



THE BEACON

*The official Newsletter of The Department Of Mechanical Engineering,
Don Bosco Institute of Technology*



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HOD'S DESK

DR. N.M. RAO

Welcome to Mechanical Engineering Department at Don Bosco Institute of Technology. Our goal for undergraduate students is to give them a quality education with hands on experience which will be useful to the society at large. Each of our faculty members is ready and well equipped to achieve this goal. Our faculty members with support staffs along with students are continuously engaged in doing research and development activities in different areas like solar, automotives, automation and energy. This has helped our faculty and students to publish papers in different journals and conference proceedings and to obtain funded research projects. Department is also dedicated to transform students to respectable citizens by imparting moral and ethical values. As can be seen, we genuinely care about our students and their future.

Editor's Desk

MS. DEEPIKA GUPTA

A thought that has been enduring in mind when it becomes real; is truly an interesting and exciting experience. This newsletter was one such cherished work that had its roots in the persuasion. It would be a highlight of the various activities and advancements of various activities and initiatives of the department in this year. I am pretty hopeful that the reading would be rewarding to the readers of "The Beacon" as it provides a verdant landscape of technical, art, scientific, literary outpourings that supports teaching and research for the sake of exposure and expansion. I would like to thank all my faculty members for providing me the content for the newsletter. I would also like to take this opportunity to appreciate and thank my fantastic team for their relentless efforts and contribution for successful completion of this newsletter. I am also thankful to the entire management team of the institute, respected Principal Madam and Head of Department for their continuous encouragement and support. HAPPY READING!!!!



Student's Desk

MS. SHEENA FERNANDES



"Intelligence plus character, that is the goal of true education." - Martin Luther King Jr. That's exactly what DBIT is all about ! Our 4 years of Engineering passed by so swiftly. Between being lost and confused in the first semester to the many lectures, fests, events, the canteen and the basketball court, we all just grew. As a student of DBIT, meeting my welcoming Principal, my understanding HOD, the amazing faculty of the Mechanical Engineering Department and making countless great friends, would be some of my most treasured memories. I started off as a student who came to complete her engineering degree but with the tremendous guidance, encouragement and support along the way, I became the President of ISHRAE in DBIT and went on to become the General Secretary of the college.

DBIT's fundamental and proactive approach creates a balanced education system which helps us elicit our real inner strengths. The best thing about DBIT is the platform it provides to each and every student - the smart, the creative and the athletic. There's a student club for almost every domain, be it music, dance, entrepreneurship, HVAC, automobile and so many more. DBIT is unique, an engineering college with an equilibrium in its activities, both - curricular and extra-curricular, where each student has endless opportunities to try and find something that resonates with them.

Having said that , I hope each and every student, the ones currently in DBIT and the ones yet to come, realize that these 4 years are filled with experiences that last a lifetime and it's imperative that we make use of every opportunity that comes our way.

It's been an absolute pleasure and an incredible journey being a DBITian - One that I will always cherish !

INGREDIENTS FOR SUCCESS

How we go beyond the curriculum- and the results!



AAC Meet

The 5th AAC meet was held on 15th February 2020. It was attended by the board Members Dr. R. Balasubramaniam, Head, Precision Machining Section, BARC, Mumbai, Dr. Neeraj Agrawal Associate Professor, Mechanical Engineering Department, BATU, Lonere, Dr. T. A. Dwarakanath, Division of Robotics and Remote Handling, BARC, Mumbai, our alumni Mr. Harsh Gulati and department faculty. Various points were discussed regarding research activities, outreach programmes, approach towards industry collaboration. Teaching - learning process, funding agencies for research projects, 3D printing projects and consultancy.



