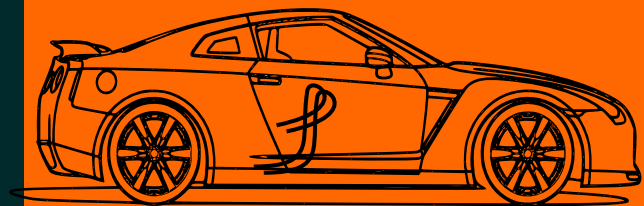
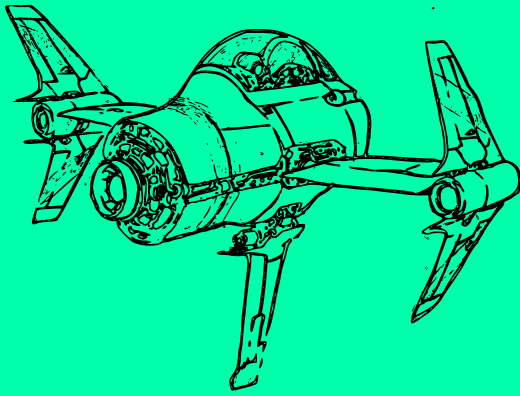




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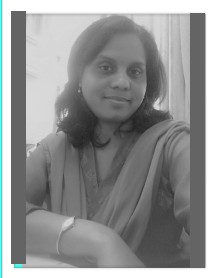
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EXPRESS **2017-18**
ISSUE#6

MECHANICAL EXPRESS TEAM



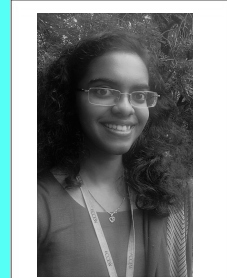
Prof. Dr. Ajit Bhosale
HOD, Mech. Engg. Dept.



Prof. Poonam Bhore
Faculty Co-ordinator



Alfareeza Haque
Student Co-ordinator-Design

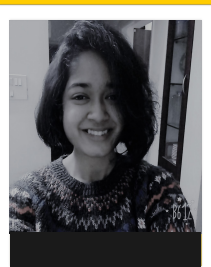


Deepti Gnanaseelan
Student Co-ordinator-Literature

DESIGN TEAM



Tanvi



Shruti



Prerna



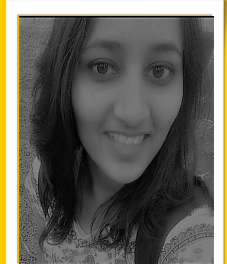
Aishwarya



Siddhi



Radhika



Shivani

LITERATURE TEAM



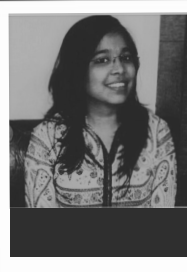
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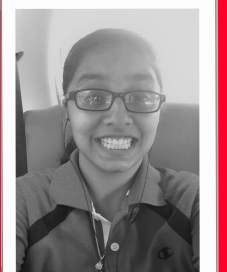
Sankeerthana



Nayan



Ankita



Anushka



Shridevi



Snehal



Shreya



Aditi



Kshitija

TOPPERS

A.Y. : 2016 -2017



Vaishnavi Radkar

BE



Anuja Arthekar

TE



Apurva Dhokey

SE

SPORTS



Chaitali Gawade

Cricket
(BE)



Shridevi Gutte

Kabaddi
(TE)



Ankita Jadhav

Kho Kho
(TE)



Anushka Mookherjee

Basketball & Handball
(TE)



Vaishnavi Bhadane

Cricket (SY)



Rutuja Badve

Kho Kho (SY)



Papiya Bhattacharya

Basketball (SY)

B
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J
A



Team Zenith's AIR - 15



Team at Pithampur



State Level Workshop on Electric Vehicle :
Opportunities and Challenges in India

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Cyclothon

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FROM HOD'S DESK

Greetings to all!!

