We are delighted to present to you the 17th Issue of BITSCAN magazine, which includes events and achievements of our Campus community during the second semester of academic year 2017-18. In this semester too exciting events including conferences, seminars, workshops, expert lectures, annual festivals, etc. unfolded, which directly or indirectly contributed in enriching the experience of our BITS community. The semester began with return of our students after a short winter vacation.

This year we hosted the first two-week Engineering Ethics Programme organized for 17 students of Texas A&M University, USA. The students reached Goa well in time to welcome the New Year. Considering the positive feedback by faculty and students of the Texas A&M University, second batch of students is expected to participate in this programme towards the end of this year. The first visit also culminated into a MoU between BITS Pilani and Texas A&M University for development and continuation of this programme. We also signed MoUs with Politecnico di Milano University, Italy for development of Academic Exchange and Teaching Co-operation between the universities; and also with Society of Asian Rotomoulders (SIA1R) for the bilateral Cooperation for enhancing the R&D capabilities and knowledge in the areas of Rotational Moulding.

Nine research projects worth around Rs. 2.70 crores were sanctioned for various departments by government and non-government agencies during this semester. In addition to fulfilling teaching and research assignments, many of our faculty members were 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.

Around 23 lectures were delivered by distinguished speakers from India and abroad at our campus during this semester. Besides a six-week workshop on Engineering-Economics-Entrepreneurship held in collaboration with Fulbright Educational Exchange Program, seven international programmes were organized and hosted by different departments.

Our students continue to win accolades in India as well as abroad and make us proud. BITS Goa Campuses teams which were in news during this semester include a team of students that ranked amongst top 12 teams to compete in International Quant Championship at Singapore; the team GreaseMonkeys secured 32nd rank at the annual SAEINDIA BAJA competition; Project Sand Submarine’s team topped in Central Zone Round of DRDO Robotics & Unmanned Systems Exposition; and Project Apeiro: India’s first student-led Micro-satellite: launched from TIFR Balloon Facility, ECIL, Hyderabad.

Individual achievements of our students are also equally commendable and notable. Ms. Dhavala Suri, a Physics PhD student, was appointed as Postdoctoral Associate at Massachusetts Institute of Technology (MIT); Mr. Aman Dalal, a Mechanical Engineering graduate, was awarded the Holland Scholarship from the Dutch Ministry of Education and Delft Faculty Scholarship to pursue MSc in Integrated Product Design at TU Delft, The Netherlands; Mr. Arunav Konwar won TechCrunch Hackathon held at VivaTech in Paris, France. Besides these, several students were awarded fellowships and summer scholarships to undertake research in world renowned Indian and foreign institutions.

In addition to their academic accomplishments, our students are very proactive in serving the community around our campus through NIRMAAN – a student lead volunteer organisation. Along with the existing events of Udaan and street-play, Nirmaan came up with numerous new ventures like a school paint project, an old-age home improvement project, health awareness sessions, self-defense classes, etc.

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

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**First Engineering Ethics Programme by Texas A&M University, USA**

BITS Pilani, K K Birla Goa campus, hosted the first two-week Engineering Ethics Programme organized for 17 students of Texas A&M University, USA. The professors of Texas A&M University, Prof. Paul Mario Koola and Prof. John Curry O’Day, jointly conducted this course for their students at BITS Pilani, Goa Campus, from 28th Dec 2017 to 15th Jan 2018. The programme was jointly coordinated by Prof. N. N. Ghosh (Dept. of Chemistry), Associate Dean, International Programmes and Collaboration Division (IPCD), and Prof. M. Srikanth (Dept. of Biological Sciences) the former Associate Dean, IPCD.

The aim of this course was to educate students in Engineering Ethics in a new cultural environment augmenting their social and global skill sets to compete in a tightly integrated world. The topics covered in this course are the development of techniques of moral analysis and their application to ethical problems encountered by engineers, such as professional employee rights and whistle blowing; environmental issues; ethical aspects of safety, risk and liability, and public welfare; conflicts of interest; emphasis on developing the capacity for independent ethical analysis of real and hypothetical cases. Apart from intense classroom teaching, the visiting students were exposed to the culture of Goa by visiting prominent places in Goa.

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**73rd IFIP Working Group 10.4 on Dependable Computing and Fault Tolerance**

73rd Meeting of the IFIP WG 10.4 was held from 11th to 15th January 2018 with a special focus on "Emerging Challenges for Resilience of Cloud-based Operations: when privacy meets availability." Over the last decade, enterprises of all stripes have been migrating their workloads of all levels of criticality to cloud environments. Thanks to the convenient, on-demand, pay-as-you-go resource allocation model, and the ease of provisioning and deploying of machines and software. A critical success factor for cloud is to provide resiliency and performance, both of the user workloads and that of the cloud platform itself. As the opportunities for reaching higher levels of resiliency using cloud platforms has grown dramatically (e.g., zero downtime deployments, cloud bursting, automatic cross geo scaling for disaster tolerance), so have the challenges. These resiliency challenges are further compounded by the need for privacy-preserving cloud data access and confidentiality- assured cloud data operations, as mandated by regulations in many countries and several sectors. The objectives of this workshop were to discuss current practices in cloud resiliency, identify new challenges in responding to the above constraints and needs, and to propose new methods and metrics to address those challenges. This meeting came to India after a gap of more than 30 years and was attended by nearly 30 participants from Europe, USA and Japan. The workshop was organized by Prof. Paulo Esteves-Verissimo (University of Luxembourg, Luxembourg) and Prof. Santonu Sarkar (BITS Pilani, Goa Campus). More details may be found in http://www.bits-pilani.ac.in/uploads/Goa_CSI5/ workshopIFIP2018.pdf.
The “International Conference on Reproductive Biology and Comparative Endocrinology” (ICRBPCE 2018) was held at BITS Pilani, K K Birla Goa Campus, from 20th to 22nd January, 2018. It was convened and organized by Prof. Arnab Banerjee, Dept. of Biological Sciences, BITS Pilani, K K Birla Goa Campus. Prof. Ramaballav Roy, Dept. of Zoology, Goa University, was the co-convenor for the conference. In all, there were 93 presentations made during the conference, with 11 plenary lectures and 25 invited lectures, 18 oral and 38 poster presentations, wherein the participants broadly discussed their research. Prof. Bruce D Murphy, University of Montreal, Canada, delivered the keynote lecture titled ‘Regulation of Embryonic Diapause’. The topics such as embryo development, metabolic disorders, endocrine disruptors, reproductive biology to in vitro fertilization (IVF) were discussed.

Some of the eminent speakers for the conference were Prof. Asgi Fazleabas, Michigan State University, USA; Prof. Chandanda Haldar, Banaras Hindu University, Varanasi; Dr. K Thangaraj, Centre for Cellular & Molecular Biology, Hyderabad; Dr. Pradeep Kumar Rajiv and Dr. Malini Laloriya, Gandhi Hindu University, Varanasi; Dr. Amitabh Krishna, Banaras Hindu University, Thiruvananthapuram and Pradeep Kumar Rajiv and Dr. Malini Laloriya, Gandhi Hindu University, Varanasi. A cultural art performance was arranged on the second day.

The First Symposium on ‘Sustainable Technologies for Food Processing and Preservation’

Re-FOOD is an international partnership for research and education in energy efficient resource utilization in FOOD value chains between Norway and India. The first Symposium on ‘Sustainable Technologies for Food Processing and Preservation’ was held on 8th – 9th Feb 2018 at BITS Pilani, Goa Campus. The Symposium was jointly organized by SINTEF Ocean, BITS Pilani and IIT Khargpur and funded by the INTPART – programme subsidiary of The Research Council of Norway.

Dr. Ravishanker C.N. – Director, Central Institute of Fisheries Technology, Cochin; Prof. Trygve Eikevik – Department of Energy and Process Engineering NTNU, Norway; and Prof. R. Saravanan – Refrigeration and Air Conditioning Division Anna University, Chennai delivered the keynote addresses. Such annual symposiums will be used to disseminate the research, innovation and education results achieved by Re-FOOD as well as an opportunity to create new contacts to strengthen the cooperation on bio-economy.

International Conference on Economics and Finance (ICEF-2018)

The objective of the Congress was to provide an encouraging environment for researchers across the globe, to interact and learn from one another, and create a network that will be attractive and inspiring for young students and scholars. It further aimed to strengthen the community of regional scientists and achieve a better understanding of our future needs.

Her Excellency, Dr. Smt. Mridula Sinha, Governor of Goa, inaugurated the Congress in the presence of the Director of BITS Pilani, Goa Campus, Prof. G. Raghurama; Dr. P. K. Pujari, Co-Chairman of SESTEC-2018 and Associate Director, RC & I group, BARC; conveners and secretory of SESTEC-2018 were also present for the inaugural function. Dr. Mainak Banerjee, Co-convenor of SESTEC 2018 and faculty at BITS Pilani, Goa Campus, welcomed the dignitaries and delegates of the symposium on behalf of the organisers. The Chief Guest and the other dignitaries launched a book of abstracts of scientific papers to be presented at the symposium during the inaugural function.

