

Semester - I notes 2019-20

# bitscan

K K Birla Goa Campus



**BITS Pilani**  
K K Birla Goa Campus

# from the editor

Dear Readers,

We are pleased to present to you the 20<sup>th</sup> Issue of BITS-CAN magazine, full of events and achievements of our Campus community during the first semester of academic year 2019-20. This semester too we hosted several exciting events including conferences, seminars, workshops, expert lectures, annual festivals, etc., which contributed in enriching the experience of our BITS community.

The academic year started with the mega event of the year - CONVOCATION 2019. This year, 678 students received their degrees, of which 14 were PhDs. Three students from the Bachelor's degree programs - Mr. Madhu Adav, Mr. Kathankashiparekh and Mr. Devritt were awarded Gold, Silver and Bronze medals respectively. 139 students, who graduated through the WILP, also received their degrees in this convocation.

This year around 80 fruit bearing and medicinal trees were planted by the 2019 batch students as their contribution to greening the campus. Students have vowed to take care of these saplings while they study in BITS.

This year too we hosted the Indian Diaspora Youth brought by the Ministry of External Affairs of Government of India. The group interacted with our faculty members and visited various facilities of our campus.

This semester, around 8 lectures by eminent speakers from India and abroad were delivered at our campus. Department of EEE hosted the 13<sup>th</sup> IEEE ANTS 2019 while the Department of CSIS organized international conference on '*Secure Knowledge Management in Artificial Intelligence Era*' (SKM) in association with University of Texas at San Antonio, USA, and University at Buffalo, USA. BITS BIRAC BioNest also organized series of dialogues and workshop aimed at encouraging young researchers and scientists to become entrepreneurs. Several other national level seminars, conferences, workshops, etc. were organized by different departments.

23 research projects worth over Rs. 4 crores were sanctioned for various departments by government and non-government agencies during this semester. In addition to fulfilling teaching and research assignments, our faculty members were enthusiastically engaged in various initiatives including delivering invited lectures and conducting workshops at other institutions, presenting papers on their latest research at national and international events, and visits to renowned Indian and foreign institutions to establish and further the collaboration. Many faculty members are appointed on editorial boards and to review reputed international and national journals.

This year too WAVES was held with much enthusiasm and excitement. Jam packed sessions, workshops, main events and cultural performances were appreciated by the audience. Numerous competitions including on-stage and off-stage events gripped the participants representing reputed institutions from across India during the week-end. This year a team of over 60 students organized TechExpo '19 which was attended by over 200 students from 10 different schools from Goa. The school students got the opportunity to see and understand about 20 projects exhibited by our students. Our students continue to contribute towards betterment of society by proactively serving the community around our campus through Nirmaan by organising several activities for adults as well as children. Center for Entrepreneurial Leadership has also been actively involved in providing a platform for students interested in seeking entrepreneurial skills. Details are provided in this issue.

Our students continue to win accolades in India as well as abroad and make us proud. A team of 10 students – Project PINAKA - won at the prestigious **Boeing University Innovation Leadership Development (BUILD)** program. A 3 member team qualified for **The 2019 ICPC Asia - West Continent Final Contest** while a team of two students secured the National 2<sup>nd</sup> Runner-Up position in the prestigious **16<sup>th</sup> edition of NTPC Electron Quiz '19**. Several students won individual honours and awards.

We thank the entire BITS community for their contributions and support in bringing out this issue of BITSCAN.

# Convocation 2019

Prof. K VijayRaghavan, Principal Scientific Adviser to the Govt. of India, Padma Shri awardee and former Secretary, Department of Biotechnology, Govt. of India graced the annual convocation of BITS Pilani Goa Campus as the Chief Guest. Vice-Chancellor, BITS Pilani - Prof. Souvik Bhattacharyya; Registrar, BITS Pilani – Mr. Ernest Samuel Ratnakumar J; and Director of Goa Campus - Prof. Raghurama G. along with members of the Board of Governors, members of the senate and other faculty members were also present for Convocation 2019, which was held on 11th August 2019. Drawing attention to the deterioration of our planet, Prof. Vijay Raghavan, in his convocation address, emphasized on the need to democratize knowledge and urged youngsters to become the agents of change.

In 2019, out of 1148 students who qualified to receive degrees in BE (Hons), MSc (Hons), ME and PhD, 678 students had attended the convocation ceremony. Mr. Madhu Adav, Mr. Kathan Kashiparekh and Mr. Devritt from the Bachelor's degree programs, were awarded Gold, Silver and Bronze medals respectively. 139 students, who graduated through the Work Integrated Learning Program (WILP), also received their degrees in this convocation. Prof. Arun Kumar Sharma, Deputy Vice Chancellor & Vice President, Queensland University, Australia received the Distinguished Alumnus Awards of 2019. The award was conferred upon 11 alumni from varied fields of expertise for their significant and outstanding contribution to the society.

During his address, Prof Raghurama G, Director of Goa Campus, announced the inception of **Anuradha and Prashanth Palakurthi Centre for Artificial Intelligence Research (APPCAIR)** for promoting research in the area of Artificial Intel-

ligence at BITS Pilani, K K Birla Goa Campus. He also announced that this was made possible due to generous contribution by BITS Alumni Anuradha and Prashanth Palakurthi, who have made a commitment to contribute 1 million USD for the establishment of the center. Prashanth Palakurthi is the Founder and CEO of US-based Reflexis Systems. He founded the company in 2001 and with his team of co-founders pioneered the category of Retail Execution Management solutions. In 2014, he received an Award from the Asian American Business Development Center in New York for building a successful business and contributing to the community. Anuradha-Palakurthi, the founder of Juju Productions, is a professional singer and radio personality in the United States.

**APPCAIR lab** will start its operations from Goa campus; however will be affiliated with the other BITS campuses. Professor Ashwin Srinivasan, Senior Professor in the Department of Computer Science at BITS Goa will be heading the center.

**BITS Pilani was conferred with the 'Institute of Eminence (IoE)' status by the MHRD, Government of India in the year 2018. BITS Pilani in this phase of its growth is giving a strategic thrust to its research agenda that would contribute to innovations and entrepreneurship ventures. Prashanth and Anuradha's contribution at this juncture would give a momentum to research agenda of the institute by way of attracting research-driven faculty, post-doctoral fellows and research scholars in an area that is going to see significant opportunities over the next decade.**











# a confluence of ideas academia

seminars/conferences/workshops/training programs

## 13th IEEE International Conference on Advanced Networks and Telecommunications Systems (IEEE ANTS) 2019

Goa Campus hosted the **13<sup>th</sup> IEEE International Conference on Advanced Networks and Telecommunications Systems (IEEE ANTS) 2019** from 16<sup>th</sup> to 19<sup>th</sup> December 2019. This year's theme was **"BCET- Bridge to Connect EveryThing"**. Over 300 delegates from around 21 different countries attended the conference.



IEEE ANTS is a premier IEEE forum on advanced networking and telecommunications topics. IEEE ANTS is financially and technically supported by IEEE Communications Society. The technical program of IEEE ANTS 2019 consisted of 29 sessions including both Regular and Short Paper tracks and 4 sessions in the Women in Engineering track. The conference featured several keynote speakers and invited talks, 5 tutorials, 7 workshops and 2 panel discussions with equal participation from both industry and academia.

Keynote speakers for the conference were **Prof. Matti Latva-aho**, Director for 6G Flagship, University

of Oulu, Finland, **Dr. Rajesh Challa**, Associate Architect, Samsung R&D Institute India, **Mr. Akhil Panchabhai**, General Manager, Mobile Communications Team, Samsung R&D Institute India, Bangalore, **Ms. Sellammal Shekhar, Sc'G'**, Associate Director, DRDO Headquarters, **Ms. Swati Meherishi**, Executive Editor-Applied Science and Engineering, Springer India, **Prof. Mandar Chitre**, Department of Electrical & Computer Engineering (ECE), National University of Singapore (NUS) and **Dr. Konstantin Kebkal**, CEO/Chief Scientist, EvoLogics GmbH, Germany.

Conference was sponsored by Samsung, IEEE SA, CSIR-India, UKIERI, IEEE Future Networks, Evologics, lumina Networks, DRDO, IP junction, San Instruments-Tektronix, LF Edge, and Springer Nature. Exhibits and stalls were from Samsung, San Instruments-Tektronix, Tetcos-Netsim, Springer Nature, Entuple Technologies, and Ramaiah Institute of Technology.

## International Conference on 'Secure Knowledge Management in Artificial Intelligence Era' (SKM)

The Department of Computer Science and Information System in association with University of Texas at San Antonio, USA, and University at Buffalo, USA, organized the International Conference on **'Secure Knowledge Management in Artificial Intelligence Era' (SKM)** on 21<sup>st</sup> – 22<sup>nd</sup> December 2019. In conjunction with SKM, a one-day workshop on Digital Payment systems was also organized. The conference was focused on revolutionary technologies such as artificial intelligence, machine learning, cloud computing, big data, and IoT; Secure Knowledge Management. It touches the important research area that deals with methodologies for systematically gathering, organizing, and securely disseminating information. The SKM-2019 conference delegates presented and discussed the most recent innovations, trends, and concerns including practical challenges encountered and the solution adopted with special emphasis on Artificial Intelligence.

The Director, Prof. Raghurama G. inaugurated the

conference and addressed the delegates. The conference dignitaries Prof. H. R. Rao, Steering



Committee member, Prof. Sanjay K. Sahay, General Chair, BITS Pilani, K. K. Birla Goa Campus, UTSA, Prof. Ram Krishnan, General Co-Chair, UTSA and Dr. NihitaGoel, Program committee chair, TIFR, Mumbai, also addressed the delegates.

The conference started with the keynote talk by Dr. ShriramRevankar, Vice President of Adobe. He addressed the issue of trust and loyalty in artificial intelligence. His talk positioned trust and loyalty as computable entities that can continue to play a significant role in today's human-machine collaborative societies. Prof. SandeepShukla, Chair Professor, IIT Kanpur, delivered the talk on cyber-security of critical infrastructures: A cyber-security and cyber defense of critical infrastructure perspective. Mr. Anil Nair, MD, Cisco, and Mr. K. P. M. Das, Director, Cybersecurity and Trust, Cisco, talked about the digital transformation in India. Prof R. K. Shyamsundar, IIT Bombay, addressed the challenges of ownership and privacy in medical data sharing and said how medical data has become vital for the society.

