIRST AID USING ELECTRONIC TECHNOLOGY”

Don Bosco College of Engineering, Fatorda-Goa in Association with Manipal Hospital, Goa has organized a seminar on “First aid using electronic

technology” under IEEE Student Branch, DBCE for the technical Fest TECHNOVA 2019. Around 70 students & 10 Faculty members attended the seminar. Dr. Jeedhu Radhakrishnan, Department of Accidents & emergency, Kasturba Medical College & Hospital, Mangalore was the resource person for the day.

He was introduced to the audience by IEEE Student member, Mr. Ashwin Faldessai. Dr. Jeedhu Radhakrishnan began his session with basic use of first aid, electronic technology in medical field, use of defibrillators, dealing with breathing problems, helping a choking adult, Hypoglycemia and the basic technique to deal with stroke by CPR method in emergency. Students were actually given a demo so as to how to deal with real time situations in case of injuries & environmental emergencies.

They were later taken to explain the electronic equipment & first aid present in the ambulance. Mr. Sagar Prabhudesai, the marketing officer at Manipal hospital, explained how the ambulance functions and its use in case of emergency & the facilities that it provides. Everyone appreciated the Manipal hospital team for the good seminar delivered. The team effort was appreciated by presenting Mementos to Dr. Jeedhu Radhakrishnan & Mr. Sagar Prabhudesai by Dr. Varsha Turkar, HOD-ETC, IEEE Adviser and Prof. Yeshudas Muttu, IEEE Branch Counselor respectively. The Seminar concluded with a vote of thanks given by IEEE Student member, Mr. Raviraj Bhagat.

## DEPARTMENT OF COMPUTER ENGINEERING

### ISTE INAUGURAL AND MEMORANDUM OF UNDERSTANDING

The inaugural function for the one week ISTE approved workshop on “Virtual Reality, Augmented Reality and 3D Modeling” was held on 4<sup>th</sup> November 2019, organised by the Department of Computer Engineering.

The Chief guest for the function was Dr. Gopal Mugeraya, Director at National Institute of

Technology, Goa. Virtual Reality, Augmented Reality and 3D Modeling are highlighted to be the next best thing in technological advances. These technologies drastically transform the way we communicate, consume content and use our devices. This technology will also modify and enhance the teaching learning experience.

The second part of the function was the signing of a MoU between Don Bosco College of Engineering and National Institute of Technology Goa.



The objectives of the MoU are to undertake joint research projects, to initiate publications and patents, to promote knowledge sharing and facilitate placements and internships. The MoU defines a wide variety of Areas of Research cooperation between the two parties; Image Processing, Artificial Intelligence, Thermography, Remote Sensing, Robotics to name a few.

The MoU was signed in the presence of the Director (NITG), Dr. Gopal Mugeraya and Director (DBCE), Rev. Fr. Kinley D'Cruz along with the Principal (DBCE), Dr. Neena Panandikar and the Registrar (NITG) Dr. Vasantha MH.

### AICTE-UKIERI TECHNICAL LEADERSHIP PROGRAMME

Prof. Gaurang S Patkar attended phase two of one week UKIERI program in Rajasthan. The second phase program of UKIERI (UK- India Education & Research Initiative) is aimed at providing an overview of the key leadership and management challenges facing educational practitioners today, with a focus on the application of effective leadership and management techniques and their beneficial impact on departmental and institutional performance.



The Second phase of the training was completed at JIET, Jodhpur, Rajasthan from December 9<sup>th</sup> – 12<sup>th</sup> 2019. The major focus of this phase was leadership & management skills, different leadership styles, motivational theory & styles, discovering the challenges across technical education etc. The participants across India were also asked to choose a Change Project to bring change in their respective institutes. The final phase will be in Indore. The program is sponsored by AICTE in association with Dudley University, U.K.