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Eighth DAE-BRNS biennial symposium SESTEC 2018

Bhabha Atomic Research Centre (BARC) in association with Department of Chemistry, BITS Pilani, K K Birla Goa Campus, and the Association of Separation Scientists and Technologists (ASSET) organized the eighth edition of DAE-BRNS biennial symposium on “Emerging Trends in Separation Science and Technology (SESTEC-2018)” at BITS Pilani, Goa Campus, from 23rd to 26th May 2018.

The four-day symposium attended by about 250 delegates from India and abroad, was inaugurated by Prof. P R Vasudeva Rao, Vice Chancellor, Homi Bhabha National Institute, Mumbai. The Director of BITS Pilani, Goa Campus, Prof. G. Raghurama; Dr. P. K. Pujari, Co-Chairman of SESTEC-2018 and Associate Director, RC & I group, BARC; conveners and secretory of SESTEC-2018 were also present for the inaugural function. Dr. Mainak Banerjee, Co-convenor of SESTEC 2018 and faculty at BITS Pilani, Goa Campus, welcomed the dignitaries and delegates of the symposium on behalf of the organisers. The Chief Guest and the other dignitaries launched a book of abstracts of scientific papers to be presented at the symposium during the inaugural function.

12th World Congress on Regional Science

BITS Pilani, K K Birla Goa Campus, hosted and organized the 12th World Congress of the Regional Science Association International in collaboration with Town and Country Planning Department of Goa and the Regional Science Association (RSA), India, from 29th May to 1st June, 2018. The Congress, attended by over 500 delegates from India and abroad, was held for the first time in India at Goa. The objective of the Congress was to provide an encouraging environment for researchers across the globe, to interact and learn from one another, and create a network that will be attractive and inspiring for young students and scholars. It further aimed to strengthen the community of regional scientists and achieve a better understanding of our future needs.

Her Excellency, Dr. Smt. Mridula Sinha, Governor of Goa, inaugurated the Congress in the presence of the Director of BITS Pilani, Goa Campus, Prof. G. Raghurama, Prof. Budy Resosudarmo (President of RSAI), Guest of Honor, Prof. Bibek Debroy (Chief Economic Advisor to the Prime Minister of India and Member, NITI Aayog) and the venerable Mr. C R Pathak. In his introductory remarks, Dr. Debasis Patnaik (Dept. of Economics) spoke of the need for integration of disciplines because of regional needs and aspirations after providing a brief outline of the evolutionary progress of the Cosmos and the Humans and the inevitable pitfalls and mistakes that the world is passing through. Prof. Sumona Banerjee, President of RSA-India, proposed the vote of thanks at the inaugural function.

The Theme of the Conference Spatial Systems: Social Integration, Regional Development and Sustainability was demonstrably brought to light.
International Conference on Discrete Mathematics and its Applications to Network Science

Department of Mathematics organized the conference International Conference on Discrete Mathematics and its Applications to Network Science (ICDMANS 2018) during July 7-10, 2018. The purpose of this conference was to bring together experts and young researchers to provide a platform for discussing recent advances in the relevant research areas and presentation of research papers by young scientists. Apart from invited talks by leading experts in the field and presentation of research papers by other delegates, informal interactive sessions have also been arranged to give the opportunities for young researchers to interact with the leading experts in the field. A 100 delegates from India and other countries participated in the conference. Conference convener, Prof. Tarkeshwar Singh, was assisted by Dr. Anil Kumar and his other colleagues in organising this conference. Conference was inaugurated by eminent speakers like Professors Peter Nijkamp, Andre Torre, Lee Yeung, Manfred Fisher, Yoshiro Higano, Xie Ling, Zeynep Elburz, Paulo Casaca, Janet Kohlhase (USA), Andres Rodriguez Pose (LSE), Satish Kumar, Hiroyuki Shibusawa, and others. The Valedictory Address was delivered by Prof. Amitab Mitra, Regional Advisor on Poverty-EDID, UN ESCWA, India.

First ever students’ conference ‘SWAYAM 2018’

International conference Symposium and Workshop for Analytical Youth on Applied Mechanics (SWAYAM-2018) was successfully organized by the Department of Mechanical Engineering, during 4th to 6th July, 2018. Around 150 research papers were presented in the area of solid mechanics, fluid mechanics, biomechanics and material science. SWAYAM-2018 received encouraging & positive feedback from the participants, especially from the faculty members/invited speakers from IISC Bangalore, IIT Madras, IIT Ropar, IIT Delhi, NIT Allahabad and scientists from DRDO.

The chief Guest, Prof. Sarit K. Das, Professor of Mechanical Engineering at IIT Madras, currently Director at IIT Ropar, delivered a plenary lecture on “Augmented thermophysical and electromagnetic transport properties of graphene nanosuspensions.” Eminent scientists and academicians such as Prof. B.P. Patel (IIT Delhi), Prof. Ananth Ramasesamy (IISc Bangalore), Dr. V Narayananamurthy (Research Centre IIMR, Hyderabad), Prof. Nataranjan (IIT Madras), Prof. Anupam Dewan (IIT Delhi), and Prof. S. Venkatesan (IIT Madras) delivered Keynote Lectures during the three-day conference.

Workshop on Engineering-Economics-Entrepreneurship

BITS Pilani, K K Birla Goa Campus, in collaboration with Fulbright Educational Exchange Program organized a six-week workshop on Engineering-Economics-Entrepreneurship from 28th May to 6th July, 2018 at BITS Pilani, Goa Campus. The workshop was conducted and mentored by Fulbright Specialist (FS) Dr. Ashok Kumar Ghosh, Ph.D., P.E., from the University of New Mexico, USA, and other expert faculty members from BITS Pilani. Over 25 students and faculty members attended the seminar to evaluate two business cases.

Dr. Gauri Achari, a Post-Doc at the Dept. of Biological Sciences, presented her business plan on “Bio-Fertilizer Production” that addressed the ill effects of Chemical Fertilizer overuse and Popular Pesticides.

The second presenter, Mr. Anant Yadav, a Research Scholar at the Dept. of Biological Sciences, presented a business plan for the production of Ethanol and Bio-Gas using Food and other wastes. His process involves pre-digestion of food waste that will produce both biogas and ethanol simultaneously. Ethanol produced will have very high demand in the market and thus will fetch high value.

Rotational Moulding Center of Excellence for Education and Research (RMCEER) Inaugurated at BITS

Department of Mechanical Engineering of BITS Pilani K K Birla Goa Campus in collaboration with Society of Asian Rotomoulders (StAR) jointly inaugurated the Rotational Moulding Centre of Excellence for Education and Research (RMCEER) at BITS Pilani Goa Campus on 21st July 2018. This centre will serve as a unique hub of knowledge and research for rotational moulding industry in the country. Representatives of around 38 industries from India and abroad were present for the inaugural function. The objectives of the centre are to provide testing services for rotationally moulded materials and products, develop industry standards for products and processes, analyze and design RM products, application development for RM products, Industrial training and development, joint research projects with Industry, etc.

Prof. G Raghurama welcomed the participants and expressed his views about the collaborative Industrial Research in BITS. Mr. Ravi Mehra delivered a keynote talk on potential of this Centre for the rotomoulding industry in India. Mr. Ashish Bhati spoke about the vision for this Centre. Prof. Sunil Bhand, Dean SRC, BITS Pilani delivered a talk on the Industrial Research at BITS. The program witnessed several talks by eminent Industrialist in the country. Dr. Sachin Waigaonkar from BITS coordinated the program and also delivered technical talks while updating the StAR BITS activities and the future plans.

Participants from industry visited various laboratories in the campus to understand the research capabilities of BITS for the industry.

Prior to this program, StAR and BITS signed a MOU
for the bilateral cooperation for enhancing the R&D capabilities and knowledge in the areas of Rotational Moulding. The MOU signing was attended by the office bearers of StAR, Director of BITS Pilani Goa Campus, Deans and other faculty members.

A Wellness Session ‘REFRESH… Freshness reloaded…” held

A Wellness Session titled ‘REFRESH… Freshness reloaded…” was organized on 23rd July 2018 with the aim of enhancing the overall HAPPINESS INDEX of employees & residents at our campus. People at workplace often debate on “How does one achieve the IMPOSSIBLE - beyond one’s limit?”. Few find it difficult to handle weight of work related to Academic, Administration & Research demands along with family expectations and financial aspirations, affecting the health of the individuals. ‘REFRESH’ was designed to offer a different taste of rejuvenation before the beginning of new semester.

Programmes organised by Department of Biological Sciences

- A poster day was held on 24th April 2018 by the Research Scholars of the Department.
- A workshop on “Scientific Manuscript Writing” was held on 24th March 2018.