Industrial Visits

With an aim to go beyond academics, industrial visit provides students a practical perspective on the world of work. Industrial visits bridge the gap between the theoretical knowledge and the industrial sector as students gain more exposure and are able to interact with industry professionals. The Student Chapter of the Mechanical Engineering Department, ISHRAE, conducted Industrial Visits to 3 well known companies :

- Advantek Air Systems on 14th September, 2019 where 13 Students visited the company, accompanied by ISHRAE Thane Chapter Student Activity Chair, Ms. Hemlata Patil.
- Mitsubishi Electric India Pvt. Ltd. on 22nd September, 2019 where 28 Students visited the company, accompanied by Faculty Coordinator, Prof Cleto Pereira.
- Kruger India Pvt. Ltd on 25th January, 2020 where 26 Students visited the company, accompanied by Prof. Deepika Gupta and Faculty Coordinator, Prof Cleto Pereira

Topper's List

Rishab Agarwal (9.69)

Durgesh Korgaonkar (9.65)

Tejas Paymode (9.5)

3th semester

Shubham Bodke (9.85)

Vishal Achari (9.74)

Rahul Kadam (9.70)

5th semester

Mohammed Ayaz Ansari (9.72)

Yash Vaidya (9.44)

Priyanka Ladole (9.36)

7th semester

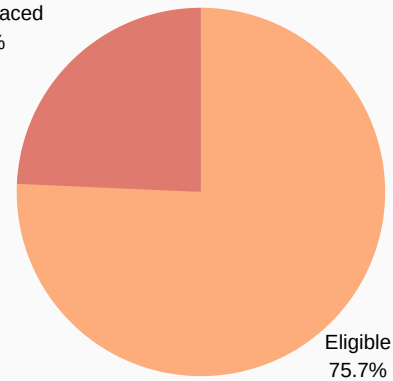
Training & Placements

Eligible Placed
24.3%

This year major recruiting companies included **Qspider, Daikin, Ceat, Toyo Engineering, IROBOKID, Media.Net, L&T Heavy Engineering, BYJUS, SANMAR.**

Including second year, third year & final year students, a total of 70 students have undergone internship in the winter session. Major companies for internship included Rashtriya Chemical & Fertilizers, Vidushi Wires Pvt. Ltd, B. E. S. T, L&T Heavy Engineering(4W), BARC, Central railway worksop, Air India Engineering Services. Also, this year faculty also underwent 15 days of internship in various industries to enhance their practical experience.

In spite of COVID-19 pandemic and nationwide lockdown, the department still organised online summer internships for the students in order to enhance their practical skills and utilize the lockdown efficiently.



BURO HAPPOLD



STERLING & WILSON

“

*Life's most persistent and urgent question is,
What are you doing for others?"*

-Martin Luther King, Jr.

”

R&D Projects

Many good research projects were undertaken by final year students under the guidance of faculty. Few of them included fabrication of a polymer based membrane making machine, a honking adaptive system, heat transfer enhancement using surface geometry modification etc. Like every year few faculty got minor grants to continue the research from Mumbai university.

Community Development Projects

Community Project: Faculty members undertake projects for community development either independently or in collaboration with other faculty members or students of DBIT.

- Students Noel Kuriakose, Hitesh A. Wagh, Mukund Talekar, Shreyas Parvatikar worked with Prof. Deepika Gupta to optimize the existing fluoride testing kit
- Principal Dr. Prasanna Nambiar worked with students Aakash Mishra, Abhishek Patil, Om Patil, Shyam Patil to design a process that helps an organisation such as a temple manage their floral waste and generate income.
- Prof. Johnson Nellisery guided a group of final year students Dipesh Iswalker, Vinay Panmand, Omkar Pote, Nakul Surwade to design smart incinerator with Catalytic Converter attachment, fabricate and test for exhaust emissions for maintaining hygienic living habits
- Prof. Shreeprasad Manohar guided students Preet D. Kutaphale, Ashutosh A. Mendes, Randell M. Pinto, Justin J. Varghese to design and develop a prosthetic arm using 3D printing technology.

EXPANDING OUR HORIZONS

Incorporating co-curricular activities that make well rounded engineers



Student Council

The Student Council for 2019-2020 consisted of Rohan Kamath (General Secretary), Anastasia D'Souza (Sports Secretary), Rajas Badve (Treasurer), Sheena Fernandes (Treasurer), Aishwarya Warke (Cultural Secretary) and Elsa Mathew (Technical Secretary) from the Mechanical Engineering Department.