Out of the 34 technical papers submitted, only 12 papers were accepted from national and international authors for the presentation in the conference. For the young researchers, a 5-minute innovation challenge was organized in which students were given the opportunity to present their idea in 5 minutes. The winner and runner-up students were awarded the cash prize of Rs. 5000/- and Rs. 3000/- respectively.

## Five-day workshop on '**Basic Molecular Biology Laboratory Tools and Techniques**'

BITS BIRAC BioNEST Innovation Lab set up at BITS Pilani, K K Birla Goa Campus, organized a five-day workshop on '**Basic Molecular Biology Laboratory Tools and Techniques**' from 9<sup>th</sup> to 13<sup>th</sup> July 2019.



The workshop was conducted by faculty members and doctoral students from the Biological Science Dept. Course Director, Dr. MalabikaBiswas and Resource Persons, Dr. Arnab Banerjee & Dr. IndraniTalukdar designed the workshop and conducted the sessions. Prof. AnasuyaGanguly and Prof. SumitBiswas were invited as guest speakers. Our PhD scholars viz. Vijay, Fiona, Pranjita&Pooja also conducted the hands-on sessions.

Faculty members, research scholars and students from various reputed educational institutes from Goa as well as from neighbouring states participated in this workshop. Some of the participating institutes wereKamaraj College of Engineering & Technology, Tamil Nadu; St. Aloysius Autonomous College, Mangaluru; NMAM Institute of Technology, Udipi,BITS-Pilani, Goa campus,Chowgule College of Arts & Science, Margao; Govt. College of Arts, Science & Commerce, Khandola; Dhempe College of Arts & Science, Panaji; Goa College of Pharmacy, Panaji etc.

The workshop focused on basic molecular biology theoretical knowledge with emphasis on hands-on training through experimentation. Participants received the training with enthusiasm and expressed keenness to use the BioNEST for future projects.

BITS BIRAC BioNEST, set up in January this year, would be conducting many such workshops with the aim of providing young scientists a chance to learn by doing. This Innovation Lab would provide incubation support to the entrepreneurs in the verticals of healthcare and environment by providing them equipment, space and supporting facilities to test their ideas, prototype in the lab and take it to the market.

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### Workshop on “DNA Binding and DNA Cleavage using Chemical Compounds”

A three day workshop on “DNA Binding and DNA Cleavage using Chemical Compounds” was organized at BITS BIRAC BioNEST, Innovation Lab set up at BITS Pilani, K K Birla Goa Campus from 11<sup>th</sup> to 13<sup>th</sup> Oct 2019.



DNA is the primary target of anticancer drugs, as interaction between small molecules and DNA cause damage to cancer cells. Compared to small organic compounds, metal complexes are more effective as DNA cleaving agents therefore metal complexes that can effectively bind and cleave DNA are of interest in the development of anticancer agents. This program was designed to provide an insight on how to study DNA interaction using some metal based compounds as well as to design the experiments and carry out DNA interaction studies, and thereby determine the mode of binding, binding propensity, and cleaving ability of the tested compounds.

The workshop was conducted by faculty member and doctoral students from the Department of Chemical Engineering. Course Director, Dr. Manjuri Kumar designed the workshop and conducted the sessions. Our PhD scholars Sidhali U Parsekar and

Priyanka conducted few hands-on sessions.

Faculty members, researcher scholars and students from various institutes from Goa as well as from neighbouring states participated in this workshop. Participants from reputed educational institutes such as PSG College of Arts and Science, Coimbatore, Tamil Nadu, KIT's College of Engineering, Kolhapur and from BITS, Pilani campus participated in the hands-on workshop. Institutions from Goa such as Goa College of Pharmacy, Panaji, Dhempe College of Arts & Science, Panaji; and PES R.S.N College of Arts and Science, Ponda nominated their faculty members and students.

#### Hands-on Sessions:

- CT-DNA binding study using UV-Vis spectroscopy
- Hydrolytic DNA cleavage study and analysis by agarose gel electrophoresis
- Oxidative DNA cleavage study and analysis by agarose gel electrophoresis

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### 6<sup>th</sup> Annual Conference of Cognitive Science (ACCS 2019)

The Cognitive Neuroscience Lab of the Department of Biological Sciences successfully hosted the **6<sup>th</sup> Annual Conference of Cognitive Sciences (ACCS 2019)** from 10<sup>th</sup> to 12<sup>th</sup> December 2019.



Local organizing chair, Prof. Veeky Baths, Associate Professor, Department of Biological Sciences, and Prof. Harish Karnick from IIT Kanpur on behalf of Association for Cognitive Science (ACS-India) welcomed the participants. Director, Prof. Raghurama G. presented encouraging introductory thoughts and Prof. Shrikanth Mutnuri, Head of the



Department of Biological Sciences, thanked the guests and participants for their participation.

The first keynote lecture was delivered by Mr. Raghavendra Singh, Director of Computer Vision and Data Science, Oyla Inc., on the relation between 3D processing and Cognition. The second keynote, was by Dr. Venkatasubramanian Ganesan, NIMHANS, on WISER Neuromodulation of Brain Plasticity. The third, was by Prof. Malatesha Joshi on the Implications for the Assessment of Instruction of Dyslexia and Related Reading Problems. The final keynote lecture was by Prof. Supratim Ray on using Gamma oscillations and SSVEPs as tools to investigate brain function in health and disease.

The three day event brought together around 150 scientists and academic scholars from across the country to discuss and present their research findings in the field of cognition, linguistics and decision making. The themes broadly covered a plethora of sub-fields within Cognitive Science with domains as varied as computer science, signal processing, HCI, psychology, Linguistics, philosophy of mind and so on. This ever-expanding domain offers exciting research and innovation opportunities for the future generation of researchers.

The conference included 30 Oral and 70 Poster presentations. The next ACCS will be held at IISc, Bangalore. The Cognitive Neuroscience Lab thanks the Department of Science and Technology - Cognitive Science Research Initiative (DST-CSRI) and Mr. Parag Amodkar (Tobii Inc.) for supporting the conference and making it a grand success.

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### **IAPT - UGCP (Winter Camp in Physics & Astronomy) for all India and Goa Meritorious students**



Goa Campus organized a Winter Camp in Physics and Astronomy from 19<sup>th</sup> to 22<sup>nd</sup> Dec. 2019. This winter camp, the Indian Association of Physics Teachers – Undergraduate Camp in Physics (IAPT-UGCP), was jointly funded by Inter University Center for Astronomy and Astrophysics (IUCAA), Pune, and Indian Association of Physics Teachers (IAPT), Kanpur and IAPT – Goa Regional Centre and BITS Pilani. It was primarily targeted for undergraduate students pursuing their T.Y.BSc. in Physics. Students from among top 40 in the national level merit list of NGP Examinees of Jan. 2019 and students in the top 3<sup>rd</sup> / 4<sup>th</sup> rank from seven colleges in Goa were selected to attend this Camp. Forty two students attended the Camp of which 16 were from all over India and 26 from Colleges in Goa.



The inaugural function was graced by Prof. Ramesh Pai, former HOD of the Physics Department of Goa University as the Chief Guest. Prof. Pai, also the President of the Goa Regional Council of IAPT, spoke about the activities of IAPT- Goa RC and how it encourages and supports such activities in Goa. Prof. Kandaswamy Subramaniam & Prof. Deepankar Bhattacharya, resource persons from IUCAA, and Prof. Arun V Kulkarni, Goa Coordinator and Professor of Physics at BITS Pilani, Goa Campus, spoke at the Inaugural Function. The speakers addressed the audience laying out the aims and objectives of the Camp which was to expose meritorious students to active researchers in Physics and highly acclaimed teachers from eminent Institutions. The aim was also to get the participants excited enough to seriously consider choosing careers in Physics and Astronomy so that the pool of Scientists in India is enriched. Prof. E. S. Kannan of BITS Pilani, Goa Campus, delivered the Vote of Thanks at the inaugural function.

The resource persons covered a wide variety of topics in their lectures, not necessarily found in a typical B.Sc. curriculum. Topics covered by the IUCAA resource persons included, Astronomy by Prof. Dipankar Bhattacharya; Fluid Dynamics and Magnetohydrodynamics in Astrophysics by Prof. Kandaswamy Subramaniam; and Relativity Theory and the Twin Paradox by Prof. AseemParanjape. Topics covered by BITS faculty members included, Theory of Lasers by Prof. Prasad Naik; Quantum Measurement Theory by Prof. RadhikaVathsan (HoD of Physics Dept.); Method of Images in Electrostatics and Magnetostatics by Prof. Arun V.Kulkarni and Atomic & Optical Physics by Prof. RaghunathRatabole. The Director of BITS Pilani, GoaCampus, Prof. Raghurama G. also addressed the participants and offered interesting career advice to the students.

Prof. Vijay Singh, the President of Central IAPT and former Prof at IIT-Kanpur, and former National Coordinator of Physics Olympiad at HBCSE along with resource persons Prof. Arun V.Kulkarni, Prof. Dipankar Bhattacharya, Prof. Prasad Naik addressed the participants during the Valedictory Function. All participants were awarded participation certificates during this function. Ms. Malati Dessai, Asst. Professor in the Physics Department of Chowgule College, Margao, Goa, delivered the Vote of Thanks.

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### **3<sup>rd</sup> edition of “New Frontiers in Chemistry-from Fundamentals to Applications (NFCFA)”**



The 3<sup>rd</sup> edition of the biennial national conference “New Frontiers in Chemistry-from Fundamentals

to Applications-III (NFCFA2019)” was organized by the Department of Chemistry during 21<sup>st</sup>-22<sup>nd</sup> December 2019.

Inaugural function was graced by Prof. B. K. Mishra, Director of IIT Goa, as the Chief Guest and Prof. Ashwini K.Nangia, Director of CSIR-National Chemical Laboratory, Pune, as the Guest of Honor. The conference was inaugurated in the presence of the Director, Prof.Raghurama G.; HoD of Chemistry, Prof. HalanPrakash; Chairman NFCFA2019, Prof. N. N.Ghosh, Conveners of NFCFA2019, Prof. Mainak Banerjee and Prof. Amrita Chatterjee, by lighting of traditional lamp.