Workshops organised by Department of Humanities and Social Sciences:

- Workshop on Script Writing and Basic Cinematography was conducted by National award-winning filmmaker, Mr. Abhay Sinha on 16 February 2018.
- Workshop on Writing for the students of BITS Pilani, K. K. Birla Goa Campus was conducted by Environmental Historian at Western Washington University, USA Prof. Mart Stewart (Fulbright Senior Scholar at BITS Goa) on 07 April 2018. Prof. Stewart had joined as a Fulbright Senior Scholar in the Department of HSS (from January to May, 2018).

Programmes organised by Department of International Programmes & Collaboration Division:

- Submission of Project Proposal Under the Matrics Scheme
- Algebraic Graph Theory

Programmes organised by Department of Mathematics:

- Rethinking Popular Genres: Technology, Class Radicalism and Biopower
- Securing the Space for Kannada: Kannada Cinema and the Indian Nation

Programmes organised by Department of Humanities and Social Sciences:

- Do we need Theory?
- Italy by Way of India: Routes of Devotional Knowledge in the Early Modern Period
- Gendering the Witch: Witch Hunting among the Bodos of Assam
- Melting of the vortex lattice in type II superconductor A story from images
- On configuration spaces for linkages

Programmes organised by Department of Humanities and Social Sciences:

- Interaction with students on Students’ Exchange Programme
- Melting of the vortex lattice in type II superconductor A story from images
- On configuration spaces for linkages
<table>
<thead>
<tr>
<th>S. No.</th>
<th>Date</th>
<th>Title of the Talk</th>
<th>Speaker's Name, Designation</th>
<th>Organised by Department of</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>28th Feb 2018</td>
<td>Congruent number problem</td>
<td>Dr. Somnath Jha, Assistant Professor, Department of Mathematics and Statistics, IIT Kanpur</td>
<td>Mathematics</td>
</tr>
<tr>
<td>11</td>
<td>5th March 2018</td>
<td>Interaction with the faculty members about the opportunities in Canada</td>
<td>Ms Arbindar Pal, Trade Commissioner, Consulate office of Canada, Mumbai</td>
<td>International Programmes &amp; Collaboration Division</td>
</tr>
<tr>
<td>12</td>
<td>5th March 2018</td>
<td>Conformal Field Theories</td>
<td>Amin Ahmad Nizami, IISe, Bangalore</td>
<td>Physics</td>
</tr>
<tr>
<td>13</td>
<td>15th March 2018</td>
<td>Roads to Nowhere: Irish Roads Protests</td>
<td>Dr. Donna L. Potts, Professor of English, Washington State University, Pullman, U.S.A.</td>
<td>Humanities and Social Sciences</td>
</tr>
<tr>
<td>14</td>
<td>27th March 2018</td>
<td>Experiments @ Physics Olympiads</td>
<td>Shirish Pathare, HBSCE-TIFR, Mumbai</td>
<td>Physics</td>
</tr>
<tr>
<td>15</td>
<td>28th March 2018</td>
<td>Changing Contours of Asia Pacific Theater &amp; Indo - Japan Engagement</td>
<td>Prof. Mohammad Badrul Alam, Prof. &amp; Head, Dept. of Political Science, Jamia Milia Islamia University, New Delhi</td>
<td>Humanities and Social Sciences</td>
</tr>
<tr>
<td>16</td>
<td>28th March 2018</td>
<td>Cayley table in Sudoku style</td>
<td>Prof. Gurmeet K. Bakshi, Professor &amp; Chairperson, Department of Mathematics, Panjab University, Chandigarh</td>
<td>Mathematics</td>
</tr>
<tr>
<td>17</td>
<td>31st March 2018</td>
<td>Scientific Computing: A New Way of Looking at Mathematics</td>
<td>Prof. Amiya K. Pani, Institute Chair Professor, Department of Mathematics, Industrial Mathematics Group, IIT Bombay</td>
<td>Mathematics</td>
</tr>
<tr>
<td>18</td>
<td>6th April 2018</td>
<td>Topology and Condensed Matter Physics</td>
<td>Prof. Saurabh Basu, Professor, IIT Guwahati</td>
<td>Physics</td>
</tr>
<tr>
<td>19</td>
<td>6th April 2018</td>
<td>Semipositivity of matrices and linear maps relative to proper cones</td>
<td>Dr. Sachindranath Jayaraman, School of Mathematics, Indian Institute of Science Education and Research, Thiruvananthapuram</td>
<td>Mathematics</td>
</tr>
<tr>
<td>20</td>
<td>24th April 2018</td>
<td>The Domestcation of Cosmic: A Study in the Treatment of 'Large'</td>
<td>Dr. Dibyakusum Ray, Assistant Professor, Dept. of Humanities and Social Sciences, NIT Silchar</td>
<td>Humanities and Social Sciences</td>
</tr>
<tr>
<td>21</td>
<td>27th April 2018</td>
<td>1. Gauss-Bonnet theorem and uniformization. 2. Geometrization of closed 3-manifolds.</td>
<td>Prof. C. S. Arvinda, TIFR Center for Applicable Mathematics</td>
<td>Mathematics</td>
</tr>
<tr>
<td>22</td>
<td>15th May 2018</td>
<td>Unmasking obscure events at the LHC</td>
<td>Prof. Partha Konar, Professor, PRL Ahmedabad</td>
<td>Physics</td>
</tr>
<tr>
<td>23</td>
<td>16th May 2018</td>
<td>What is common between robotics and low energy QCD?</td>
<td>Prof. Sachindeo Vaidya, Professor, IISe Bangalore</td>
<td>Physics</td>
</tr>
</tbody>
</table>

Distinguished Alumni Award 2018:
“BITS Pilani Distinguished Alumni Award” in 2018 to the following alumni:

- **Prof. REENA AGARWAL**, Vice Provost for Faculty, McDonough Professor of Finance & Director, Georgetown Center for Financial Markets and Policy, Georgetown University, USA
  - for Academia and Research

- **Prof. PRABHU PINGALI**, Professor and Director, Tata-Cornell Agriculture and Nutrition Initiative, Cornell University, USA
  - for Academia and Research

- **Prof. ARUN SOMANI**, Anson Martin Distinguished Professor of Electrical & Computer Engineering, Iowa State University, USA
  - for Academia and Research
Mr. AJOYENDRA MUKHERJEE, EVP & Head - Global HR, Tata Consultancy Services, India
- for Corporate Leadership

Ms. PRASANNA GOPALKRISHNAN, Executive Vice President, Chief Digital and Information Officer, Boston Private, USA
- for Corporate Leadership

Dr. ANAND S. RAO, Innovation Lead (Data & Analytics) & Partner, Pricewaterhouse Coopers, USA
- for Corporate Leadership

Mr. ANUPENDRA SHARMA, Global VP of Growth & Business Development, Siemens Healthineers, USA
- for Entrepreneurship

Mr. TUSHAR JAIN, Founder and Group CEO, Automat Industries Ltd.
- for Entrepreneurship

This is in recognition of their significant and outstanding contributions to Academia and Research, Corporate Leadership or Entrepreneurship.

Embryo & On-campus Lectures:
Alumni Relations Cell of BITS Pilani, K K Birla Goa Campus, organized the following Embryo & On-campus talks from January to June, 2018. Details are as follows:

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Date</th>
<th>Title of the Talk</th>
<th>Speaker’s Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>19th to 20th Jan. 2018</td>
<td>Alumni Research Talks</td>
<td>Ms. Priyanka Kukreja&lt;br&gt;Mr. Nigamant Sridhar&lt;br&gt;Mr. Narendra Ahuja&lt;br&gt;Mr. Rishabh Mehrotra</td>
</tr>
<tr>
<td>2</td>
<td>25th Jan. 2018</td>
<td>GRE Champs</td>
<td>Mr. Soham Kelkar&lt;br&gt;Mr. Anand Dugad&lt;br&gt;Ms. Rujuta Kelkar&lt;br&gt;Mr. Jash Kamdar</td>
</tr>
<tr>
<td>3</td>
<td>3rd Feb. 2018</td>
<td>CAT Champs</td>
<td>Ms. Suneha Bagri&lt;br&gt;Ms. Rujuta Kelkar&lt;br&gt;Mr. Prathmesh Gabale</td>
</tr>
<tr>
<td>4</td>
<td>23rd Feb. 2018</td>
<td>Cognition and Computation</td>
<td>Mr. Raghavendra Singh</td>
</tr>
<tr>
<td>5</td>
<td>10th to 11th April, 2018</td>
<td>DATRI: Stem Cell Donations Awareness and Registration sessions</td>
<td>Mr. Raghu Rajagopal</td>
</tr>
<tr>
<td>6</td>
<td>18th April 2018</td>
<td>Deep Learning Methods in Imaging and Computer Vision</td>
<td>Mr. Tejas Gokhale</td>
</tr>
<tr>
<td>7</td>
<td>20th April 2018</td>
<td>Digital Video Entertainment in India</td>
<td>Mr. Smit Vora</td>
</tr>
<tr>
<td>8</td>
<td>2nd May 2018</td>
<td>Cognitive Analysis using Dermatoglyphics</td>
<td>Mr. Sriram Ramaswamy&lt;br&gt;Mr. Rahul Ramachandran</td>
</tr>
</tbody>
</table>
visits by faculty enriching the learning experience

international visits

Prof. Raghurama G, Director was invited to the Erasmus Mundus Action 2 Concluding Workshop from 28th to 29th June, 2018 at the Georg-August-Universität Göttingen, Germany. He attended the same to review and evaluate the implementation of the EMA2 programme and the corresponding projects, as well as the sustainability of the cooperation founded within this framework. Prof Raghurama was the coordinator from BITS Pilani, of the NAMASTE mobility project, which provided scholarships for Indian students and scientists to spend a mobility period in Europe in a wide variety of academic fields at different levels of study (Undergraduate, Master, PhD, Post-Doc, and Staff).