## SMART PANAJI HACKATHON

Two teams of Third year Computer got selected for the finale of Masterclass for oneM2M Developers and Smart Panaji Hackathon which will be held on 9-10<sup>th</sup> January, 2020 in BITS Pilani K K Birla Goa Campus. The team names are Agri-Neers Sakshi Kadam and group, SmartGeeks Abhishek Vengurlekar and group. Four teams had participated from Computer Engineering Department.

The aim of the Smart Panaji Hackathon is to bring together representatives from the 'quadruple helix' and utilise the concept of Open Innovation to address various challenges of urbanisation in the Smart City. This hackathon seeks to showcase the innovation ability of developers in the field of IoT based products and services as applicable for a



smart city.

Congratulations to students of TE Comp Sakshi Kadam and team, Abhishek Vengurlekar and team for getting selected for the finale of Masterclass for oneM2M Developers and Smart Panaji Hackathon which was held on 9<sup>th</sup> - 10<sup>th</sup> January, 2020 BITS Pilani K K Birla Goa Campus. There were total thirteen teams with about four members in each team. The themes of the hackathon include Water, Air quality and Pollution Monitoring, Transportation and Mobility, Climate Change and Disaster Management and Energy Efficiency in Smart Buildings. Six teams from Engineering colleges from Goa participated in the hackathon.

## ENTREPRENEURSHIP AWARENESS CAMP (EAC)

Don Bosco College of Engineering kick started three days Entrepreneurship Awareness Camp (EAC) for Second Year Engineering students of Computer Engineering, Civil Engineering and Mechanical Engineering and Final Year Students of Electronics & Telecommunication Engineering from 23<sup>rd</sup> to 25<sup>th</sup> January 2020. Entrepreneurship Development Institute of India (EDII) under the DST-NIMAT Project sponsored the camp.

On Day 1 at the inauguration, Principal, Dr. Neena Panandikar welcomed all the participants and appreciated them for choosing Entrepreneurship as their career option. Director, Fr. Kinley D'Cruz spoke about the first generation entrepreneurs and motivated the participants to ideate and think and start. Amey Tilve, I&E-Cell Faculty Coordinator briefed the students about the objectives of the camp and the itinerary.

The first speaker Tarun Krishnakumar, Director, Ulavan Agritech Services spoke on the present scenario of Entrepreneurship and encouraged the students to think beyond their normal scenario and look out for problem areas.

Our Alumni Rohit Sankpal, Batch 2019, Computer Engineering narrated his journey of his start-up – Internship Station. The participants asked many questions and were curious to know why he took up this start-up.

The second speaker Suwarna Surlakar, Director, FunMinds Learning Tech Pvt. Ltd. spoke on Business Opportunities and Mechanisms. She encouraged students to start thinking about projects in the third year and start building on problem statement that would one day fetch business. The next session was on IPR and Patents by Sudip Faldesai, Project Officer, Goa State Innovation Council. He discussed the importance of patents and the need to safeguard ideas. He explained the process and advantages of patenting.

On Day 2, Tushar Sawant, Incubation Manager at FiiRE explained the government schemes available for startups and small businesses. He described the Chief Minister Rojgar Yojana and the Prime Minister Revenue Generation Scheme.

Sushant Surlakar, Founder Emerging Minds Academy spoke on the Charm of Becoming an Entrepreneur, Creativity and Problem Solving in the next session. He showed them practical real world businesses like Amazon, Nirma, Flipkart that started small by identifying problems in society but grew into giant businesses.

Post lunch session was on Choice of Technology by Vivek Jog, Assistant Professor, Don Bosco College of Engineering. He spoke on ideation and the need to convert that idea into a business model. He provided information on the technology used and gave reference of a few websites too. The day ended with a visit to FiiRE, our Technology Business Incubator and the students interacted with the founders of some of the start-ups. Insheyah Ali, Community Manager, FiiRE spoke about FiiRE - (Forum for Innovation Incubation Research & Entrepreneurship) and incubation processes to help startups visualize and build prototypes.