About 150 delegates representing reputed organizations such as IISC, Bangalore; IIT Bombay; IIT Delhi; NCL, Pune; IISER, Kolkata; IISER, Pune; IISER Bhopal; BARC, Mumbai; NISER Bhubaneswar; NIIST, Trivandrum; Jadavpur University, Kolkata; Goa University; NIO, Goa, participated as speakers and participants. An exciting two days scientific programme included three keynote addresses, 30 invited speakers, 14 oral presentations. In addition, an NFCFA-ACS oral contest for research scholars and over 100 poster presentations were lined up in two days. There were total of nine awards both by Royal Society of Chemistry and American Chemical Society for oral and poster presentations. Certificates were given both by RSC and ACS.

Prof. Raghurama G. in his speech briefed the gathering about BITS Pilani University. He also shared his view about the merging of boundaries between conventional subjects. He mentioned that Chemistry has broken the barriers of organic, inorganic and physical and expanded its wings to biology, material science and even to electronics. Prof. Mishra in his address expressed caution about generation of a huge quantity of carbon-di-oxide gas and proposed the requirement of green technologies for its conversion to value added products. Prof. Nangia shared his viewson the present need for changing the current educational system in the view of on-line availability of information galore and giving more flexibility to students in choosing the subjects. In the beginning, Prof. N. N. Ghosh welcomed the delegates and Prof. HalanPrakash briefed about the Chemistry department’s performance. Inaugural



function concluded with the vote of thanks proposed by Prof. Mainak Banerjee.

The aim of the national conference, NFCFA2019, was to hold an open deliberation on the state-of-the-art developments in important areas of R&D of chemistry and allied sciences, a firsthand assessment of the existing challenges with an ambition to arrive at prospective solution and define future strategy. This conference covered a wide range of contemporary research areas of chemistry and allied sciences such as Chemical Biology, Environmental Science, Material Science with an emphasis on practical applications. It provided a forum for young research scholars to interact with senior scientists/academicians and discuss the new frontiers in separation science and share their current research interests so as to have a fusion of viable ideas to be realized in future.

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### **Global Bio-India Road Show - Goa - IDEATHON 2019 at BITS BIRAC BioNEST, BITS Pilani**



BITS BIRAC BioNEST and Centre for Innovation Incubation and Entrepreneurship, BITS Pilani K K Birla Goa Campus, organized a **'Global Bio-India Road Show – Goa - IDEATHON - 2019'** on 15<sup>th</sup> October 2019 with the purpose to create awareness about Global Bio-India 2019, the largest Bio event, that would showcase opportunities in Indian Biotechnology sector to the world.

Prof. Mridula Goel, In-charge, BITS BIRAC BioNEST introduced the activities of incubator and the theme of IDEATHON 2019. Dr. Abhiram Dukkupati, Founder, Magellan Life Sciences Ltd, spoke on "Innovation and Commercialization" of his unique product. Mr.

SudipFaldesai, Project Officer, Goa State Innovation Council (GSIC), Government of Goa, gave details about the activities of GSIC in encouraging young talent in local universities, colleges, schools, medium and small scale industries and R&D institutes.

Ms. Shilpy Kochchar, Senior Manager, Entrepreneurship Development, BIRAC, delivered her talk on innovation capabilities of the Indian biotech industry and various funding schemes to foster and empower startups to commercialize their discoveries. She also highlighted on the opportunities for startups, SMEs, large industries and investors at Global Bio-India Summit 2019 which was held in November, 2019 at Aerocity, Delhi.

As a part of the road show, IDEATHON 2019 was conducted to discover solutions for the growing water, health and environmental problems. Faculty members, research scholars and students from reputed educational institutes such as National Institute of Technology, Goa, ParvatibaiChowgule College of Arts & Science, Margao; Dhempe College of Arts & Science, Panaji; PES R.S.N College of Arts and Science, Ponda and BITS Pilani K K Birla Goa Campus participated in the IDEATHON.

Shortlisted 15 ideas were presented at the event, addressing the major environmental problems like degradable and non-degradable waste management; alternate for plastic; food adulteration; water conservation; e-commerce waste management etc to the panel of judges viz Mr. Lalit Saraswat, Chairman, CII Goa; Mr. Sudip Faldesai Project Officer, GSIC; Mr. Tarun Krishnakumar, Investment Manager, FIIRE Goa; Prof. Sunil Bhand, Dept. of Chemistry, BITS Goa Campus and Dr. Anirban Roy, Dept. of Chemical Engineering, BITS Goa Campus and Dr. RajorshiSen Gupta, In-charge, CIIE, BITS Goa Campus

Prizes for 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> places were given to "Piezoelectric soles for foot desensitization problem of diabetic patients" (BITS Pilani K K Birla, Goa Campus), "Bioaccumulation" (Dhempe College of Arts & Science, Panaji) and "Swachchak – Dustbin Monitoring" (BITS Pilani K K Birla, Goa Campus) respectively by Mr. Lalit Saraswat, Chairman, CII Goa.

## Inter-college elocution contest held to observe Vigilance Awareness week



With an objective to create awareness amongst common men, especially the youth towards corruption free governance, Vigilance Department of M/s Goa Shipyard Limited in collaboration with BITS Pilani, KK Birla Goa Campus organized an **Inter-college Elocution Contest** on 18<sup>th</sup> October 2019 at BITS Pilani Goa Campus. Students of MES College, Zuarinagar; Padre Conceição College of Engineering, Verna; Govt. College of Arts, Commerce & Science, Khandola; NIT-Goa; Goa Engineering College, Farmagudi and BITS Pilani Goa Campus participated in the contest.

Chief Guest, Director of BITS Pilani, K K Birla Goa campus, Prof. Raghurama G. addressed the students and shared his knowledge and experience towards creating a corruption free environment in academic and work places. Guest speaker, General Manager (HR&A) of Goa Shipyard Limited, Shri. Manoranjan Kunthia spoke on integrity at work place. Other dignitaries present on the occasion were Prof. Angshuman Sarkar, Chief Warden and faculty in Department of Biological Science & Prof. Ramesha C K, Associate Dean, Student Welfare Division and faculty in Department of EEE. The programme was compered by Shri. Lochan Karekar, Senior Manager (Vigilance) & the vote of thanks was proposed by Shri. S. P. Yadav, Additional General Manager (Vigilance) of Goa Shipyard Limited.

Vigilance Awareness week is observed every year by various authorities in central government & other organizations under it throughout the country. Such observance is a part of multi-pronged approach of

Central Vigilance Commission (CVC) to encourage all stakeholders to collectively participate in the prevention of and fight against corruption and to raise public awareness regarding the existence, causes and gravity of and threat posed by corruption. For the year 2019, CVC has decided to observe Vigilance awareness week with the theme "Integrity- A way of life" / "ईमानदारी- एक जीवन शैली".

## Opportunities in Indian Air Force - IAF's special 'Induction Publicity Exhibition Vehicle' (IPEV) visited Goa campus



The Indian Air Force (IAF), the fourth largest in the world, has developed a special 'Induction Publicity Exhibition Vehicle' (IPEV) to showcase various aspects of IAF and a medium to bring the IAF to the doorstep of the candidates / aspirants across the country. On 19<sup>th</sup> November 2019, the IPEV showcased career related information, life and training in the IAF, its assets including Flying Simulator to experience various facets of the IAF to Goa Campus students. Special induction road drives using the IPEV are being held in reputed educational institutions across India with the following objectives:

- (a) To interact directly with the youth and aspirants.
- (b) Provide guidance on various career opportunities available in the Indian Air Force.

Over 100 students interacted with the IAF officials and visited the IPEV van.

## Indian Diaspora Youth visited BITS

Goa Campus hosted 40 Indian Diaspora Youth participating in the 55<sup>th</sup> Know India Programme organized by the Ministry of External Affairs,





Government of India, on the 11<sup>th</sup> of September, 2019. The Government of India has been organising the Know India Programme to create awareness amongst the Indian Diaspora Youth about India's cultural heritage and various aspects of contemporary India. The participants attended a presentation about BITS Pilani made by Prof. Judith Braganza and visited BITS BIRAC BioNEST and other facilities of the campus. Prof. N NGhosh, Associate Dean, IPCD, also interacted with the participants and explained the admission process and various possibilities of collaboration between BITS and their respective countries.



## Center for Innovation, Incubation and Entrepreneurship (CIIE)

### **IPR Workshop**

A Workshop on "Intellectual Property Rights and Patent Management" was conducted by Ms Vrinda Kaul, Aditya Birla Management Corporation Pvt. Ltd. on 20 September 2019.

### **Faculty Development Programme**

In order to spread awareness about entrepreneurship and innovation, Goa State Innovation Council (GSIC) in association with CIIE organized a Faculty Development Program on "Innovation, Creativity and Startups" on 13-14 and 20-21 September 2019.

### **Coalescence**

Coalescence 2019 was held during 6-8 September 2019. It is the flagship Entrepreneurship Summit event conducted by the Centre for Entrepreneurial Leadership (CEL), BITS Goa the student body of CIIE. With the theme - 'Where Vision Transcends Possibilities', the speakers were Radhika Gupta, CEO Edelweiss Asset Management; Shashank Murali; CEO and Founder TapChief, Tarun Katial, CEO Zee5 and Founder BIG (TV and FM), Vishakha Singh, Founder-Fourfivelabs. Apart from this, a B-Plan competition and Wolf of Wall Street was organized for the student's startups to enhance their negotiation skills of an entrepreneur in a simulated market.

### **BITS BIRAC Ideathon 2019**

BITS BIRAC BioNEST in association with CIIE organized a 'Global Bio-India Road Show- IDEATHON - 2019' on Oct 15, 2019 with the purpose to create awareness about Global Bio-India 2019. Prof. Mridula Goel, In-charge, BITS BIRAC BioNEST introduced the activities of incubator and the theme of IDEATHON 2019. Dr. Abhiram Dukkupati, Founder, Magellan Life Sciences Ltd, spoke on "Innovation and Commercialization" of his unique product. Mr. Sudip Faldesai, Project Officer, Goa State Innovation Council (GSIC), Government of Goa, gave details about the activities of GSIC

in encouraging young talent in local universities, colleges, schools, medium and small scale industries, and R&D institutes. IDEATHON 2019 was conducted to discover solutions for the growing water, health and environmental problems. The 15 shortlisted ideas that addressed the major environmental problems were presented at the event. Thematically they covered areas like degradable and non-degradable waste management, alternate for plastic, food adulteration, water conservation, e-commerce waste management among others. An expert panel of judges that included Mr. Lalit Saraswat, Chairman, CII Goa; Mr. Sudip Faldeai Project Officer, GSIC; Mr. TarunKrishnakumar, Investment Manager, FIIRE Goa; Prof. Sunil Bhand, Dept. of Chemistry, BITS Goa Campus and Dr. Anirban Roy, Dept. of Chemical Engineering, BITS Goa Campus and Dr. RajorshiSen Gupta, In-charge, CIIE, BITS Goa Campus evaluated the ideas. Taaha Nizam (2017A8PS0582G) was selected as the First prize winner for the innovation titled "Neuropathic feet- Piezo electric sole."