Dr. Ranjit S Patil, Department of Mechanical Engineering, attended the 23rd International Conference on Fluidized Bed Conversion at Seoul, South Korea, held from 13th to 17th May, 2018.

Prof. Veeky Baths, Department of Biological Sciences, visited University of Leeds, UK, during May to July, 2018. He was appointed as a Visiting Research Fellow in the School of Biomedical Sciences. He worked with Dr. Samit Chakraborty on neuro-prosthetic applications for neurological disorders and Mouse Behavioral Testing.

Prof. Veeky Baths, participated in the UK Sensory Motor Conference and delivered an invited talk on Using EEG to decipher consumer choice held at University of Leeds on 23rd June 2018.

Prof. Vijayashree Nayak, Department of Biological Sciences, attended University Immersion Program at University of Texas, USA

Prof. Kundan Kumar, Department of Biological Sciences, chaired a session in the South Asian Biotechnology Conference 2018, held between 28th and 30th March 2018, Colombo, Sri Lanka.

Prof. Rajnita Pati, Department of Physics, was invited by Prof. Bhupal Dev of Department of Physics of Washington University (WU) at St. Louis, MO, USA where he delivered a talk titled “Non-equilibrium Statistical Mechanics, fermion dark matter and supernova SN1987A cooling” on June 18, 2018.

Prof. Prasanta Kumar Das, was invited by Prof. Bharat Ratra of Department of Physics, Kansas State University (KSU), Manhattan, Kansas City, USA, to deliver a talk titled “Tsallis statistics and its application in High Energy Physics and Astrophysics” on June 22, 2018.

Dr. Debasish Patnaik, Department of Economics, participated in ‘International Union of Anthropological and Ethnological Sciences’ held at

Dr. Gauranga Charan Samanta, Department of Mathematics, presented a paper entitled "Three fluid cosmological models in general relativity" in an International Conference titled "String-Math-2018" at Tohoku University, Sendai, Japan, from 18th to 22nd June, 2018.

Prof. Ranjan Dey, Department of Chemistry, spent the summer of 2018 (June- July) as an Academic Visitor in the Department of Chemistry, University of Cambridge, under the University Immersion Program of BITS-Pilani where he worked with Prof. David Wales, a world renowned authority in the field of potential energy landscapes.

Prof. Ranjan Dey delivered a talk at the Department of Chemistry, University of Cambridge, Cambridge, U.K., entitled “Novel, Simple and Effective Pathways for Viscometric Prediction of Binary and Higher Order Mixtures” on 18th June, 2018.

Mantra awards:
The winners of Mantra Awards 2017-18 are:

- Siddhant Patil - Mantra Innovator of the year Award
- Lokesh Garg - Mantra Entrepreneur of the year Award
- Vishwa Prakash - Mantra Award for Social Leadership
- Sarthak Singh - Mantra Award for Outstanding Leadership (Male)
- Heer Joisher - Mantra Award for Outstanding Leadership (Female)

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- Heer Joisher - Mantra Award for Outstanding Leadership (Male)
- Siddhant Patil - Mantra Innovator of the year Award

Prof. Suresh Ramaswamy Memorial Award:
This year’s Prof. Suresh Ramaswamy Memorial Award was given to the project titled, “Imitato Robotics” done by Vadaga Ananya Rao, Shardul Walwadkar and Chakshu Moar. This project was selected out of the 11 projects that had competed.

Regular Activities:
Other regular activities like bi-annual Director’s Tea Party, batch snap sessions, Alumni Relations Cell registrations, souvenir distributions, bringing out the yearbook ‘Melange’ for out-going students and hosting visiting alumni on campus were held.

Prof. Suresh Ramaswamy Memorial Award:
This year’s Prof. Suresh Ramaswamy Memorial Award was given to the project titled, “Imitato Robotics” done by Vadaga Ananya Rao, Shardul Walwadkar and Chakshu Moar. This project was selected out of the 11 projects that had competed.

Prof. Radhika Vathsan, Department of Physics, has been a Long-term Visitor at the Institute for Quantum Computing, University of Waterloo, ON, Canada from 1 June to 10 July.

Prof. Radhika Vathsan delivered a talk titled “Subtle aspects of Quantum Information: complementarity and uncertainty” at the Department of Physics, University of Windsor, ON, Canada on 26th June.

Prof. Prasanta Kumar Das, Department of Physics, has been a Visiting Research Professor at the Department of Physics & Astronomy, University of Kansas (KU), Lawrence, KS, USA from 19th May to 13th July 2018. Prof. Das was hosted by Prof. Douglas Mckay and Prof. K C Kong. At KU, he also delivered a talk titled “Nonequilibrium Statistical Mechanics and its Application in Astrophysics & Collider Physics” on May 29, 2018.

Prof. Prasanta Kumar Das, was invited by Prof. Bhupal Dev of Department of Physics of Washington University (WU) at St. Louis, MO, USA where he delivered a talk titled “Non-equilibrium Statistical Mechanics, fermion dark matter and supernova SN1987A cooling” on June 18, 2018.

Prof. Prasanta Kumar Das, was invited by Prof. Bharat Ratra of Department of Physics, Kansas State University (KSU), Manhattan, Kansas City, USA, to deliver a talk titled “Tsallis statistics and its application in High Energy Physics and Astrophysics” on June 22, 2018.
invited talks by faculty

Prof. Raghu Nath Behera, Department of Chemistry, visited West Dover, VT, USA, to attend the Computational Chemistry Gordon Research Conference: “Towards Next-Generation Challenges in Computational Chemistry: From Quantum Chemistry and Molecular Simulation to Data Discovery and Quantum Computing” during July 22-27, 2018; and presented his work titled “Computational Study of Catalytic Mechanism of some Diselenide-based Glutathione Peroxidase Mimetic.”

Dr. Parichay Patra, Department of Humanities and Social Sciences, delivered a Plenary Talk entitled “Memorias de la revolución: Historia, Cine y lo Contemporáneo” at the VI Jornadas Internacionales y IX Nacionales de historia, arte y política, Universidad Nacional del Centro de la Provincia de Buenos Aires, Argentina on 22nd June 2018.

Dr. Parichay Patra has presented a paper on “Cinema, Politics and the Contemporary: Absence and Astrophysics” at Ireland India Institute, Dublin City University, Ireland, on 26-27 April, 2018.

Dr. Parichay Patra was a Visiting Scholar at Instituto Investigaciones Gino Germani, Facultad de Ciencias Sociales, Universidad de Buenos Aires, Argentina from June 5th to July 4th, 2018.

Prof. R. P. Pradhan, Department of Humanities and Social Sciences, presented a paper on “India & Chinas’ Trade, Terms of Trade & Comparative Debt Analysis with Mekong Economies: Case of Economic Regionalism” at the Vietnam Economics Association Meeting VEAM 2018 in Hanoi, Vietnam, on 11th to 12th June, 2018.

Prof. Rajesh Mehrotra, Department of Biological Sciences, delivered a Plenary Talk entitled “Genomic analysis of cis regulatory elements and its experimental validation in model Plant Arabidopsis thaliana reveals spacer distance between ACGT cis regulatory elements governs differential gene expression in response to salicylic acids and abscisic acids” at the B. N. Bandodkar College of Science, Thane, on 12th January 2018 in the Multidisciplinary International Conference on “Green Earth: A Panoramic View.”

Prof. Kundan Kumar, Department of Biological Sciences, delivered an invited lecture at the Western Regional Seminar on Frontiers and Innovation in Plant Sciences, organized by the Department of Botany, Parvatibai Chowgule College of Arts and Science, Goa.

Dr. Vikas Chaudhari, Department of Mechanical Engineering, conducted a two-day training program on “Fatigue, Fracture & Creep” at Visakhaapatnam Steel Plant, Visakhapatnam (30 & 31 Jan 2018)

Dr. Vikas Chaudhari conducted a three-day faculty development program on “Engineering Graphics with AutoCAD” at Indrashil University, Rajpur, Gujarat from 27th to 29th June, 2018.

Prof. Geetha B., Department of Humanities and Social Sciences, delivered an invited lecture at the Western Regional Seminar on Frontiers and Innovation in Plant Sciences, organized by the Department of Botany, Parvatibai Chowgule College of Arts and Science, Goa.