Xanthium

From 4th to 11th September 2019, Team Xanthium, which consists of twenty students along with Prof. Nilesh Gaware (Faculty Advisor), participated in "QUAD-The Off-Road Championship", held at Bijnor, UP. Their quad bike underwent several tests, such as Technical Inspection, Drop Test, Maneuverability Test, and Mud walker Test. The team bagged the 6th rank overall due to its strong performance in static events.



SEAD Journey

SEAD 2.0 has brought a big paradigm shift in the working environment of the department. The major focus areas undertaken in the journey are Collaboration with industry, Project based learning, Value added courses, Placement and Incubation.



ISHRAE

This year, ISHRAE working committee was led by president Ms. Vishakha Dikshit. The chapter organised several IVs to well-known companies like Mitsubishi Electric India Pvt. Ltd. and Kruger India Pvt. Ltd. They also helped organise ACRESERVE, ITC's Flagship National event on the DBIT Campus. Prof. Cleta Pereira attended a 5 day Faculty Development Programme on Refrigeration and Air Conditioning at BITS Pilani, Hyderabad. In spite of COVID-19 and the nationwide lockdown, ISHRAE conducted various webinars and workshops online in which students of DBIT participated actively. ISHRAE DBIT Co-ordinator Prof. Cleta Pereira became the first professor in the history of ISHRAE DBIT to be offered the position of 'Women In ISHRAE' Chair in ISHRAE Thane Chapter for the society year 2020-21, and Student President Vishakha Dikshit became the first student from DBIT to be offered the position of 'Women In ISHRAE' and 'Youth @ ISHRAE' Co-Chair in ISHRAE Mumbai Chapter for the society year 2020-21.

Short Term Training Program

AICTE - ISTE approved one week Short Term Training Programme on "ADVANCED MACHINING" was organized by Department of Mechanical Engineering, DBIT from September 3 - 7, 2019. 27 faculty members and 20 students participated. All resource persons were from prominent institutions like BARC, IITB, SVERI etc. They introduced attendees to state of the art micro- and nano-machining and their applications, high-end lab facilities present at their respective institutes, and educated them on the importance of mathematics and its soundness in understanding the machining at micro nano level. The department handled various logistical aspects of this STTP.



Faculty Achievements

- Dr. N.M Rao has successfully published his research work in refereed journals and conferences. He has published two papers in international journals and three papers in international and national conferences. He has also received a patent on "A Biological Safety Cabinet and A Kit Thereof".
- Dr Y.S Padiya has successfully published two papers in International Conference on Heat and Mass Transfer (ISHMT-ASTFE), IIT Roorkee, India.
- Dr N.M Rao, Prof Mahesh Rajwade, and Prof Sachin Sheravi received a minor grant from Mumbai university .
- Dr Pradeep Suryawanshi received his PhD (Mech-Design Engineering) from IIT-Bombay on 10th August 2019. The topic of his research work was "A Novel Mass Spring Model for Simulating Transversely Isotropic Materials Under In Plane Loading"



3D Printing Workshop

This was a 1 day workshop held by professors Shreeprasad Manohar & Hemant Hogade, aimed at giving students an overview of 3D printing and FDM technology. 38 participants registered by making a payment of Rs. 600 for the same.

Parent's Teacher Meet

Parent Teacher meet was held on 31st August 2019 and 29th February 2020. The main objective of the meet is to discuss the academic performance, attendance, initiatives and best practices of the department. One to one interaction is done with the parents by respective class teachers. Parent feedback is taken at the end of the meeting.

Gate Study Circle

The GATE study circle which started in 2018 successfully completed one year with the hard work and dedication of the resource persons involved in guiding and mentoring the students. The hard work of faculty and dedication of the students gave a fruitful result. 27 candidates registered, including 2 from other colleges. 6 candidates continued till the end, of which 3 students qualified: **Om Patil (AIR 420), Hitesh Waghmare (AIR 1201), and Ayaz Ansari (AIR 8000), all of whom were students of DBIT.**

BEYOND THE BOOKS

Work hard, play harder!