### Filing of Patent

During this semester, a patent titled "A portable handheld electrochemical discharge machining device" was filed by Mr. Mukund Laxman Harugade, Dr. Waigaonkar Sachin Damodharrao, Dr Nikhil Shrikant Mane from Department of Mechanical Engineering.

### Central Sophisticated Instrumentation Facility (CSIF)



Central Sophisticated Instrumentation Facility (CSIF), envisioned as a state-of-the-art facility at BITS Pilani,

K. K. Birla Goa Campus, started its operation in the new building in this semester. The facility is open for researchers of all the BITS Pilani campuses as well as for researchers from other academic organizations and industries.

CSIF is currently hosting the following equipment at the new building:

Equipment	Make and Model
Liquid Chromatography - Mass Spectrometry (LCMS)	Agilent Technology 6460 Triple Quadrupole LC/MS
Confocal microscope	Olympus Corporation FV3000
Raman Spectrometer	LAB RAM HR Horiba
X-ray Diffractometer	Bruker D8 Advance



CSIF also runs Field Emission Scanning Electron Microscope (FESEM) facility which is expected to be relocated to the CSIF building in 2019-20 during the second semester.



# distinguished lectures

Sr. No.	Date	Title Of the Talk	Speaker's Name	Speaker's Designation / Affiliation	Organised by Department of
1.	31 <sup>st</sup> July 2019	Immune homeostasis by regulatory T cells and circulating immunoglobulins	Dr. Jagadeesh Bayry	Director of Research, Institut National de la Santé et de la Recherche Médicale (INSERM), Sorbonne University, PARIS, FRANCE	Biological Sciences
2.	26 <sup>th</sup> Aug 2019	The Microelectronics Journey and PN Junction Devices	Prof L. K. Maheshwari	Former Vice Chancellor of BITS Pilani	Electrical and Electronics Engineering
3.	11 <sup>th</sup> Sept 2019	Advancement in Communications over Packet Based Networks	Dr. Amar Nath Ray	Shawnee, Kansas, USA	Electrical and Electronics Engineering
4.	16 <sup>th</sup> Sept 2019	Time-Frequency Analysis	Prof. Ram Bilas Pachori	IIT Indore	Electrical and Electronics Engineering
5.	10 <sup>th</sup> Oct 2019	Why Science-Why Biology?	Prof B J Rao	Senior professor, chair of Biology and dean faculty at IISER, Tirupati.	Biological Sciences
6.	11 <sup>th</sup> Nov 2019	EEE/INSTR F473 Wind Electrical System	Mr. S. A. Mathew	National Institute of Wind Energy, Chennai	Electrical and Electronics Engineering
7.	19 <sup>th</sup> Dec 2019	Interaction with Faculty members of EEE	Prof. Mandar Chitre	Associate Head of Department (Undergraduate Programs), Department of Electrical & Computer Engineering, National University of Singapore	Electrical and Electronics Engineering
8.	10 <sup>th</sup> Nov 2019	Technical Analysis of Stock Market	Dr Babu Aiholi	Assistant Professor	Economics

## alumni affairs

### BITSian's Day Marathon

The first Friday of every August is celebrated worldwide as BITSian's day by all the students and the alumni of BITS. The ARC organized the annual BITSian's Day Marathon on 2<sup>nd</sup> August 2019, which encouraged the student community to participate in the marathon to show their support for this institution. The winners of the run were awarded with prizes for their achievement.

### Convocation

The ARC organized the Convocation for graduating batch of this year on 11<sup>th</sup> August 2019. The First Degree, Higher Degree and PhD students along with the WILP students were presented with their graduation certificates. ARC handled the organization of the event, from logistics to registration to coordinating with other departments for the smooth running of the event. The major work done during the convocation included the registration of the students of the graduating

batch, issuing and returning of the convocation kits, distribution of entry passes and lunch coupons, crowd management in the auditorium, CC and the Mess and the designing of the banners along with the stage setup in the auditorium.

### Batch Snaps

The ARC organized the batch photograph sessions of the pre-graduating batches on 14<sup>th</sup> August 2019. Every student has their photograph taken with their fellow branch students.

### Metanoia



The 5<sup>th</sup> edition of BITS Pilani K K Birla Goa Campus' annual BITS Alumni Summit- Metanoia concluded successfully on the 17<sup>th</sup> August 2019. Keeping in mind its resolute mission to keep the alumni of BITS connected to their Alma mater and to maintain the integrity and strength of the vast alumni community, we invited 6 speakers to reminisce about their life, back at BITS campuses and their journey thereafter. This year's edition of Metanoia featured the journey of change of six BITSians:

1. **Mr. Ajit Tyagi**, Former Director General of Meteorology and Chairman, IDC Foundation.
2. **Ms. Nikita Tanwani**, Fbb Colors Miss India Andhra Pradesh 2019.
3. **Mr. Jyothi Kalyan Sura**, Writer , Director and Visual Effects, Via Mar Entertainment.
4. **Ms. Divya Nawale**, Adventure traveller, travelled to all 7 continents.
5. **Ms. Rashmi Datt**, CEO (Chief Emotions Officer), Dialog Services.
6. **Mr. Kunal Bhatia**, Political Consultant to National Political Leaders.

### Bi-Annual Director's Tea Party

The ARC, on behalf of the Director of the campus, hosted the semester's DTP on 22<sup>nd</sup> November 2019 to bid an official farewell to the graduating students. It was held in the lawns of the Visitor's Guest House.

### Research Scholarship

One of our alumni, Mr. Satish Sankaralingam, initiated a research scholarship for BE students and an amount of Rs. 15,000/- was awarded to **Jayant Jhamb** (2015B2A40678G) and **Tejas Rane** (2017A4PS0918G); who were awarded, Rs. 10000/- and Rs. 5000/- respectively as recognition to their research work.

### Talks by Alumni on and off campus

Apart from the organization of various events, the ARC was also involved in organizing regular lectures and talks from numerous alumni who have achieved success in their respective fields. Maintaining a strong alumni network, ARC has organized several talks in LTs and the telepresence room to enable the student-community to benefit from the interactions with the alumni. The following is a list of events conducted this year:

Sr.	Dates	Title of the Talk	Speaker(s)
1	10 <sup>th</sup> Aug 2019	Technological Disruptions and Future of jobs	Prof. Arun Kumar Sharma
2	6 <sup>th</sup> Sept 2019	Attributes for Career Success in IT Industry	Mr. S.Y. Balasubramanian
3	11 <sup>th</sup> Sept 2019	BITS2MSPHD	Mr. Ashwin Naik Mr. Vikas Goel Mr. Abhishek Manikonda
4	12 <sup>th</sup> Oct 2019	Pre-BITS2GRE	Mr. Dhruva Barfiwala
5	18 <sup>th</sup> Oct 2019	BITS2 Social Services	Ms. Niharika Singh Mr. Siddhant Rathore



6	24 <sup>th</sup> Oct 2019	BITS2GRE	Mr. Gunjan Chhablani Ms. Gargi Balasubramanian	8	16 <sup>th</sup> Jan 2020	1980 batch alumni interaction	Batch includes notable alumni like Mr. Harish Bhat (Brand Custodian, Tata Sons), Mukul Khare ( VP, Thyssenkrupp India), and others
7	11 <sup>th</sup> Jan 2020	BITS2Civil Services	Mrs. Arushi Sharma				

## significant projects

SR.	Title of the Project	Name of Principal Investigator / Co-investigator and Department	Funding Agency	Proposed/ Sanctioned amount (Rs. In Lakhs)
1	Bioremediation and Digital Documentation towards the conservation of Cultural Heritage	Prof. M. Srikanth Biological Sciences Co-PI Prof. Geetha B. Humanities and Social Sciences Dr. Ramprasad Joshi CS&IS	DST- SHRI	32.80
2	Development of Novel Biofilm Resistant Coat for Implant Devices from Moringaoleifera Leaf Extracts	Prof. Sumit Biswas Biological Sciences Co-PI Prof. N N Ghosh Chemistry	ICMR	36.13
3	Conservation initiative by restoration of windowpane oysters (placuna placenta) population in Chicalim Bay area, Goa	Prof. Sumit Biswas Biological Sciences	Wildlife Trust of India	1.70
4	Fine Mapping of the Chromatin structure of key genes involved in reproductive maturation and egg production in dengue vector mosquito, Aedesaegypti	Dr. Tusar Tirtha Saha Biological Sciences	SERB- SRG	31.59
5	Assessment of MNQ Production Process	Prof. S. D. Manjare Chemical Engineering	Deccan Fine Chemicals	3.54
6	Assessment of BFBTF Production Process	Prof. S. D. Manjare Chemical Engineering	Deccan Fine Chemicals	3.54
7	Life cycle Assessment of Lote plot	Prof. S D Manjare Chemical Engineering	Laxmi Organic Industries Ltd	6.72
8	To carry out study on issue of volatile Organic Emission	Dr. Sharad M Sontakke Chemical Engineering	Aegis Logistics Limited	2.16

SR.	Title of the Project	Name of Principal Investigator / Co-investigator and Department	Funding Agency	Proposed/ Sanctioned amount (Rs. In Lakhs)
9	Development of bimetallic catalyst for direct non-oxidative conversion of methane to higher hydrocarbons	Dr. Sharad M Sontakke Chemical Engineering	SERB-EEQ	42.50
10	A Polydiacetylene-based fluorescent sensor for the detection of arsenic species and uranyl ion in water by conventional and nuclear analytical methods	Prof. Amrita Chatterjee Chemistry	BRNS	32.08
11	Mobile App for improving survival in fires through efficient egress: The role of impromptu indoor WiFi localization and georeferenced building maps	Prof. Ashwin Srinivasan CS&IS CO-PI Prof. Vinayak Naik (CS&IS) Dr. Raja Sengupta & Liliana Perez (Canada)	DST and IC-IMPACT Canadian Project	38.31
12	Datalab Setup-TCS	Prof. Ashwin Srinivasan CS&IS	TCS	26.56
13	MDP on Urban Insurance for PNB Metlife official	Prof. Debasis Patnaik Economics	PNB MetLife	6.78
14	Flying Ad Hoc Network for disaster rescue operations	Dr. Sarang C Dhongdi EEE	SERB-SRG	21.56
15	Coping with Displacement due to River Erosion in the Indian Sundarban and Lower Assam	Dr. Mohan Kumar Bera Humanities and Social Sciences	ICSSR	4.50
16	From NDCs to pathways and Policies: Transformative climate Action After Paris	Dr. Rajiv Kumar Chaturvedi Humanities and Social Sciences	IDDRI	12.00
17	Preparation of Goa state Action plan on climate change, concept note and DPR	Dr. Rajiv Kumar Chaturvedi Humanities and Social Sciences	NABARD Consultancy Services Pvt Ltd	3.65
18	Partial Migration Phenomenon: A Game Theoretic Approach to Causes and Environmental Effects	Dr. Anushaya Mohapaptra Mathematics	SERB- SRG	12.05