Prof. K. A. Geetha, Department of Humanities and Social Sciences, was the plenary speaker at the International conference on Cultural Semiotics and Social Sciences, delivered a paper on “Technology for Construction of an Archive of Murals of the Shekhawati Region and Automated Image Analysis” DHAI, at IIM Indore and IIT Indore.

Mr. Tirtharaj Dash, Department of Computer Science & Information Systems, was selected for Full Travel Grant from The European Association for Artificial Intelligence (EurAI) to participate in the Relational Artificial Intelligence Days (RAID-2018) during August 27th to September 4th, 2018, at Ferrara, Italy.

Prof. P. M. Singru, Department of Mechanical Engineering, is appointed subject expert on Board of studies of Mechanical Engineering, Shri Ramdeobaba College of Engineering, Nagpur (Autonomous).

Prof. Korneel Rabae from Ghent University Belgium and Prof. Srikanth Mutnuri, Department of Biological Sciences, received Belgian Committee of the International Water Association’s Water Development Collaboration award for the year 2018.

“INSIA Visiting Scientist Fellowship” was awarded to Dr. Utpal Roy, Department of Biological Sciences, by Indian National Science Academy.

Dr. Debasis Patnaik, Department of Economics, made 12 presentations, chaired a poster presentation session and a paper presentation session during the 12th World Congress of the Regional Science Association International held from 29th May to 1st June, 2018 at BITS Pilani, Goa Campus.

achievements
### Significant Projects

<table>
<thead>
<tr>
<th>Principal Investigator &amp; Name of the Department</th>
<th>Title of the Project</th>
<th>Funding Agency</th>
<th>Amount (Rs. Lakh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prof. Utpal Roy, Biological Sciences</td>
<td>Evaluation of Antifungal activity of lipopeptides from a wild type Bacillus sp.RLID 12.1 in mouse models of invasive candidiasis, cryptococcosis, and Aspergillosis.</td>
<td>SERB</td>
<td>72.51</td>
</tr>
<tr>
<td>Prof. M. Srikanth, Biological Sciences</td>
<td>Bioremediation of Red Mud using acidogenic fermentation byproducts and by Biopiling</td>
<td>ABSTCPL- BITS PILANI</td>
<td>71.51</td>
</tr>
<tr>
<td>Prof. N. N. Ghosh, Chemistry</td>
<td>Development of Photocatalyst embedded Graphene -based membranes for Treatment of Dye-containing wastewater under sunlight</td>
<td>ABSTCPL- BITS PILANI</td>
<td>52.20</td>
</tr>
<tr>
<td>Prof. Dibakar Chakrabarty, Biological Sciences</td>
<td>Studies on the effect of Russells Viper Venom on regulation of cell morphology, apoptosis and further characterization of the active compound(s)</td>
<td>Indian Council of Medical Research</td>
<td>24.77</td>
</tr>
<tr>
<td>Ms. Jiss Maria Louis, Mentored by: Dr. Indrani Talukdar, Biological Sciences</td>
<td>TNF Alpha Mediated Alternative Splicing in Type 2 Diabetes; A genome Wide Approach</td>
<td>DST (WOMEN SCIENTIST SCHEME-A)</td>
<td>20.00</td>
</tr>
<tr>
<td>Prof. M. Srikanth, Biological Sciences</td>
<td>Hybrid Electrochemical-MFC waste processing: Functional blocks for low energy disinfection and denitrification of human waste streams.</td>
<td>Gates foundation through RTI International</td>
<td>14.00</td>
</tr>
<tr>
<td>Dr. Pradeep Sow, Chemical Engineering</td>
<td>Electrochemical Process for Hydriodic acid (HI) decomposition in Iodine-Sulfur Cycle: A feasibility study</td>
<td>ONGC Energy Centre</td>
<td>11.69</td>
</tr>
<tr>
<td>Prof. Debasis Patnaik, Economics</td>
<td>MDP workshop for PNB-MetLife</td>
<td>MDP for PNB-MetLife</td>
<td>1.99</td>
</tr>
<tr>
<td>Dr. Sachin Waigaonkar, Mechanical Engineering</td>
<td>Material property guides for Rotational Moulding</td>
<td>Society of Asian Rotomoulders (STAR), India</td>
<td>0.75</td>
</tr>
</tbody>
</table>

### BITS Goa Campus team amongst top 12 teams to compete in International Quant Championship at Singapore

A team of Goa Campus students including Yash Zanwar, Aditya Dhoote, Gaurav Gandhi, Mrinav Saxena, Sreean M, and Souradeep Chakraborty will be representing India in the Inaugural edition of International Quant Championship to be held at Singapore in early September. The international quant championship is an annual event which occurs in 3 stages, with final one being international rounds. Over 11,000 participants from more than 80 countries and 1000+ universities took part in this competition, and the BITS team has been selected as one of the top 12 teams worldwide, while first in the country.

The national finals saw participation from top Indian Universities including IITs and other premier Business schools. Based on the creativity and robustness of their algorithmic models, overall presentation outlook and detailed treatment of stock strategies, BITS team was ranked first nationwide. BITS Pilani wishes the team all success.

#### Team GreaseMonkeys secures 32nd rank at the annual SAEINDIA BAJA competition

Team GreaseMonkeys from BITS Pilani Goa Campus participated in SAEINDIA BAJA annually. The competition consisted of two stages, with the first stage assessing the virtual design of teams and the main event that requires the teams to design, build and race-off road vehicles that can withstand the harshest elements of rough terrain. 363 teams from engineering colleges from all across India participated in SAEINDIA BAJA 2018 Virtuals in front of industry professionals from the Manufacturing and Automotive Industries. The competition was held on 13-14th July in Chitkara University, Punjab. This year, the team achieved overall 32nd rank, which is the best ever performance of the team, since it came into existence in the year 2014. In addition to this the team has achieved 21st rank in design round. In contrast to the 124th rank in the last year’s competition, this jump has only been possible due to complete revamp in the change in the approach towards the design of the all-terrain vehicle. Improved coordination, necessary groundwork and mastering the basic concepts of Automotive Engineering and Vehicle Dynamics are the key to the success of the team. In addition to this, appropriate foundations in the form of systematic archives have also contributed towards the smooth designing of the vehicle. This has also been possible due to the continuous efforts of Dr. Raghuram Gunnaj, Director, BITS Pilani Goa Campus and Dr. Ranjit S. Patil, HOD Mechanical and faculty advisor to the SAE club, BITS Pilani Goa Campus, who have weathered the team during its highs and lows. The team now aspires to achieve an even better rank in the main event that has a footfall of around 25,000, comprising of students, academia and Industry professionals, and add to the prestige of the college on the national platform that is scheduled to occur on 25-28th January, 2019 at NAMRIP, Pithampore, Indore.

### BioP India

BioP India (www.biopindia.in) is an initiative from the students of BITS Pilani - Goa to provide an intelligent and affordable desktop solution for 3D bioprinting. The device, ideated by Siddharth Kumar Sah, is similar to a normal printer but a little different – it doesn’t use an ink cartridge, but biological cells to print human tissues and organs using 3D modeling software on a computer by the process of laying down many thin layers of the bio-ink in succession for use in medical and tissue engineering fields.

### Center for Technical Education

Center for Technical Education (C.T.E.) is the largest technical department on campus, established in the
year 2012 with an aim to provide technical skills and knowledge to students apart from what one can gain through regular institute curriculum. CTE has come a long way evolving into more than just a course conducting organization. In 2017-18, it took some of the initiatives, like:

**Schooling:** CTE decided to conduct technical and non-technical workshops in schools across Goa. Something similar is being done by clubs like Nirman and Abhigyaan, but for underprivileged. CTE aimed for schools having students who are ambitions to pursue Science and Humanities post-high school. In the Navy school, CTE successfully conducted 7 workshops: Drama Club- 3 workshops, LDC (Literary and Debating Club) - 1 workshop, ERC (Electronics and Robotics Club) - 1 workshop. Celestia - 2 workshops.

**Project funding:** CTE funded 9 projects that was decided by a committee consisting of CTE Coordinator and Faculty Members from across the departments.

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**Project Sand Submarine topped in Central Zone Round of DRDO Robotics & Unmanned Systems Exposition**

A team consisting Abhinav Gupta, Rohan Godiyal, Siddharth Kumar and Ashutosh Kumar Gupta, students of Mechanical and Electrical and Electronics programme, participated in the DRUSE (DRDO Robotics & Unmanned Systems Exposition) organised by DRDO (Ministry of Defense). Their Project Sand Submarine qualified for final round cum National Exposition held at DIAT (Defence Institute of Advanced Technology), Pune on 24-25th May. They were among the top 30 teams to showcase their idea among 1088 nationwide participating teams and were adjudged 1st bagging Rs. 60,000/- cash prize in Central Zone Round, winning among IIT Bombay, NITs and various colleges of Pune in Central Zone.