VORTEX

Vortex, the annual department day celebration was held on the 25th of October, 2019. This year's theme chosen was the "90's Super Hits" to bring back the nostalgia of the 1990's and to relive those beautiful moments of that decade. The event was declared open by HOD Dr. NM Rao, after which the dean of student of affairs Dr. Suryavanshi gave a compelling and powerful speech to all the students and hoisted their spirits. The hosts for the event Nihar and Mandar took forward the event with the introduction. The event was filled with various power pack performances like band events, short films, dance performances. Then students were felicitated by Dr. Rao for their outstanding academic performance for the year 2018-2019. The winners of Pre-Vortex events like cricket, tug of war, carrom and tennis competitions were facilitated by Dr. Suryavanshi. Xanthium Racing inaugurated their new club, "The Madgear Motorsports Club". Faculties also participated with various dance and singing performances and even a short film. This event proved to be a great success and was concluded by the jam session.



Marathi Club

The Marathi Club was set up collaboratively by Mechanical Engineering department students and faculty members in 2018 at the behest of Dr. Nambiar to give Marathi speaking students of a college to express their creativity in their mother tongue. In September 2019, the Marathi Club held their third event, named "Morya", which was based on the festival of Ganesh Chaturthi. The whole event explored the huge cultural impact that the festival has on the life of Maharashtrian people and how it brings people together. It included musical and dance performances that were thoroughly enjoyed by students and faculty members alike.

HYSTERIA

Mechanical Engineering department students shone in DBCL's annual cultural fest, Hysteria this academic year. They bagged winning positions in various events of categories like dance, singing, DJing, stand up comedy, art, cross over writing, and debates. The department's teams of both male and female students won several indoor and outdoor sports competitions in Hysteria, such as rink football, tug of war, chess, table tennis, and multiple athletic events, among others.



E-CELL

The Entrepreneurship Cell of DBIT conducted three competitions: Brand Challenge, Budget Making and Stock Market Simulation. All three were dominated by students from the Mechanical Department: Jovin Varghese and Gavin Dsa placed second in Brand Challenge, while Dhruvaraj Gambhire, Lokesh Gaingade and Varad Dharap tied for second place in Budget Making. In the Stock Market Simulation, first three places were all occupied by Mechanical Engineering students, with Lokesh Gaingade, Amol Nagpure and Vinit More coming in first, second and third place respectively.



DBPL

In DBPL 2019, both first and second place winning girls' teams were: We Showed Up (Anastasia D'Souza, Smriti Gondane, Priyanka Sonawane and Pratibha Sharma) and Lights FC (Velchristine Rodrigues, Shreya Birje, Diana Fernandes and Anuranjini Kombar). Besides, the boys' team that placed second was Advance FC (Aylmer Gonsalves, Raj Dalvi, Swapnil Tuscano and Keshav Londhe).



- Gomes Keenan
- Dsa Gavin
- Salvi Ronit
- Yardi Yash

Unique Feature Table Tennis

Athletics-relay

- Alwin Wilson
- Shaun D'Souza

INTER COLLEGE ACTIVITIES (SPORTS)

- Daniel Joy

Basketball

Field Football

- Carvalho Smith
- Noronha Ethan
- Gonsalves Aylmer
- Yardi Yash
- John Rohit
- Tawde Romit
- Dsouza Shaun
- Fernandes Joash
- Fernandes Calvin
- Divate Chaitanya
- Fernandes Mathew

HIGHLIGHT REELS

A Round-Up of the Greatest Events of this Academic Year



Make A Thon

"Today's Innovation is Tomorrow's Technology"