SR.	Title of the Project	Name of Principal Investigator / Co-investigator and Department	Funding Agency	Proposed/ Sanctioned amount (Rs. In Lakhs)
19	Design and Development of Innovative Structural health Monitoring (SHM) system using embedded piezo based active sensing approach for Delamination Detection in Multi-layer composite Structures	Dr. Devendra Gokul Patil Mechanical Engineering	SERB-SRG	28.87
20	Assessing Rotomoldability of Materials	Prof. Sachin Waigaonkar Mechanical Engineering	Roots Multiclean Ltd. Tamilnadu	1.25
21	Drag Reduction by suppressing the Bi-Stability character of the wake	Prof. Shibu Clement Mechanical Engineering Co-PI Dr. Pritanshu Ranjan Mechanical Engineering	ARDB/DRDO (aeronautics)	20.80
22	Microfluidics sperm cell sorting device: addressing male infertility factor	Dr. Siddhartha Tripathi Mechanical Engineering	SERB- SRG	27.41
23	Innovation in Science pursuit for Inspired Research ( INSPIRE)	Dr. Rudranil Basu Physics	DST-INSPIRE	14.00

## enriching the learning experience visits by faculty

### international visits

**Prof. Debasis Patnaik**, Department of Economics, delivered a talk on 'Integrating Research Strategy into Social Science Research' during the AESIS Conference held at Oslo Metropolitan University at Oslo during 27<sup>th</sup> to 29<sup>th</sup> Nov 2019.

**Dr. Gauranga Charan Samanta**, Department of Mathematics, presented a paper entitled 'Worm-hole Modeling in General Relativity' in 10th Mathematical Physics Meeting: School and Conference on Modern Mathematical Physics held at University of Belgrade, Serbia from 9th to 14th September 2019.

**Dr. Gauranga Charan Samanta**, presented a paper entitled 'Cosmological Dynamics in R2 gravity with logarithmic trace term' in 30th Texas Symposium Relativistic Astrophysics held at University of Portsmouth, United Kingdom from 15th to 20th December 2019.

**Dr. Kiran D. Mali**, Department of Mechanical Engineering, presented a paper at the International Conference on Advances in Functional Materials, or-



ganised by the American Association for Advances in Functional Materials (AAAFM-UCLA 2019), held at University California, Los Angeles, USA from 19<sup>th</sup> to 22<sup>nd</sup> August 2019.

**Prof. Lakshmi Subramanian**, Department of Humanities and Social Sciences, visited Brussels as an Evaluation Panel member for completed projects under the European Research Commission on 15<sup>th</sup> Nov 2019.

**Prof. Mridula Goel**, Department of Economics and Ms. Nidhi Ravishankar, MSc Student of the department presented a paper titled 'Has Public Policy succeeded in enhancing women autonomy and empowerment in India over the last decade?' at the International conference on Gender Economics, organized by FROGEE (Forum for Research on Gender Economics), held at Tbilisi, Georgia, on 16<sup>th</sup> - 17<sup>th</sup> Nov 2019.

**Prof. Ranjan Dey**, Department of Chemistry, delivered a Keynote Lecture in **Thermam 2019**, 6<sup>th</sup> International Conference on Thermophysical and Mechanical Properties of Advanced Materials and 8<sup>th</sup> Rostocker International Conference held in CESME, IZMIR Turkey from 22<sup>nd</sup> to 24<sup>th</sup> September 2019.



**Dr. Sayantani Sarkar**, Department of Humanities and Social Sciences, participated in International Water Association Water and Development Congress and Exhibition held at Colombo, Sri Lanka from 1<sup>st</sup> to 5<sup>th</sup> Dec 2019 and GSGS Summit Sri Lanka 1-4 Dec 2019.



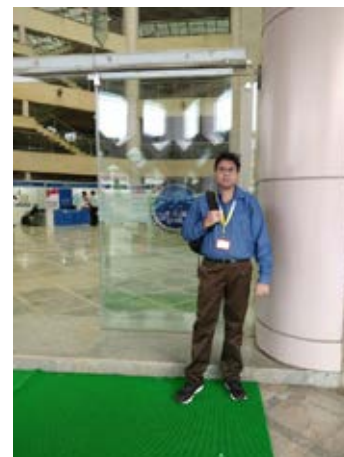
**Dr. Vikas Chaudhari**, Department of Mechanical Engineering, presented a paper entitled 'Modeling of short fiber reinforced composite using Extended Finite Element Method (XFEM)' at AAAFM-UCLA International Conference on Advances in Functional Materials 2019 held at University of California, Los Angeles, USA from 19<sup>th</sup> to 22<sup>nd</sup> August 2019.

**Prof. S D Manjare**, Department of Chemical Engineering, presented the research paper entitled, 'Studies on dispersion of fugitive emissions of bauxite particles released from handling of cargo', in the 3<sup>rd</sup> International Conference on Sustainable Energy and Environment Development (SEED2019) held at Krakow, Poland from 16<sup>th</sup> to 18<sup>th</sup> October 2019.



### invited talks / workshops by faculty at other Indian institutes

**Prof. Anjan Chattopadhyay**, Department of Chemistry, delivered an invited talk titled 'Differences in the photo-chemical reaction paths of conjugated acyclic nitrones, protonated Schiff bases and neutral polyenes' at the DAE-CCS (Computational Chemistry Symposium) 2019, held at Bhabha Atomic Research Centre (BARC), Mumbai during November 7-9, 2019.





**Dr. Arnab Banerjee**, Department of Biological Sciences, had delivered an invited talk entitled as "Increasing risk of metabolic syndrome in India", on the national seminar, organized by Govt. College of Arts, Science and Commerce, Khandola, Goa in December, 2019.



**Prof. Dipankar Pal**, Department of Electrical and Electronics Engineering, delivered a keynote address titled, 'Engineering Education in India: Past, Present and Future', in the International Conference on Innovation in Engineering Sciences, Management & Technology-2019 (ICIEMSMT-19), organized by the Institute For Engineering Research and Publication (IFERP) at the S. B. Jain Institute of Technology Management & Research, Nagpur on 12<sup>th</sup> Dec 2019.

**Prof. Debasis Patnaik**, Department of Economics, conducted a three hour workshop on Indian Economy for the students of Nihon University participating in a Study India Program at the Goa University on 18<sup>th</sup> Dec 2019. Prof. Patnaik also hosted a visit of these students to BITS Pilani, K K Birla Goa Campus and delivered a lecture on BITS Pilani and relevance of the Department of Economics.

**Prof. Geetha B**, Department of Humanities and Social Sciences, delivered a talk 'Visual Narratives in the Classroom: Teaching Empathy through Films' at Cognitive Science in Education: Capacity Building for Teacher Education held at Hyderabad Central University from 18<sup>th</sup> to 22<sup>nd</sup> Nov 2019.

**Prof. Judith M. Braganca**, Department of Biological Sciences, delivered 2 lectures entitled 'Role of Archaea in Heavy Metal Bioremediation' and 'Emerging Technologies in Microbial Bioremediation' at the

National Seminar on 'Microbial Bioremediation' held at St. Xavier's College of Arts and Science, Mapuca, Goa on 27<sup>th</sup> - 28<sup>th</sup> Feb 2019.



**Prof. Judith M. Braganca** delivered 2 lectures entitled 'Recent Advances in Haloarchaeal Research' and 'Microbial Polyhydroxyalkanoates as a Biomaterial in tissue engineering' at Refresher Course in Life Sciences for College/ University Teachers at the UGC-Human Resource Development Centre, Goa University on 21<sup>st</sup> Nov 2019.

**Prof. Judith M. Braganca** was invited to be the Judge for Oral Presentations at the National Conference on 'Frontiers in Biopesticides and Biofertilizers' organized by the Department of Microbiology of P.E.S.'s R.S.N. College of Arts and Science, Farmagudi, Ponda, Goa in collaboration with Directorate of Higher Education, Government of Goa on 6<sup>th</sup> Dec 2019.

**Dr. Kiran Vankayala**, Department of Chemistry, presented an invited talk in Newton-Bhabha Researcher links workshop titled Indo-UK 'New Electrochemical Technologies for Sustainable Fuels, Chemicals and Industrial Processes' workshop in Pune organized by IISER Pune and University of Glasgow during held from 2<sup>nd</sup> to 5<sup>th</sup> Dec 2019.

**Prof. Lakshmi Subramanian**, Department of Humanities and Social Sciences participated in the Festival Past Forward arranged by the Indian Foundation for the Arts, Bangalore held on 31<sup>st</sup> Oct to 1<sup>st</sup> Nov 2019.

**Prof. Lakshmi Subramanian** participated as a resource person and panel discussant on 'Challenges of teaching economic and Business History' at Indian Institute of Management, Ahmedabad on 30<sup>th</sup>

Aug 2019.

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**Prof. Lakshmi Subramanian** participated as a resource person and discussant on 'Archives and Diaspora: The Ocean as a Negative Archive' during the international workshop organized by the CSSSC and Trans-regional Academy, (Berlin) at Kolkata 26-28 November 2019.

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**Prof. Meenal Kowshik**, Department of Biological Sciences, delivered an invited talk on "Nanobiotechnology: Prospects and Applications in Medicine" at Krishna Institute of Medical Sciences, Karad, Maharashtra on 31st Aug 2019 as part of the invited lecture series of the Staff Scientific Society of KIMS Karad.