On the third day, Anandkumar Lotlikar, Founder, Deviant Strokes conducted a session on the Business Model Canvas. He gave examples of the various business models of large and renowned companies. The next session was on Soft Skills and its importance in Business conducted by Rohini Gonsalves, Founder, Sevarat. She narrated her own journey as an entrepreneur and the balance of soft skills needed to survive.

At the valedictory function, Fr. Kinley D'Cruz spoke about FiiRE and the fire within each of the potential entrepreneurs. He guided the students to ideate, think and to speak and said that one day they will have successful stories to tell. He later distributed the certificates to the enthusiastic participants. Mathilda Colaco, I&E-Cell Faculty Coordinator thanked the management for the support and all the participants for an overwhelming response.

The camp saw active participation of 80 students who were made aware of the various rules, regulations, documentation required to start their own business. The students had a good learning experience and were motivated to take the first step towards being their own boss.

Innovation and Entrepreneurship Cell organized the EAC coordinated by Avila Naik, along with the faculty members Mathilda Colaco, Amey Tilve, Manjunath Narwate and Satyesh Kakodkar.

Prof. Gaurang S Patkar was conferred with Auropath Global Awards 2019 "Excellence in Research" category at the hands of Hon'ble Chief Minister of Chhattisgarh- Shri. Bhupesh Baghel and Education Minister -Shri. Umesh Patel, at the Hotel Sayaji, Raipur. Auropath Global Awards are given to reward pioneering initiatives taken by educationalist with the focus on factors enhancing the student learning outcomes and research.

Auropath Global Awards aims to identify and acknowledge those educationalists that have transformed teaching, learning, and employ ability outcomes. The Auropath Global Awards aim to provide an elite forum for the competition's finest entries with both the visibility and networking opportunities necessary to expand and improve their initiatives, featuring unparalleled showcasing prospects. Auropath is a unit of Auroservice Trust and Sri Aurobindo Society, Puducherry.

## DEPARTMENT OF SCIENCE AND HUMANITIES

### SESSION ON VIRTUAL LABS CONDUCTED FOR DEPARTMENT FACULTY



The Department of Science and Humanities conducted a session on Virtual Labs for the faculty members of Science and Humanities on the 13<sup>th</sup> January 2020 in the Signal processing lab, at Don Bosco College of Engineering.

Prof. Vaishali Parakhi gave an introduction to Virtual Labs followed by registering to the IIT Bombay Virtual Lab site.

Faculty members present, logged in to their respective accounts and attempted the understanding of the simulation process used in Virtual Labs. Based on their findings, the faculty provided feedback.

Prof. Harison Cota demonstrated a simulation on the Physics experiment 'Magnetic Field along the axis of the Circular Current carrying Coil', through Virtual Labs.

## DEPARTMENTAL CAFÉ SESSION

The Department of Science and Humanities had its fifth Departmental Café Sessions on the 25<sup>th</sup> January 2020. The resource person for the afternoon was Prof. Vaishali Parakhi who spoke on the Golden Ratio and how it can be seen in almost everything around us.

Prof. Vaishali began the session by explaining the concept of the Fibonacci sequence saying that it is a series of numbers, the next number of which is found by adding the two numbers before it. When we make squares with those widths we get a spiral which is called the golden spiral. She also said that when we take any two successive Fibonacci Numbers, their ratio is always very close to 1.618.

She then went on to show how this golden spiral can be seen in almost everything in nature; from the milky way in the galaxy to the tornados and cyclones. She also demonstrated how the golden ratio describes structural perfection in our human body when the calculated ratio of  $a:b = 1.618$ .

She made us realize that we enjoy the beauty of certain things or structures because they have been constructed in the golden ration; like the Taj Mahal or the Greek structures. She also told us that many musical instruments are also made keeping in mind the golden ratio. She concluded the session by saying that Math may not teach us how to add love and subtract hate but it gives us hope that every problem has a solution. Overall, it was a session that piqued interest into a new concept that can be related to everyday lives.



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