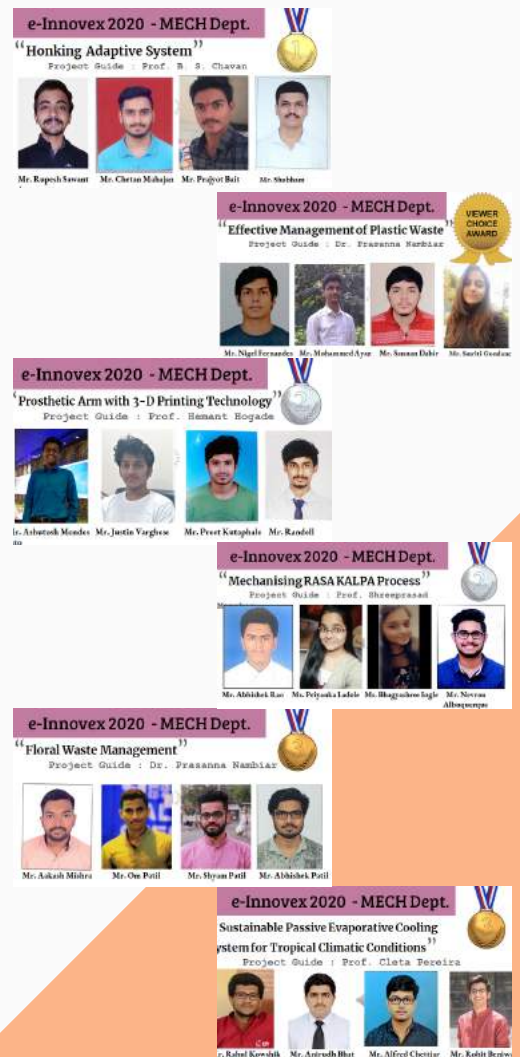
Make-A-Thon is a student start-up and entrepreneurship event where students from various departments at the DBCL level collaborate for 2-3 months to ideate, create & deliver solutions to various challenges & problems, either of their interest or from the database of problems provided by the Make-a-thon organizers. This is the first event of its kind in Mumbai University and even in Maharashtra State with exception of SIH. The event kick-starts with challenges being selected/proposed to participants, for which they have to come up with an innovative solution and develop a prototype within 2-3 months of Ideation. Solutions based on hardware and software projects are refined based on feedback from faculty and other industry experts. Event concludes with judging and prize distribution/incubation. Winners received a working capital worth Rs. 5 lakhs and cash prizes worth Rs. Rs. 30000 courtesy of Navyuvak Entrepreneurs and MIDC respectively. The top 4 got a free of cost bench at WeWork Mumbai for 3 months. The total Sponsorship raised was Rs. 688000/-, making this a fully sponsored event. Reimbursement upto Rs. 1000/- was provided to all participating teams to partially cover expenses incurred towards making a prototype.



"When life gives you lemons, make lemonade"

Innovex is a platform for the students to showcase their year long effort and help in encouraging open-ended discussions and deliberations for improving the scope of the project. Due to the COVID-19 Pandemic across the country, our students and faculty figured out a way to use technology to give the BE students the experience of displaying their project to industry experts, faculty and peers, in a virtual world on our learning management system - Moodle. A course was created on Moodle to exhibit 36 Mechanical projects in the form of a discussion forum where the poster and video presentation link of each group were embedded. Projects were categorised in 5 categories: Community Welfare, Sustainability, Product development, Research Laboratory Development, and 344 users visited the exhibition. Judges for Mechanical Engineering Department:

- Mr. Ajay Pillai - Senior Vice President, Thyssenkrupp India Private Limited
- Mr. Iqbal Nasir - Director Technical, Technotalent Engineering India (P) Limited
- Mr. Narayan Kulkarni - Senior General Manager, Toyo Engineering India Ltd. Mumbai
- Mr R.N. Joshi - Founder, ARKK Consultancy
- Dr. B. Vaidhyanathan - Founder Director Interface Design Associates Pvt. Ltd.
- Mr. Srinivasan Iyer - Managing Director, Interface Design Association, Pvt. Ltd.



Dear readers, we hope you cherish this edition of the newsletter. I would like to thank everyone who has immensely worked hard towards this edition to make it successful.

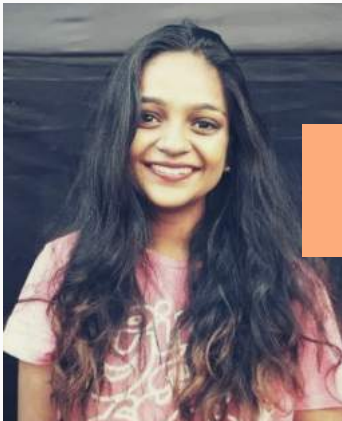
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