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**Project Apeiro India’s first student-led Microsatellite: Microsatellite launched from TIFR Balloon Facility, ECIL, Hyderabad**

Project Apeiro is an experiment led by undergraduate students from BITS Pilani K.K. Birla Goa Campus including Sanket Deshpande, Lucky Kapoor, Shivangi Kanat, Vibhav Joshi and Pankaj Tiple. The experiment aimed to detect and measure cosmic radiation in stratosphere. This study is important to understand the biologically harmful cosmic radiation incident on earth from outer space. Extended exposure to this radiation leads to an increased risk in cancer and tissue damage. Hence, a thorough understanding of this radiation is essential to develop predictive and preventive mechanisms against their impact.

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The experiment was conducted using the technique of High Altitude Ballooning. This method allows studies in the near-space environment with the help of a zero-pressure plastic balloon which lifts the experimental payload to desired altitude. The experimental payload consisted of a cosmic radiation detector made with a combination of scintillator and photomultiplier tubes. This detector system was supported by an on-board high and low voltage power supply systems along with data acquisition systems. The development of the detector system was completed at the Tata Institute of Fundamental Research (TIFR), Mumbai.

The flight for this payload was conducted from the TIFR Balloon Facility in Hyderabad, Telangana which is amongst a very few institutes from around the world capable of supporting such kind of a flight. The balloon and all other flight equipment recovered for the flight of the Project Apeiro payload were completely developed at this facility. The payload was launched at 2:12 am IST on 2nd Feb 2018 and achieved a first float altitude at 24.8 km. The second float altitude was achieved at 26.7 km. The flight was terminated at 5:17 am IST on 2nd Feb 2018. All flight control and experiment equipment were recovered successfully without any damage. This flight sets history by successfully completing the country’s first near-space experiment completely developed by students.

**Student Team:** Sanket Deshpande, Lucky Kapoor, Shivangi Kanat, Vibhav Joshi and Pankaj Tiple

**Project Mentor:** Dr. B. Satyanarayana, Scientific Officer (H), TIFR Mumbai

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Ms. Dhavala Suri (2013PHXF0015G), a PhD student in the Department of Physics, was appointed as Postdoctoral Associate at Massachussetts Institute of Technology (MIT). She worked under the supervision of Dr. Ram Shanker Patel, on her thesis titled “Study of Electronic and Thermal Transport Properties of Transition Metal Dichalcogenides for Device Applications”.

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**Dr. Bhakti Salgaonkar** (CSIR RA), a student from Prof. Judith Bragança’s group, received SRISTI (Society for Research and Initiatives for Sustainable Technologies and Institutions) BIRAC (Biotechnology Industry Research Assistance Council) Appreciation Award for her work entitled “Polyhydroxyalkanoates Production by Microorganisms from Sustainable Resources” carried during the 30 days Biotech Innovation Ignition School-3 (BIIS-3) on “Opportunity for Women biotechnology students to work on grassroots innovations and microbial diversity” at Ahmadabad, Gujarat, India from April 30 to May 29, 2018.

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**Dr. Bhakti Salgaonkar** (CSIR RA), student from Prof. Judith Braganca’s group, received First best Oral Presentation Award for the paper entitled “Polyhydroxyalkanoates Production by Extremely Halophilic Archaea from Sustainable Resources” at International Conference on "Microbial Technology for Better Tomorrow (ICMTBT-2018)", Organized by Dr. D. Y. Patil Arts, College, Pune, Maharashtra, India in association with Microbiologist Society, India", from 17-19th February, 2018.

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Ms. Medha Tripathi, PhD Student of HSS department received Erasmus Mundus Scholarship to do research in Gent University, Germany.

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Ms. Gana Bharathi PhD Student of HSS department participated in a short-term summer school program in Lisbon, Portugal and presented a
Mr. Sushant Kishore PhD Student of HSS department presented a paper titled "The Crucibles of Hindu Nationalism: Games, Playground and Propaganda" at Imperial College London.

Ms. Jiss Maria Louis (2015PHXHF401G), a PhD scholar from Dr. Indranil Talukdar’s lab, won the Best Oral Award (First Position) at National Conference of Young Researchers 2017 conducted at Goa university from 16th to 17th March, 2018, for the paper presentation entitled "TNF alpha mediated alternative splicing in type 2diabetes: a genome wide approach."

Ms. Mansi Baveja received the Best Oral Presentation Award for the paper entitled "Hemotoxic and Wound Healing Properties of Coelomic Fluid of Sea-Star Astropecten indicus" at the National Conference on Bio-Active Marine Natural Products and their Therapeutic Applications held at the Sathyabama Institute of Science and Technology, Chennai, on 24th and 25th January, 2018.

Ms. Zantye Pranjita Ganesh was awarded the DST-CEFIPRA Fellowship For ESOnN Programme 2018 for undergoing training in the field of Nano-sciences and Nanotechnology to be held at Grenoble, France (Aug-Sept 2018). Her Ph.D. supervisor is Prof. Meenal Kowshik.

Mr. Rehan Ahmed Deshmukh was awarded the ICMR-Senior Research Fellowship for the project titled “Development of nucleic acid-based biosensor for rapid and differential detection of E. coli strains in water.” Mr. Deshmukh works under the supervision of Prof. Utpal Roy.

Ms. Starlaine Mascarenhas was awarded the ICMR-Senior Research Fellowship for the project titled “Study of Environmental Toxins in Chronic Kidney Disease of unknown etiology in Canacona Taluka, Goa.”

Mr. Avijit Das was awarded the CSIR-Senior research fellowship (SRF) for his research titled “Studies on the gene regulation involved in the lytic-lysogenic switch in Staphylococcus mitis atresse bacteriophage Phi11.” His broad area of Research is Gene Regulatory Elements of Bacteria and Bacteriophages, which is pursued under the supervision of Dr. Malabika Biswas.

Mr. Joseph Fernandes was awarded the ICMR-Senior Research Fellowship. He works under the supervision of Dr. Arnab Banerjee.

Mr. Anuneeka Vats and Ms. Priya Sharma were awarded the Bill & Melinda Gates Foundation award for undertaking research in the field of Nano-sciences and Nanotechnology to be held at Grenoble, France (Aug-Sept 2018). Her Ph.D. supervisor is Prof. Srikanth Mutnuri.

Mr. Arunav Konwar (2013BIA80805G) won TechCrunch Hackathon held on May 25-26, 2018 at VivaTech in Paris, France. Arunav built an Artificial Intelligence (AI) Platform to enable experts to quickly analyze sentiments of autistic children. This event was a part of the Microsoft AI Challenge.

Mr. Aman Dalal from the department Mechanical Engineering has been awarded the Holland Scholarship from the Dutch Ministry of Education and Delft Faculty Scholarship to pursue MS in Integrated Product Design at TU Delft, The Netherlands.

Mr. Nissim Gore-Datar has been awarded the prestigious Mitacs Globalink Research Internship 2018 sponsored by Government of Canada. The Mitacs Globalink Research Internship is a competitive initiative for students from 10 countries of Australia, Brazil, China, France, India, Germany, Mexico, Saudi Arabia, Tunisia, and Ukraine. From May to October of each year, top-ranked applicants participate in a fully-funded 12-week research internship under the supervision of Canadian university faculty members in a variety of academic disciplines, from science, engineering and mathematics to the humanities and social sciences.

Aman will pursue a 2-year Masters degree in a course that is a unique multidisciplinary blend of design and engineering. Having a background in mechanical engineering from BITS Pilani, Goa Campus, extensive experience in graphics at his design firm Pixelworks, and a thesis in sustainable product design at National Institute of Design - Ahmedabad, Aman found a perfect fit in the design degree offered by TU Delft.

Seven other students of BITS Pilani, K K Birla Goa Campus have been awarded prestigious scholarships to undertake summer research programmes/ projects at world renowned institutes viz. Massachusetts Institute of Technology (USA); University of Montréal, University of Sherbrooke and Université Laval, Quebec (Canada); California Institute of Technology (USA); Université Paul Sabatier, Toulouse (France); and Technical University of Munich, Germany.

Ms. Heer Joisher has been awarded the prestigious Khora Scholarship 2018 sponsored by the Department of Biotechnology, Govt. of India, Indo-US Science and technology Forum (IUSSTF) and WINStep Forward. As a part of this program, Heer pursued a two month summer research project at the Massachusetts Institute of Technology, MA, USA.

Mr. Devvrit Walker at the Department of Biology, MIT on a project involving expressing antimicrobial peptides and peptides related to symbiosis from various sub cellular compartments of the cell.

Ms. Honey Jain, Mr. Jaychandran Padayasi and Mr. Devvrit have been awarded the prestigious Mitacs Globalink Research Internship 2018 sponsored by Government of Canada. The Mitacs Globalink Research Internship is a competitive initiative for students from 10 countries of Australia, Brazil, China, France, India, Germany, Mexico, Saudi Arabia, Tunisia, and Ukraine. From May to October of each year, top-ranked applicants participate in a fully-funded 12-week research internship under the supervision of Canadian university faculty members in a variety of academic disciplines, from science, engineering and mathematics to the humanities and social sciences.