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**Prof. Meenal Kowshik** was also invited as a resource person during the Refresher Course in Life Sciences organized by UGC-Human Resource Development Centre, Goa University from 13<sup>th</sup> November to 6<sup>th</sup> December, 2019.

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**Dr. Mithun M. S.**, Department of Electrical and Electronics Engineering, delivered a talk on 'Online ppm monitoring of Power Transformers' to Transmission wing, Kerala State Electricity Board (KSEB) Ltd. on 24<sup>th</sup> Nov 2019.

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**Dr. Mohan Kumar Bera**, Department of Humanities and Social Sciences, presented a paper entitled 'Disaster Induced Migration in Indian Sundarban Islands' in the XIV International Conference on Public Policy and Management, held Indian Institute of Management Bangalore from 22<sup>nd</sup> to 24<sup>th</sup> August 2019.

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**Dr. Mohan Kumar Bera** presented a paper entitled 'Dimensions of Migration and livelihood activities to cope with disasters in the Indian Sundarban islands' in a conference organised by VikasAnvesh Foundation, Pune from 7<sup>th</sup> to 9<sup>th</sup> Nov 2019.

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**Dr. Nitin Sharma**, Department of Electrical and Electronics Engineering, delivered an expert talk on Acquisition and Tracking of GNSS Signals, in TEQIP-III sponsored Short Term Training Program on 'Global Navigation Satellite Systems (GNSS)' held at SVNIT Surat during 24<sup>th</sup> to 28<sup>th</sup> June 2019.

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**Dr. Nitin Sharma** delivered an invited talk on 'Software Defined GNSS Receiver', in ECE Department, Osmania University, Hyderabad on 9<sup>th</sup> Sept 2019.

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**Dr. Nitin Sharma** delivered an invited talk on 'Basics of Acquisition and Tracking of GNSS Signals' in NER-TU, held Osmania University, Hyderabad during 5-13 Sept 2019.

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**Prof. Rajesh Mehrotra**, Department of Biological Sciences, delivered an invited talk on ACGT Cis elements in Plant Gene expression: A comparative Genomics Perspective in the international conference on Genomics and Breeding for crop improvement (ICGB) organised by Department of Genetics and Plant breeding CCSU, Meerut from 4<sup>th</sup> to 6<sup>th</sup> December 2019.

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**Prof. Prasanta Kumar Das**, Department of Physics, delivered a talk entitled 'Non-linear electrodynamics: a model of inflationary universe' at the Australia-India Research and Development in Radio Astronomy (ARDRA) meeting held at Pune from 13<sup>th</sup> to 15<sup>th</sup> November 2019.



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**Prof. Rajesh Mehrotra**, Department of Biological Sciences, delivered an invited talk on ACGT Cis elements in Plant Gene expression: A comparative Genomics Perspective in the international conference on Genomics and Breeding for crop improvement (ICGB) organised by Department of Genetics and Plant breeding CCSU, Meerut from 4<sup>th</sup> to 6<sup>th</sup> December 2019.

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**Prof. Ranjan Dey**, Department of Chemistry, delivered an invited talk at the national conference on



New Dimensions in Chemistry and Chemistry Education and National Convention of Chemistry teachers (NCCT) in SGBA University, Amravati from 5<sup>th</sup> -7<sup>th</sup> December 2019.



**Dr. Solano Jose Savio Da Silva**, Department of Humanities and Social Sciences, conducted a workshop on Goa's distinctive spatial logic and its possibilities for another urban imagination at Goa College of Architecture, Panaji on 28<sup>th</sup> Sept 2019.

## faculty achievements

**Prof. Debasis Patnaik**, Department of Economics was felicitated by Kalinga Institute of Social Sciences at National Conference on 'Teaching Methodology for Tribal Students' for 'Alternative Pedagogical Directions in Social Science Teaching and Research' on 27<sup>th</sup> Sept 2019.



**Prof. Ranjan Dey**, Department of Chemistry, has been elected as an Associate Editor of **Physical Chemistry Chemical Physics** (PCCP), a Royal Society of Chemistry (RSC) journal.

## student achievements

A student-team of BITS Pilani, K K Birla Goa Campus--**Project PINAKA**--was declared winner at the recently concluded **Boeing University Innovation Leadership Development (BUILD)** program. Six winning teams, 3 student teams and 3 teams amongst early-stage start-ups were selected from 26 finalists. Project PINAKA is a team of motivated engineers mentored by Prof. Shibu Clement, Associate Professor, Dept. of Mechanical Engineering, working to introduce AI into Aviation. The team included **Saksham Agrawal, Kshitij Chhabra, Harshwardhan Shirodkar, Devanshu Wakhale, Srisreyas S, Harshwardhan Chandirasekar, Bharat Gupta, Prithvi Ramesh, Shambhavi Singh, and Devansh Gupta**.

The team innovated Solar Endurance UAV which is an artificially intelligent autopilot system which is being made to be deployed on electric fixed wing drone. An array of sensors are placed in different configurations, this data is fused together and processed by an AI system which then predicts wind patterns. The post processing system then uses this data to enter air streams to conserve energy. So far the team has made one prototype to collect test data.



The BUILD program is Boeing's unique aerospace innovation, leadership and talent nurturing program for university students, faculty and early-stage start-ups. The program invited ideas in the fields of aerospace, autonomous vehicles, advanced manufacturing, augmented and virtual reality, artificial intelligence and machine learning, materials, robotics and the Internet of Things. The incubator program was launched in collaboration with seven incubators--IIT Delhi, IIT Gandhinagar, IIT Bombay, IIT Madras, IISc Bangalore, T-Hub Hyderabad and KIIT Bhubanes-

war.

The BITS teams entered Boeing BUILD competition 4 months ago and since then Boeing has provided students rigorous training in understanding the entrepreneurial process along with Business modelling. Students passed through 5 stages of the competition where two rounds were interviews with the jury and two rounds were Regional and National level pitch competitions.

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**Team Mythoclast\_Sanguine\_DataStructures**, participated by **Sarthak Agarwal** (2016B4A70511G), **Mohit Kurani** (2016A7PS0076G) and **Divyanshu Shekhar** (2017A7PS0962G), qualified for **The 2019 ICPC Asia - West Continent Final Contest** to be held on 14-15 January, 2020. It is a multisite contest to be held in Tehran and Kolkata. The team secured a rank of 19 out of 2400 teams that had applied to the Amritapuri site.



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**Mr. Suraj Gupta, Mr. Kushal Rathi, Mr. Jash Patwa and Mr. Madhur Pol** participated as team **"Piezo-Boys"** in the **'Hult Prize on Campus,'** organized by **Hult International Business School**, conducted on 30<sup>th</sup> November 2019. The Hult Prize is an annual, year-long competition that crowd-sources ideas from MBA and college students to solve a pressing social issue such as food security, water access, energy, and education. The winner of the Hult Prize Challenge will receive a **\$1 Million USD seed funding from The Hult Prize in partnership with the United Nations**. Team **"Piezo-Boys"** is selected to **represent BITS Goa in the Hult Prize Regional Summit to be held in Boston, Massachusetts**. They developed a solution, **"PiezoRun"** to recover waste

heat energy from road transportation to tackle the everlasting energy problems.



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Goa Campus students **Mr. Lucky Kaul** and **Mr. Shiv Kumar** secured the National 2<sup>nd</sup> Runner-Up position in the prestigious **16<sup>th</sup> edition of NTPC Electron Quiz '19** held at Power Management Institute, Noida. The National Final was a close competition till the end with IIT Madras securing the top honour. BITS Pilani, Goa Campus qualified for the National Finals by emerging as one of the winners of the Western Regionals held at Mumbai. This edition of the Quiz saw 1,132 registrations across six cities with participation from 566 teams. 18 institutions contested in three semi-finals.

Mr. Saptarshi Roy and Mr. Prakash Tiwari, Directors of NTPC, awarded the prizes to the winners. The Electron Quiz initiated in the year 2004 and since then has connected with young minds intending to develop a healthy learning and development culture. The National Finals were also telecasted on ET Now.





**Mr. Abhijit Dey** (2017PHXF0423G), Research Scholar of the Department of Electrical and Electronics Engineering, participated in the **Young Professionals in Space-Dubai Conference 2019**, held on November 4-6, 2019 in Dubai, UAE. The conference was organized by IEEE & Muhammad Bin Rashid Space Centre (MBRSC). Young Professionals in Space (YPS) is an initiative to bring scientists, practitioners, engineers and leaders of the space industry and agencies together on a single platform to discuss recent research breakthroughs, technical advances, existing opportunities and emerging space technologies. The platform aims to provide the young generation with a holistic view of the science, engineering and space technology fields and provide access to professionals and experts from around the world.

Mr. Dey was among the 31 participants who were selected to receive a travel grant for the Young Professionals in Space Conference 2019 out of a total of 251 young scientists, practitioners, engineers and leaders from around the world.

During the conference, Abhijit met astronauts from UAE, researchers from academia and industry, shared research conducted at BITS-Pilani Goa and ongoing projects. He also participated in a workshop, 'Introduction to Amateur Radio and Satellite Observation' at the Conference.



**Ms. Awani Khodkumbhe** (2016A8TS0331G), a final year B.E. Electronics and Instrumentation student ranked in the top 20 among the Electrical students all over the world, in the **IEEE SSCS Rising Star 2020**. The ceremony will take place during the premier conference of IEEE SSCS - ISSCC 2020 in San Francisco, California in February 2020. She was mentored

by Prof. Bram Nauta, Prof. A. J. Annema, University of Twente and Prof. Abhijit Pethe, BITS Pilani, K K Birla Goa Campus.

**Ms. Oindrila Ghosh** (2018A1PS0080G) and **Ms. Vidhi Rai** (2018B3A40713G) won the **British Parliamentary Debate Tournament (Novice category)** organised by Symbiosis Law School, Pune between the 23<sup>rd</sup> and 25<sup>th</sup> August, 2019.

**Mr. Ruturaj Atul Godse**, a first year student of BITS Pilani, K K Birla Goa Campus, has been selected for the prestigious **Aditya Birla Scholarships 2019**. The scholarship amount of Rupees One Lakh per year is given to the selected student to cover the fees. Mr. Godse, who stood second in this year's BITS entrance exam—BITSAT, is pursuing BE degree in Computer Science at Goa Campus. Two students of BITS Pilani, Pilani Campus, have also been selected for this scholarship this year.