The academic year 2017-18 has been full of new additions, great events and collaborations. We started by welcoming second year students, who are the first batch of the Autonomous course in the Department.

They were briefed about various facets of Mechanical Engg. course by the faculty. The session was a success as many queries were raised by the students and eventually we could satisfy them all.

A feather in the cap of the Department has been the starting of the M. Tech. (Design Engg.) program from the current academic year. Out of the total 30 seats, 23 seats were filled up. A separate orientation session was also organized for these students. As it is also the first batch under the Autonomous course, discussions about the subjects, examination scheme and other details were held.

The BAJA team of the College, Team Zenith, went for the Virtuals Event, and they passed the test with flying colours by securing 14th position in this event. The final Endurance Race was held at Pithampur in January. Our Car put up a good show and this was a commendable effort taken by our All Girls Team.

The second semester was very eventful. A collaborative effort from Cummins India Limited, ANSYS Corp. and Cummins College led to the establishment of a Centre of Excellence in the Department. It is called as 'CeRIE' and it will

surely help in improving the research capabilities of the faculty in the college. This is a remarkable achievement, both for the College and the Department.

The Department organized an event, CYCLOTHON for the Annual College Technical Festival Innovation. We received an overwhelming response from participants across the city.

During the Annual Cultural Festival Gandhaar, TE MECH was awarded with the 'Best Class Award' and the Department received the 'Best Department Award', second year running. It was a combined effort of all the students, the faculty, technical and the non-teaching staff who made this possible. Hearty Congratulations to All!!

An important event in this year's academic calendar was a workshop on Electric Vehicles organised under the aegis of BCUD, SPPU and the college department. Eminent speakers from IIT and IISc were invited for conducting sessions lasting two days. Nearly 130 participants including faculty members from various colleges and people from Industries were present for the workshop. The inaugural and valedictory sessions were graced by Experts from USA. The workshop was appreciated by everyone.

In a nutshell, it has been an exciting year with lots of positive outcomes. The Mechanical department strives to keep this momentum going in all spheres.

Best Wishes to All for a Bright Future.

- **Dr. A. A. Bhosale**

WORD FROM THE TEAM

Dear readers,

So, we come to the close of one more academic year. As a year closes in, we tend to look back to see what the year brought us and remember all that happened. The sixth edition of MechExpress hopes to jog up your memories of the academic year 2017-2018. We bring to you the achievements of faculty and students, the various workshops conducted in our department, an insight into the many clubs in our department, and last but not the least, interviews from our very own students which we believe will truly inspire you! Our team, this year, has worked hard to bring you the best possible ensemble that we hope you enjoy. We would like to thank all the faculty and students who contributed to this effort. Also, a big thank you to our department for supporting us, and to Ms. Poonam Bhore for her guidance.

Happy reading!!!

DEPARTMENT VISION

To be recognised as a centre for quality education to develop women professionals in Mechanical Engineering

DEPARTMENT MISSION

1. To impart knowledge and skills in the field of Mechanical Engineering.
2. To develop Mechanical Engineers with professional ethics, who will respond to the current and future needs of society through academic, industrial, and research activities.
3. Develop facilities for higher education and promote research activities.

FACTS FEVER

- Ferruccio Lamborghini was the original Tony Stark. During WWII, he was stationed on the isolated island of Rhodes as a vehicle maintenance supervisor for the Italian Royal Air Force. Needless to say, being stuck on an island in the middle of a war makes it pretty tricky to secure spare parts, forcing Lamborghini to cobble together scraps to keep his machines running. He quickly earned the reputation of being a master mechanic, and an even more prolific tinkerer. Kind of like that time Tony Stark built a nuclear reactor in a cave. But real.
- Popular Volkswagen cars Passat, Polo and Jet, are all named after winds- trade wind, polar wind and jet stream respectively.
- Albert Einstein is the co-inventor of a refrigerator. He and his former student Leo Szilard received a patent for it in 1930. Coolants used at the time could be toxic, and Einstein got the idea for a simple, single-pressure absorption refrigerator when he read about a sleeping family killed by leaking refrigerator coolant.
- In 1923, Enzo Ferrari met the Count and Countess Baracca after winning a race. The pair were the parents of the famed World War I flying ace Francesco Baracca, who had died in action in 1918. As the legend goes, Baracca's parents suggested that Ferrari adopt their son's "prancing horse" logo for his racing team, reportedly saying it would "bring him luck." Nine years later, Alfa Romeo (the team that Ferrari raced for) allowed Ferrari to put the logo on his car for the 1932 Spa 24 Hours. The yellow shield is in honour of his hometown.