As a part of this program, Honey pursued a 12-week summer research project at the Université Laval, Quebec under the mentorship of Prof. Christian Landry on a project based on computational biology involving protein interaction networks. Jaychandran pursued a 12-week summer research project at the University of Sherbrooke, Quebec under the guidance of Prof. André-Marie Tremblay, on the topic, Spin fluctuations in Weyl semimetals. Devvrit interned at University of Montréal, under Prof. Ben Seamone and Prof. Gena Hahn on the topic “Cops and Robbers on Graphs”, and on “Eternal Domination in Graphs”.

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Mr. Nissim Gore-Datar has been awarded the prestigious Summer Undergraduate Research Fellowship of the California Institute of Technology (Caltech SURF 2018). As part of this program, Nissim will work under the guidance of Prof. Michael Hoffman from the Department of Environmental Science and Engineering at Caltech on a project titled ‘Electro-Fenton Process for Decentralized Treatment of Municipal Wastewater’, which aims to design and prototype on-site electrochemical reactors to treat wastewater for reuse.
Mr. Rachith Aiyappa has been awarded the prestigious Charpak Research Internship Scholarship 2018 sponsored by the French Government. As part of this programme, Rachith will be pursuing a summer internship at the Centre de Recherches sur la Cognition Animale at Université Paul Sabatier, Toulouse, France. He will be working under the guidance of Dr. Guy Theraulaz in the field of Collective Behaviour.

Mr. Suparno Pal, a third year student in the department of Electrical and Electronics Engineering has been awarded the prestigious DAAD WISE Scholarship 2018. As part of this scholarship, Suparno will be pursuing a 12 week summer research project at the Technical University of Munich, Germany. He will be working with the Neuroelectronics Group to develop a portable device for screening nanoparticle impurities in water. This project has a larger scope towards developing better sensing platforms for neurodegenerative applications in vitro.


Mr. Patil Siddhant Vittal (2015A8PS0475G): During the recent academic semester, Siddhant received the prestigious BITSAA Mantra - Innovator of the Year 2017-18 Award. BITS CSA 2017-18 awarded him the Felicitation Fund 2017-18 for appreciating his research activities. He presented a paper titled "Design of Voltage Amplifiers with Optimization of Multiple Design Parameters" at the IEEE - ICCIC 2017 Conference held during 16th-17th March 2018. He also presented the paper titled "Asset Allocation Strategies in Taiwan and India" at the Two Day International Conference on Emerging Issues and Challenges in Commerce and Management held during 6th-7th April 2018. Currently, he is pursuing his funded undergraduate thesis at Technische Universität - Dresden, Germany.

Mr. Rachith Aiyappa won Men’s Doubles at the Clube Tennis de Gaspar Dias Open 2018 hosted in association with the Goa State Tennis Association. He was also declared Runner Up in Men’s Singles at the same tournament.

A total of 28 Students visited international universities for research thesis in SEM II AY 2017-18, of which 7 students received partial travel support of Rs. 12,500/- each from IPCD.

NIRMANA

After a successful first semester in the year 17-18, Nirmaan saw a plethora of initiatives in the second semester. Accompanied by the existing events of Udaan and street-play, Nirmaan came up with numerous new ventures like a school paint project, an old-age home improvement project, heath awareness sessions, self-defense classes and more as described below.

Pehel: With an environment of miscommunicated and ill-informed opinions reigning supreme on social media, Pehel was an initiative to provide a safe platform for students to discuss issues of today. The first version of Pehel, held on the 26th of January, requested its attendees to talk about the issue of affirmative action in our country and its current method’s positive as well as negative implications.

Udaan: On February 25, 2018, Nirmaan organized an event of sports and fun-filled activities for children with disabilities from all across Goa. Inviting students from the major special schools of the state, Udaan held activities like athletics, judo, and table-tennis along with an artsy touch at the side. Numerous Nirmaan volunteers sat down with these kids and shared their euphoria and interest in practicing activities like origami, singing and a fun-filled dance session as well. The motive was to create a pleasant and fun-filled environment and to reflect the inherent worth that every individual has.

GiveBack campaign: Under the guise of the GiveBack campaign, Nirmaan took up the local building of the government high school in Zuarinagar as an adoption project and succeeded in painting its exterior from scratch. The lack of funds that school faces and the lack of basic amenities encouraged Nirmaan volunteers to realize their privilege and do their part, with the vision of the improvement of the school’s environment in the coming years on their future agendas.

Old age home project: Another project that Nirmaan took up under its GiveBack campaign was the renovation of a few facilities at an old age home near our campus. With the help of social activist Mrs. Alka Damle and the NRB group, Goa, Nirmaan succeeded in the entire reconstruction of a water tank and the installation of a fully functioning main gate at the retirement home. The GiveBack campaign aimed at reiterating a feeling of gratitude towards the little things we all tend to ignore in our quick paced lives.

Self-defense classes: With crimes like bullying and eve-teasing on a rampant rise in today’s society, Nirmaan’s Participative Community Development (PCD) vertical took up the task to arm common people with the skills to fight off the likes of the above problems. Over a span of 12 sessions held by black-belt student volunteers both on campus and in surrounding colonies, Nirmaan inculcated a value of confidence and self-belief by teaching self-defense to everyone involved.
Quark 2018

Since its inception in 2006, Quark, the technomanagerial fest of BITS Pilani, Goa Campus has been on a journey of growth, taking the participants on a cosmic odyssey, shifting paradigms and spanning horizons in the process of becoming one of the most anticipated technical fests in the country. The festival has created a name for itself, with a range of events, guest lectures, workshops, CSR initiatives and Aurora nights.

Quark holds various events that not only offer the students an opportunity to create something innovative using the technical knowledge they acquired in the classroom in events under the panels-Electrify, Roboofficial, Design and Build, and Programmer’s Inc. but also provide them a chance to explore the challenges of a corporate world and stock market in events like Bluechip Beatdown, debate about international policies in BITSMUN, and get rewarded for the expert gaming skills they have been perfecting for the major part of the year in Matka. Various quizzing events make Quark a treat for quizzers all over the country.

In the last few years, many eminent personalities have graced Quark as guest lecturers during the three days of the festival. Some of the notable personalities include scientist and former president Late Dr. A.P.J. Abdul Kalam, world-famous cartoonist Stephan Pastis, Nobel laureates like Sir Harold Kroto, CEO of StackOverflow Joel Spolsky and many more dignitaries have provided an insight to their journey in their field of work and have been a constant source of motivation and inspiration for the participants.

One of the major highlights of Quark is the different workshops that introduce the students to some of the most industry-relevant technical fields of the present day. These workshops are conducted by the big players themselves and give the participants a flavor of the skills required in the competitive world of modern day technology. Some of the workshops conducted in the last few years include the workshop by Quick Heal on Cyber Forensics and Cyber Security, BuyUcoin on Cryptocurrency, AWS on Cloud Computing, National Instruments on Industrial Internet of Things(IoT), Solid works on CAD Modelling and Design, workshops conducted by SEBI, and many more.

The Aurora nights have been a major attraction of the fest and have hosted various artists whose work has emerged out of a beautiful blend of science, technology and performing arts. The previous editions of Aurora nights witnessed performances by Indian Jam Project, Sonic Snakes - The LED Drummers, Miss Alison Gabrielle- the renowned Cellist, Stuart Ashing – Comedy Stage Hypnotist, Ritviz, and Nalayak- The band and many more such interesting artists.

As a well-established name in major parts of the country, Quark takes its duty towards the society sincerely and has worked through various social initiatives like ‘GREEN’ and ‘whY Chromosome’ to create small changes in the society by conducting self-defense classes for women and organizing blood donation camps.

Spree 2018

Coming in as one of India’s biggest collegiate sports festivals, the 2018 edition of Spree, BITS Goa’s annual sports festival, had the hype train rolling at full steam from the get-go.

The action began soon after the inauguration ceremony on day zero, with a massive crowd thronging the basketball court, loud and proud, to support the home team, as the BITS Goa men’s basketball team blew out their hapless opponents in a lopsided victory in the first match of the evening. Later that night, the Department of Creative Works organised their first event of the fest, a mock IPL auction, with more events such as a football trade-off, a hogathon, a drinkathon, a paintball arena and more to come over the next three days.
Matches resumed on the morning of day one, with the favourites marching through the rounds of 16 and 8, on to the semifinals in their respective sports. BITS FC, the men’s and women’s basketball teams, the table tennis team, and the cricket team, were among those moving on to the final four.

The evening featured talks by retired ICC umpire Simon Taufel, and Paralympic Gold medallist and world record holder, Devendra Jhajharia. The former spoke about his experiences as an umpire and the life lessons he learnt from it, while the latter spoke about the challenges faced by differently-abled athletes in India, and his journey to two Olympic gold medals and a world record in the javelin throw, overcoming those challenges, with both speakers giving the audience something to think about.