Every year 40 students from top engineering, management and law colleges of India are selected for this scholarship through a very rigorous selection process. Only top 20 students, in terms of their entrance exam ranking, from BITS Pilani, XLRI, FMS, and selected IIMs, IITs, and law colleges are eligible to apply for this prestigious scholarship which is valid for the full course, subject to ongoing performance. Around 440 students are eligible to apply for this scholarship. As part of the selection process, students' overall academic and co-curricular achievements are assessed, essays written by these students are reviewed and interviews are conducted by eminent panel of luminaries and academicians. Selected students are closely monitored for the renewal of their scholarship every year.

Instituted in 1999, the Aditya Birla Scholarships provide an excellent opportunity for scholars to learn through networking with the country's first truly global conglomerate.



# student events

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## TechExpo'19

The TechExpo'19 was aimed to mark the presence of the projects carried out in the campus by displaying them to the people outside of the campus. It was the first major collaboration between CTE (Center for Technical Education), and the tech clubs of the campus like SEDS Celestia, Electronics and Robotics Club, Aerodynamics club and SAE BITS Goa. The event was coordinated by Chinmay Gokhale and Jay Kamat under the guidance of our Director, Professor G. Raghurama and the faculty coordinator, Professor Bharat M. Deshpande.



The team consisted of 7 third year, 25 second year and 30 first year students. A team of 5 students were involved in contacting and inviting schools for participation. Around 210 students of class IX to class XII from 10 different schools across Goa including Mushtifund High School, K.B Hedgewar High School, Bhatkar Model High School etc. participated



in the Expo. The financial responsibility of the event was undertaken by CTE.

The event included a small introduction by the club coordinators followed by exhibitions of around 19 projects, with members from every project explaining the details. The school students were divided into groups of 7 and every group was assigned a mentor who guided them through the event. The event was covered by various media houses like The Navhind Times, The Goan, Lokmat, Business Goa and Doordarshan. This has made a considerable impact on the awareness of the projects in the Goan society.



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## NIRMAAN ACTIVITIES

### 1. SESSION ON FEMALE HYGIENE AND MENSTRUAL CUPS

NIRMAAN-Goa Chapter conducted a session to spread awareness about the importance of menstrual hygiene. The session was open to all students and faculty. It was organized in collaboration with the Upasana Society. Miss Dipti Kashalkar, the speaker, educated the audience on the importance of menstrual hygiene and the use of menstrual cups.

### 2. FIRST-AID AWARENESS SESSION

On the occasion of Children's Day, NIRMAAN-Goa Chapter conducted an awareness session on First Aid and its implications. This was conducted at SYSM High School in Vasco Da Gama. The children were taught about the first aid and its importance

through interactive exercises. This event saw a large number of kids in the session and not surprisingly, it was also attended by many of the parents.

### **3. BLOOD DONATION AND EYE-CHECK UP CAMP**

In the month of August, NIRMAAN organized its first health camp for blood donation. Over 150 people attended the camp and donated blood for the needy. It was conducted at the Student Activity Centre in collaboration with Goa Medical College. On the 17th of November, Nirmaan-Goa Chapter in association with Eye Fye held a free eye check-up camp. This camp was held at SharadaMandir in Zari and more than 75 adults and children came for the check-up.

### **4. MAHINDRA OPEN DRIVE COLLABORATION**

Be it Women Empowerment or Better Employment, NIRMAAN-Goa Chapter has its consequences everywhere. Recently our NGO partnered with Mahindra Open Drive to support over 100 women. The event was a fundraiser for rural women and it involved five levels of donations based on the amount. The event happened on the 8th & 9th of November.

### **5. JOY OF GIVING WEEK**

With the slogan of “A Small Spark Lifts The Dark”, NIRMAAN-Goa Chapter was back with another edition of the Joy OF Giving Week. The week consisted of a plethora of events ranging from clean up drives to fun-filled activities which were conducted both inside and outside the campus. s. These events witnessed participation from all age groups. From children, students, faculty members, supporting staff, adults to the elderly, this week had something for everyone.

### **7. TEACH FOR A DAY**

Teach For A Day was an event for thefreshers to make them understand a part of the work that NIRMAAN does throughout the year. Conducted for over 5 days, it was a chance to become someone's tutor for a day and teach the children of Zari and Lamani. The first edition was conducted in August. The second edition was conducted on the occasion of Children's Day, 14th November. Combined the event

witnessed a participation of over 200+ volunteers.

### **8. STREET PLAY**

In today's competitive college environment, an individual's mental health often takes a backseat in the list of priorities. To start a conversation about this issue, NIRMAAN conducted a street play in collaboration with M-Power on the topic of Mental Health Awareness among college students. Performed in front of an audience of 300+ students the play encouraged them to take action for mental well-being and health.

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## **WAVES 2019**

Just like every year, the students of BITS Goa spent months waiting and preparing for the three sleepless and yet, magic filled days in November when the talented students of various colleges from all over the country come over to celebrate the annual cultural fest - Waves. With a footfall of over 5,000 and performances by some of the greatest artists of the country and abroad alike, Waves is indeed a spectacle to look forward to every year. The 2019 edition of the fest which was no exception and was organised from the 1<sup>st</sup> to the 3<sup>rd</sup> of November, offered a plethora of events, had a star-studded list of guests over and welcomed budding talents from all corners of the country. The theme for the fest was “En Voyage” and it promised everyone 72 hours of fun and frolic that would leave everyone wanting for more. With incredibly energetic Waves Nights, mouth-watering food and a long list of fun events, Waves 2019 was a humongous success.

Some of the major attractions of Waves came in the form of the National level events. The regionals for events like Searock, slam poetry competitions InVerse (English) and Irshaad (Hindi) and the comedy event Show Me the Funny, were organised over a span of 5 months prior to the fest, covering the major cities of India. A gruelling, competitive, and yet fun filled series of regional events found conclusion at the national finals organised in Goa during Waves 2019.



# WALES<sup>19</sup>

En Voyage





That wasn't all. Apart from the national level competitions, Waves'19 had various other events to offer in the form of mini - fests: Beau Vista for those who have a passion for designing, Florence for those who have an inclination towards the performing arts, Carpe Dictum for those who enjoy literary events and Film and Photography for those who have a knack for the digital arts. A multitude of other events including Fashion Parade, Strangely Familiar, Contention (British Parliamentary Debate Tournament) and Lex Omnia (Moot Court), were organised to cater to all kinds of cultural interests.

The three days of the fest were nothing short of a delightful carnival on the deck of a cruise ship. There was great music that made everyone shake a leg once in a while, food trucks to satisfy everyone's taste buds and if all that was not enough, one could head over to the Adventure Zone to have some fun between the events! Various on spot events were also organised to make sure every moment spent during Waves'19 was memorable for all.

The Waves Nights are simply impossible to miss and the same of Waves 2019 were no exceptions. They fired off with an Orientation on Day 0 with remarkable performances by the various performing clubs of BITS Goa, followed by an Indie Night on Day 1. The energetic performance by The Local Train left everyone wanting for more. Day 2 showcased a Hindi Night, where people left craving for Bollywood performances by the end of the fest. Amit Trivedi took over the stage and mesmerised everyone with his songs. Day 3 concluded the fest with DJ Night. Van Voon opened for the renowned DJ Tony Junior for the Night. Both the artists left everyone exhausted after hours of dancing to their tunes.

Waves 2019 definitely lived up to the hype. It offered events that catered to all kinds of interests, music to match everyone's tastes and food to go along with all of that. By the end of the fest, several talented college students from across the country left Goa with stories of some of the most enthralling experiences to tell everyone about and of course, some incredible cash prizes to complement that. The students of BITS Goa were left with the memories of the work-loaded and yet, fun-filled days of the fest

and some even with the incredible experiences of competing and winning against the greatest budding talents from all corners of the country.

By:

Department of Journalism and Media Affairs  
(DoJMA)

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## CEL PROGRAMMES

Center for Entrepreneurial Leadership (CEL), BITS Goa, is a society of eminence at BITS Pilani, Goa Campus, bridging Entrepreneurship and Innovation, which was founded by BITSAA with its presence at all four campuses. The Goa chapter is led by Mr. Yash Agarwal with over 100 members and advisors. With a common endeavour of improving the startup culture on campus, we, at CEL, host numerous events, lectures and talks throughout the year, nurture and support startups through exclusive resources and networking ([www.celbitsgoa.in](http://www.celbitsgoa.in)).

Let's have a look at what we do at CEL:

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### **The ACT Conference**

The ACT conference, a flagship event of the CEL, was graced by eminent CEOs and Founders. The event started with an introductory keynote by the Director of the campus, Prof. Raghurama G. who talked about the entrepreneurship culture of BITS, some programmes and facilities available at CEL. The main conference began with an interactive and lively session by Ms. Radhika Gupta, CEO of Edelweiss AMC, who talked about her journey of being born with a broken neck to reaching Wharton, becoming a McKinsey consultant, founding an asset management startup and becoming the CEO of one of the largest growing firms of India. Seasoned Actress, Producer and an entrepreneur, Ms. Vishakha Singh, further elevated the auditorium with her awe-inspiring presence. She gave the students some insights on the entertainment industry, acting and producing experiences and further talked about the challenges faced by celebrity entrepreneurs. The much-awaited

speaker, Mr. Shashank Murali, the founder and CEO of Tapchief, was heavily cheered by the audience when he talked about his experiences of founding a startup and also becoming the only BITSian to have sold a startup while in college. He also talked about his current startup and how to get backed by marquee investors. A “Women in Entrepreneurship” panel and Q&A session was organised which highlighted the challenges and opportunities faced by women in corporate life. The final and most illustrious speaker, Mr. Tarun Katial, CEO of Zee5, talked about his experience in conceptualizing KBC, Fear factor, Indian Idol and how he founded BIG FM and headed Sony and Star network to leave a mark in the entertainment industry. The conference concluded with a vote of thanks by the president of CEL BITS Goa, Mr. Yash Agarwal in which he expressed his enthusiasm to such a successful event and thanked all the industrial leaders who were present and delivered their invaluable knowledge and gave

many astonishing facts about the entertainment and financial industry along with startup culture.

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## COALESCENCE' 19

Coalescence' 19, the annual E-summit of BITS Pilani, K K Birla Goa Campus, concluded after three days which filled with exemplary ideas and innovation. With a unique set of start-up plans and enthusiastic attendees, the event proved as a great platform for the start-ups of the country. The 2019 edition of Coalescence was organised by the Center for Entrepreneurial Leadership (CEL) BITS Goa, from 6<sup>th</sup> to 8<sup>th</sup> September, 2019, and had speakers from a wide range of fields who addressed the students and the three events helped the participants in achieving their ultimate goal of having a Startup.