NATIONAL SERVICE SCHEME

2017-18

Cummins firmly believes in giving back to the society we live in and the best platform to do so is NSS-Cummins. The NSS team from Cummins College has been an active enthusiast when it comes to carrying out various drives, rallies, celebrating national days, etc. The list of the various activities organized by the NSS team for the academic year 2017-18 are as follows:

SwachhwaSwastha Bharat Pakhavda

It was conducted on 9th August 2017. The Cummins College campus was cleaned by 30 volunteers and staff members by visiting every corner of the campus. This was followed by a visit to the slum area, where the volunteers campaigned by going to each household, demonstrating the importance of cleanliness. Later, an awareness rally was held for the same. The volunteers had made impactful posters and placards. The rally was concluded with an oath taken by the NSS team along with the residents where they pledged to keep our city clean.

Street Play Mega Competition

Cummins NSS team participated in the intercollegiate Street Play Mega Competition organised by the Pune District Legal Services Authority on 21st September 2017 at the Abeda Inamdar College, Pune. A team of 10 girls and a staff coordinator prepared a play on the topic 'Domestic Violence and Its Impact on Society'.

Global Handwash Day

This day was celebrated on 15th October 2017 with the Samstha's school kids. A 'Hand Wash Technique' demonstration session was held and the importance of clean hands was explained to kids by using posters and slogan. An essay competition was held for the students from 7th-10th standard. The winners were given a stationery hamper as a token of appreciation.

National Unity Day

On 31st October 2017, we celebrated 'National

Unity Day' at Cummins along with NSS volunteers, Staff coordinators and First Year B.Tech students. Three activities were planned for the day. On account of Sardar Vallabhbhai Patel's birth anniversary, a documentary film 'Ekta Diwas' - inspired from his life story was shown in the college auditorium. Later, students proposed their ideas on the topic 'Unity in Diversity for India' and presented it to the audience. The day concluded with an intense classroom discussion on how to improve the integrity in India and its citizens. Indeed, the National Unity Day was celebrated in the right sense.

Tree plantation

This year, multiple trees were planted all around the campus by volunteers and staff.

Thyroid and Sugar check-up camp

On 3rd January 2017, we organized a Thyroid and Sugar check-up camp for faculty and students of Cummins College, with the help of NSS volunteers and staff co-ordinators. In this camp, blood tests were carried out for Sugar and TSH(Thyroid) levels under the able guidance of certified doctors. Reports and personal counselling was done after the camp.

NSS CAMP at Pasali

The camp was organized by the college and the villagers from 5th January to 11th January 2018 at Pasali. The NSS volunteers also conducted activities like 'bandhara' building, blood check up camps and taught in primary and secondary schools in the village. A health and household survey was conducted for the localites. Various sessions on Adolescence and Women Health, Anaemia and its Cure, Meditation and Peace, and Innovations in rural sectors were also conducted.

Cleanliness drive

A cleanliness drive was held on 31st January 2018, by the Cummins NSS team for the entire college. The task was to clean the premises wherein the entire college could participate. The

team started cleaning from the main entrance gate and managed to clean every corner of college. Plastic wrappers, polythene bags, e-waste, etc., was disposed off efficiently. Faculty members also supported the drive by being a part of it in large numbers.