Day two was a mixed one for the home crowd, as the men’s basketball team’s championship run ended in heartbreak in a hard-fought loss in the semifinals to the eventual champions OP Jindal, while the women’s basketball team, and the cricket, table tennis and chess teams moved on to the finals, with BITS FC scheduled to play their semifinal game on day 3. The night of day 2 brought with it a performance by Nucleya, someone who needs no introduction in the Indian dance music scene, as he paired unique visuals with his signature high-energy, bass-heavy sound.

The morning of day 3 began with heartbreak for the home crowd, as BITS FC lost the semifinals to eventual champions Jamia Milia, while the table tennis and women’s basketball teams went down fighting in the finals of their respective events to finish at the runners-up position. The evening bore witness to a double-header event in the auditorium as the dance group MJ5 wowed the crowd with their jaw-dropping dance moves, after which comedian Sapan Verma had the audience in splits.

Spree ’18 raised the bar even higher, being the biggest edition of Spree so far, with close games, sportsmanship, enthralling performances, and overall good vibes, giving all those who attended three days to remember.

BITSMUN 2018

With its first edition in 2008, BITSMUN is well on its way to becoming the largest international college MUN in India and Asia. A word, (or more like a sentence) to the naive readers - Model United Nations, also known as Model UN or MUN, is an educational simulation and/or academic activity in which students can learn about diplomacy, international relations, and the United Nations. BITSMUN 2018 or as it is known as BITSMUN X, held over 3 days from 9th to 11th February, witnessed huge registration from all over the country and the world with over 250+ delegates and more than 20 international delegates from various countries, including Bangladesh, Kazakhstan and Afghanistan. Every year, a number of UN committees including a special committee is hosted which has eventually become a trademark of BITSMUN Goa. Agendas of the various committees consist of relevant and comprehensive topics like “The issue socioeconomic development scopes of countries emerging from conflict,” “Issues surrounding Rohingya refugees and the crimean annexation” (Security Council) and “Preventing illicit arms trade and disarmament of WMDS.” Each of the committees consists of members of the Executive Board (EB)/the Chair who presided over the proceedings of the day, the delegates, representatives of different countries and members of the International Press who would report the day's events. The MUN began with an official opening ceremony after which the delegates were escorted to their committee rooms. Well-reasoned arguments, thoughtful discussions, points of order, points of inquiry, demands and accusations flew around the rooms as the delegates raised their placards high to be recognised by the Chair. People striving to be heard during the General Speakers List, the moderated caucus and the unmoderated caucus ensured that the momentum of the conference never slowed down. The members of the International Press could be seen trying to make sense of the proceedings, furiously noting down the important points to be reported later on. Three days of heated negotiations and discussions finally concluded in resolutions being passed by the various committees. The closing
The 28th of January, 2018 marked the 9th edition of TEDxBITSGoa, India’s longest running institutional TEDx event. Comprising of enthralling line-up of speakers including Aadar Malik, Naveen Polishetty, Kajal Aggarwal, Jay Weinstein, Ami Shroff, Anam Hashim, Rahul Roushan, Sanket Deshpande and Suhani Shah, this edition of TEDx BITSGoa was one to cherish.

Everybody smiles in the same language. Our first speaker, Jay Weinstein, adept at capturing just that, gave the audience a glance into his perspective. His project, “So I asked them to smile” managed to bring smiles to everyone’s face, setting a cheerful tone for the conference. A fellow BITSian, Sanket Deshpande spoke next, and detailed his technical ventures into SpaceX’s Hyperloop competition and Project Apeiro, which built India’s first student-led microsatellite. He inspired all his peers, by proving how much one can do when driven by passion. Suhani added a magical spin to the conference with her thrilling mathematical games and her illusionism. This was quickly followed up by Aadar Malik introducing the audience to the niche of musical comedy and then by Ami Shroff introducing them to the even smaller niche that female stunt riders like herself proudly occupy. Ami Shroff then proceeded to take the stage and talk about her unconventional career choice and the struggles that come along with it, following which she enthralled the audience with a display of her flair bartending skills.

Next on stage was a mega-star of the Telugu, Hindi and Tamil film industry, Kajal Aggarwal who spoke about the competitiveness of the film industry and the extreme difficulties that one must endure to make a mark in it. Kajal was followed by Rahul Roushan, the founder of Faking News. A jack of all trades, he spoke extensively about the struggle behind finding the right job. Naveen Polishetty set the perfect ending for the conference with his mic-drop worthy talk. His words resounded with the entire audience as he spoke about his story of defying the norms of the Indian society, be it about working a mainstream job, or pursuing engineering. Famous for his heartfelt monologue on the stereotypical education system of India, Naveen Polishetty managed to mesmerize the audience with her thrilling mathematical games and her illusionism. This was quickly followed up by Aadar Malik introducing the audience to the niche of musical comedy and then by Ami Shroff introducing them to the even smaller niche that female stunt riders like herself proudly occupy. Ami Shroff then proceeded to take the stage and talk about her unconventional career choice and the struggles that come along with it, following which she enthralled the audience with a display of her flair bartending skills.

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TEDx 2018
Faculty members from various disciplines have been appointed as members of National and International advisory committees / acted as reviewers for books and journals of national and international repute.

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<tr>
<th>Faculty</th>
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| Prof. Rajesh Mehrotra | Biological Sciences | 1. Reviewed the article entitled "Transcriptome Sequencing reveals novel citrus bark cracking viroid variants from citrus and their molecular characterization for Plos One  
2. Reviewed the article "characterization and cross amplification of 25 novel microsatellites from Anomophallus paeonifolius based on RAD-Seq for Journal of genetics  
3. Reviewed article entitled Evauation of lipases from wild microbial strains as biocatalysts in the biodiesel production (Biotechnology for Biofuels) |
| Mr. Tirtharaj Dash   | Computer Science    | Reviewed research articles for the following Journals:  
1. IEEE Transactions on Industrial Electronics,  
2. IEEE Systems Journal,  
3. Computers and Security (Elsevier) |
| Prof. Dibakar Chakrabarty | Biological Sciences | Reviewer for Russian Science Foundation  
1. Reviewed for the journal titled ISLE: Interdisciplinary Studies in Literature and Environment published by Oxford University Press  
2. Reviewer for the journal titled Green Letters - Studies in Ecocriticism published by Routledge, UK.  
3. Member of the Board of Reviewers of the Journal of Creative Communications (Sage Publishing in association with MICA - the school of ideas, Shela, Ahmedabad, India)  
4. Member of the Editorial Board of the American Journal of Indic Studies published by the American Academy of Indic Studies, USA. |
| Dr. Rayson K Alex    | Humanities and Social Sciences |  
3. Regional Studies Journal- Centrality Theory  
4. Member, Children Issues, IUAES |

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<tr>
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<tr>
<td>Dr. Vivek Rangarajan</td>
<td>Chemical Engineering</td>
<td>Reviewed papers in Journals (International Journal of Phytoremediation, Journal of Wood Science, Comprehensive Reviews in Food Science and Food Safety)</td>
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<tr>
<td>Prof. Kundan Kumar</td>
<td>Biological Sciences</td>
<td>Reviewed papers for PlosOne, BMC Health Services Research, Health Policy and Planning, Social Science &amp; Medicine, International Journal of Health Policy and Management</td>
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</tbody>
</table>
3. Regional Studies Journal- Centrality Theory  
4. Member, Children Issues, IUAES |
| Prof. Debasis Patnaik | Economics           |  
1. Reviewed for:  
1. Journal of Surfactants and detergents  
2. Biotechnology Progress  
3. Bioprocess and Biosystems Engineering  
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5. Biodegradation  
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7. Biocatalysis and Agricultural Biotechnology  
8. 3Bioetch |
### Introducing New Faculty

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<th>Name of Faculty</th>
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<tbody>
<tr>
<td>Sandhya Mehrotra</td>
<td>Biological Sciences</td>
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<tr>
<td>Partha Saha</td>
<td>Economics</td>
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<td>Application of Information Technology for Better Healthcare Governance, Healthcare Analytics</td>
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<td>Debidas Kundu</td>
<td>Electrical &amp; Electronics Engineering</td>
<td>Visiting Faculty</td>
<td>Antenna Electromagnetic Absorber Frequency Selective Surface Metamaterial, Metasurface Method of Moment Scattering, Polarization Control of EM Wave</td>
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<td>Vadiraj Hemadri</td>
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<td>Darshak Bhatt</td>
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<tr>
<td>Siddhartha Tripathi</td>
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<td>Bio-Microfluidics, Fluid Mechanics &amp; Experimental Methods, Hemodynamics</td>
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<tr>
<td>Vinayak Shashikant Naik</td>
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<td>Visiting Professor</td>
<td>Networks and Systems</td>
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### Editorial Board

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### Front Cover

Simon Taufel, Retired Member - ICC Elite Umpire Panel and Prof. G. Raghurama, Director - BITS Pilani K. K. Birla Goa Campus during Spree 2018.

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