## Pitchers



Pitchers was a pre-Coalescence event in which students had to participate in a team of three or four. The event was conducted on the 19<sup>th</sup> of August and witnessed the participation of over 200 people. This event's name was inspired by a popular web series known as 'Pitchers' which portrayed the struggle of entrepreneurs in raising funds for their startup. This event was conducted in three stages: first-round was a Quiz, the second, a crowdfunding round and the final one, where each team was allotted a startup and they had to pitch their ideas to students acting as VCs and investors. If a team was successful in making that startup a unicorn then they could take another startup and likewise, they could take up to 3 startups and the team which was able to get maximum funding was declared the winner.

## Wolf of WallStreet

This event was conducted by the Wallstreet club of BITS Pilani, Goa. The event was based on stock market simulation which helped the students to learn about stock markets. The event was conducted on both 6 and 7 September, 2019.

## Breakaway

The yearly startup competition, Breakaway, saw immense participation this year and was conducted on the 7th of September. The events saw a variety of startups ranging from tech to social development,

which was judged by CIIE faculty in-charge, Dr. RajorshiSen Gupta and Dr. Anirban Roy. Each of the teams were given 5 minutes for their elevator pitch. After a wonderful round of pitching, HuloqChatbots won the competition, followed by Augvirtz and Perspectl with second and third position respectively.

## INITIATIVES

### Lecture Series and Sessions on Entrepreneurship

In order to inculcate the spirit of entrepreneurship and teach people about various aspects of Startups, CEL started an exclusive lecture series, "Entrepreneurship 101" where various topics like founding a startup, Networking via LinkedIn, Private Equity, Venture Capitalists, Funding and Valuations were discussed. These will be further accompanied by brainstorming sessions in domains like E-commerce, FinTech, EdTech, Social entrepreneurship.



### Events and Competitions

CEL hosted events and competitions like Business Model Canvas, Novatia at Quark, CTE Tech Weekend, and on various other occasions such as BITSAA Global Meet (BGM). CEL hosted two events at BGM 2020 viz. BITSpark Entrepreneur-Mentor Speed-dating and BITSpark H2 2019 Cohort Pitches. Many competitions that we host and conduct go a long way in helping the participants achieve their ultimate goal of becoming a successful entrepreneur.

### Ignition

An exclusive two-month summer entrepreneurship



programme, IGNITION, offers the chance to scale and validate your ideas and convert them into reality. Providing the participants with mentors, resources and essential skills like Ideations, Management, Product Development, it is a perfect way to begin one's entrepreneurial career and make one's summer productive. The programme had 12 ideation stage startups, with total participants of over 83 people.

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## Developments

The official website of CEL ([www.celbitsgoa.in](http://www.celbitsgoa.in)) was released in July. In order to guide and mentor startups and help entrepreneurs with networking, CEL is creating an Alumni Advisory board with Founders and VCs. Further, Ideation groups have been formed to help members discuss ideas and find potential co-founders. "Summer in a startup" to help members grab an internship at a startup and potential opportunities through networks were also initiated.

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## BITS Goa alumnus funding stories

Here are major funding news of the goa campus startups, compiled by CEL:

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### Juno raised \$3 million

Mr. Varun Deshpande's (2012 graduate) newly launched lending blockchain-based startup "Juno" ([bankonjuno.com](http://bankonjuno.com)) raised \$3 Million (21 crores) as seed fund led by Polychain Capital, Sequoia Capital's Surge Program, Dragonfly Capital, ConsenSys and others. Mr. Deshpande, a serial entrepreneur from Goa campus, has previously founded top talent.in, BeeWise and Nuo. Previously launched Nuo protocol in 2018. Juno is a decentralized debt marketplace that connects lenders and borrowers from across the world using smart contracts. Juno is a neo-banking app built on Nuo protocol that provides a high yield account for savings.

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### Postman raised \$50 million:

Mr. Abhinav Asthana's (2010 batch) co-founded startup Postman, raised \$50 Million in series B funding in June, 2017, led by Charles River Ventures(CRV),

with the involvement of Nexus Venture Partners. Postman helps developers programme their software by offering API development tool-kits in a single platform. Postman has grown significantly, with more than 7 million users and 300,000 companies including Microsoft, Twitter, BestBuy, AMC Theaters, Paypal, Shopify, BigCommerce, and DocuSign today use Postman's platform.

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### Spenny raised its pre-seed fund:

Mr. Rathin Shah(2015 graduate) and ex-CEL President of BITS Goa, has received pre-seed funding of \$105K from a Singapore based Incubator, Entrepreneur First for his FinTech startup, Spenny. Spenny is smart savings and investing app that invests the spare change in high yield funds.

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### Mobile premier league (MPL) raised \$35.5 Million:

Mr. Subh Malhotra's (2009 batch) in a Series is a funding round led by Sequoia India, Times Internet, and GoVentures. Other investors including RTP Global, BEENEXT, Base Ventures, and Venture Highway participated in the round. Mobile Premier League is a mobile application for users to play mobile games with real money. MPL has a much wider range of games to choose from, than competitors such as Junglee Games or Dream11.

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### Locus.sh raised \$22 Million:

Mr. NishithRastogi's (2012 batch) Locus secured \$22 million in a Series B round of funding led by Falcon Edge Capital and Tiger Global Management, with participation from existing investors Exfinity Venture Partners and Blume Ventures. Locus is an advanced supply chain optimisation company that uses proprietary algorithms and deep learning to provide route optimisation, real-time tracking, insights and analytics, dynamic sales journey plans, efficient warehouse management and vehicle allocation and utilisation.

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### FirstCheque.vc raised it's early-stage fund:

Led by Kushal Bhagia (2012 batch) as CEO, First-Cheque is a new seed investment and acceleration program that invests Rs. 10–20 Lakhs at the very early stages, when founders are raising between 25 Lakhs to 2 Crore from multiple angels through a network of experienced founders and product builders, our Venture Partners. Mr. Kushal has previously founded, NayiDisha studios while at college.

## Faculty members appointment on national/ international advisory committees/ acted as reviewers for books/ journals of national/ international repute

Faculty Name	Department of	Name of Advisory Committee / Editorial Board
Dr. Ashish Chittora	EEE	Microwave and Optical Technology Letters Transactions on Microwave Theory and Techniques
Prof. Debasis Patnaik	Economics	Rajasthan Development Association, Jaipur
Dr. Gauranga Charan Samanta	Mathematics	Reviewer of the following journals: 1. Classical and Quantum Gravity, 2. The European Physical Journal C
Prof. Judith M. Braganca	Biological Sciences	Editorial Board of the journal <i>Frontiers in Microbiology</i> as a Review Editor for Extreme Microbiology
Prof. Lakshmi Subramanian	Humanities and Social Sciences	New projects under the India Foundation for the Arts, Bangalore
Prof. Rajesh Mehrotra	Biological Sciences	Reviewed three articles – PLOS ONE Reviewed an article - Nature Scientific Reports and Reviewed an article - Journal of Genetics
Prof. RanjanDey	Chemistry	Editorial Board - Physical Chemistry Chemical Physics(PCCP)
Dr. Richa Singhal	Chemical Engineering	Chemical Engineering Science, ACS Applied Materials & Interfaces
Dr. SayantaniSarkar	Humanities and Social Sciences	Editorial Board Member for Journals, 2019-2021 REGIONAL SCIENCE ASSOCIATION, INDIA(RSAi) and reviewed article for Cities (journal)
Dr. Soumyadip Bandyopadhyay	CS&IS	American Journal of Software Engineering and Application IEEE/CAA Journal of AutomaticaSinica
Dr. IndraniTalukdar	Biological Sciences	Reviewed an article for the journal "Analytical Biochemistry" and reviewed two articles for the journal "Nature Scientific Reports".
Prof. MeenalKowshik	Biological Sciences	Reviewed for Journals: Applied Microbiology and Biotechnology; Journal of Photochemistry and Photobiology A: Chemistry; ACS Omega; Environmental Science and Pollution Research; Microbiology Open; Environmental Pollution; Research on Chemical Intermediates; International Journal of Biomedicine.

# introducing new faculty

Name	Department	Designation	Area of Research Interest
Dr. Pramila	EEE	Assistant Professor, Gr-II	Biosensors Electrical Engineering
Dr. Rakesh R. Warier	EEE	Assistant Professor, Gr-I	Non-linear Systems, Control Systems
Dr. Noel Prashant Ratchagar	EEE	Assistant Professor, Gr-II	Microsystems, Semi-conductor Fabrication Technology, Electronic Devices
Dr. Kanchan Manna	CS & IS	Assistant Professor, Gr-I	High Performance Computing & Embedded Systems
Dr. Anurag Nishad	EEE	Assistant Professor, Gr-II	Signal Processing, Wavelets, Time-Frequency Analysis, Machine Learning

## introducing new Sr. Non-teaching Staff

Name	Department	Designation
Mr. Ajay Kumar Agarwal	Accounts & Finance	Head - Accounts & Finance

### Students of BITS Pilani, Goa Campus, Plant 80 Fruit-bearing and Medicinal Trees

The students of 2019 batch of various graduate and post graduate degrees planted 80 saplings of fruit-bearing and medicinal trees on campus. In a massive plantation drive to mark the admission of new batch, saplings of Jackfruit, Tamarind, Cashew, Guava, Jamun, BelPatra, Karanj, Terminalis Arjuna, Cassia fistula and Rosewood were planted by the students along with their parents. Plantation drive was held in the presence of Prof. Raghurama G., Director; Prof. Ramesha C K, Associate Dean of Students' Welfare Division; Prof. Angshuman Sarkar, Chief Warden; Mr. A K Patil, Estate Manager; Mr. Imran Sheikh, Sr. Technician and other senior teaching and non-teaching staff of BITS Pilani, Goa Campus.

Plantation is done in areas around the hostels which are occupied by freshers. This way, the students will be able to nurture these saplings during the four to five years period of their stay in the campus. These saplings have added a lot of value to the already rich flora and fauna of the campus.



# editorial board

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## Cover Picture:

BITS student explaining his project by showing a drone to the visiting school students and their teacher during the **TechExpo '19** held on 15th September 2019.

# mediaspeak

semester I notes 2019-20 **bitscan, BITS** Pilani K K Birla Goa Campus