Guest Lecture on Traffic Rules and Regulations

It was conducted on 15th February 2018, in the Mechanical Auditorium. Mr. Anil Pantoji, Senior Traffic Inspector at RTO, Pune, delivered this talk for second year students and NSS volunteers. We pledged to abide by all the rules.

Blood donation camp

This camp was successfully organized by the college under 'JankalyanRaktapedhi Blood Bank' initiative. The blood donation had a huge response from both the students and faculty, indeed a successful event.

Mechanical Engineering students involved in NSS 2017-18 activities:

1. Kanchan Avhad
2. Vinaya Ingalikar
3. Mansi Joshi

4. Aishwarya Ponkshe
5. Nikita Gayake
6. Shridevi Gutte

- **Shridevi Gutte (TE Mech)**

Did You Know???

1. Bulletproof vests, fire escapes, windshield wipers, and laser printers were all invented by women.
2. When lightning strikes it can reach up to 30,000 degrees Celsius (54,000 degrees Fahrenheit), i.e. a bolt of lightning on earth gives a temperature much greater than the surface of the sun!
3. Originally in 1886 Coca Cola was introduced as an 'intellectual beverage' to boost brain power.
4. The First carpet cleaner was a gas driven machine pulled by horses.

The Symbol of NSS

The symbol for the NSS has been based on the giant Rath Wheel of the world-famous Konark Sun Temple (The Black Pagoda) situated in Odisha, India. The wheel portrays the cycle of creation, preservation and release. It signifies the movement in life across time and space, the symbol thus stands for continuity as well as change and implies the continuous striving of NSS for social change. The eight bars in the wheel represents 24 hours of a day. The red colour indicates that the volunteer is full of young blood that is lively, active, energetic and full of high spirit. The navy blue colour indicates the cosmos of which the NSS is tiny part, ready to contribute its share for the welfare of the mankind. It stands for continuity as well as change and implies the continuous striving of NSS for social transformation and uplift.



ASME CUMMINS STUDENT SECTION

The American Society of Mechanical Engineers (ASME) is a professional association that in its own words promotes the art, science and practice of multidisciplinary engineering and allied sciences around the globe via continuous education, trainee and professional development, codes and standards, research, conferences and publications. It is a non-profit organization that was founded in North America and focused only on Mechanical Engineering but has now become multidisciplinary and global. Thus, our department planned to have a section of its own.

The inauguration of Cummins Student section took place on September 2015. The ASME Cummins Student Section became the first professional society in the entire Pune University under the guidance of the student section advisor Dr.Ravindra Ingle and our previous chair Miss TejaswaniJaglan. Since its inception the ASME students section has organised many workshops, college level competitions and guest lectures. It is unique and one of the largest knowledge sharing platforms for students.

The events conducted during the academic year 2017-18 are as follows:

- A guest lecture on 'ROLE OF WOMEN IN THE ARMED FORCES' by Major General Dr Vijay Pawar conducted on 21st July 2017, inspired the young female engineers of our nation.
- The eagerly awaited visit to the National Defence Academy was planned on the 8th of October 2017. It was indeed an exceptional opportunity to witness the most prestigious and premier institute that imparts training to us to be Army, Navy and Air Force officers.

- On 20th March 2018 this platform had a guest lecturer Mr Abhishek Gupta, Sc 'E' from ARDE, DRDO who spoke on Recent Technologies in the Artillery Gun Systems.
- Mr Anand Jere, an advanced technologist from GENERAL ELECTRIC spoke on R&D and career opportunities in Mechanical and Aviation Industry. This guest lecture attracted maximum crowd from the Mechanical Department.
- A guest lecture on 26th March 2018 was the last event of this academic year. The lecturer was by Dr. V. Narayan an, Director, LPSC, ISRO on the topic, 'SATELLITE VEHICLE LAUNCH: PAST, PRESENT, AND FUTURE.

In this way the ASME STUDENTS SECTION has helped students explore possibilities and connect to engineers. It feels proud to have ASME STUDENTS SECTION ASME not only a line on your resume, but a career connection.

- **Alfareeza Haque (BE Mech)**

History of ASME

1. The American Society of Mechanical Engineers (ASME) was formed in 1880, becoming the third such professional engineering society, after the American Society of Civil Engineers (1852) and the American Institute of Mining Engineers (1871).
2. The Society's founders were some of the more prominent machine builders and technical innovators of the late nineteenth century; led by prominent steel engineer Alexander Lyman Holley, Henry Rossiter Worthington and John Edison Sweet.

GANDHAAR 2018

Any college life is incomplete without the experience of the Annual Social Gathering!!! We call it GANDHAAR. The primary objective of this festival is to encourage students to showcase their creativity and talents in domains of their interest. The fest is organized by the students of all branches with the help of panel members.

The theme this year was “THE 90’s REMIX”.

There were both intra and intercollegiate competitions in which students competed against each other in various events either class wise or college wise. Fashion show, group dance, group singing, talent Show, doodling etc. made the atmosphere truly exciting and vibrant.

A stellar performance by a local band on the star night was thoroughly enjoyed and applauded by the audience.

Gandhaar night on the last day had prize distribution ceremony in which prizes were given to winners of various events.

It also featured the distribution of best outgoing students, the Sudha Murthy award and the prize for best department which was Mechanical.

The finale was in due form of a buffet for all the student and staff of the college.

The contribution of each student and staff member was immense to make the annual cultural fest a grand success. In all GANDHAAR 2018 had every ingredient of a successful annual gathering.

Best wishes to all!!!

- Prof. Amit Rajurkar

NOSTALGIC NINETIES!!!

- The Hubble Space Telescope launched in 1990. According to the Space Telescope Science Institute, it was able to lock onto a target without deviating more than the width of a human hair seen at a distance of one mile.
- The decade’s biggest contribution to photography is actually a piece of software - - Photoshop. In 1990, Adobe Photoshop 1.0 was released and no model or sunset photo would ever be the same. Invented by Brothers Thomas and John Knoll, Photoshop is still one of, if not the most important photo-editing tools on the market and sits on virtually every pro photographer's computer.
- At the very end of the 1990s, when the United States spent around \$100 billion dollars to prepare for Y2K. Until the 1990s, many computer programs were designed to abbreviate four-digit years as two digits in order to save memory space. These computers could recognize “98” as “1998” but would be unable to recognize “00” as “2000,” perhaps interpreting it to mean 1900. Many feared that when the clocks struck midnight on January 1, 2000, many affected computers would be using an incorrect date and thus fail to operate.

INNOVATION 2018

- **Prof. Nilesh Kolhalkar**
(Faculty coordinator)

Innovation 2018 was around the corner and it all started with a simple thought, bored with the same old events? This year let's ride onto the happy Cummins Street! Then came into the picture the nostalgia of riding to school and classes. From this wonderful broader scale, we moved to the roots of a bicycle; into the life of nuts and bolts! With the basic flow of events which comprised of assembly and disassembly of the given cycle our work ran through many aspects. From renting the cycles to actually learning them dismantle and assemble back accurately. We were actively developed into a group of backyard cycle technicians with a whole bunch of spanners and Allen keys. The publicity team members were themselves much excited about our event: Cylothon; and thus, ensured an ample of registrations from different colleges around Pune. A huge response is a perfect start! But a raw idea without a best guidance is fruitless. Our respected HOD Dr. Ajit Bhosale was very positive and supportive about the event which boosted our confidence levels. His vision helped us plan things flawlessly. The staff coordinators taught us to think and deal the situations practically to arrive at conclusions faster. Great efforts of our student technical head and working in an honest upright team paved our way satisfactorily.

Both the days started with right dynamics, further the series of events consisted of circulating the rule sheets, conducting the event and supervising the tasks. The tasks included assembling the already dismantled cycle and then completing 5 laps around the circle, the final job was to dismantle the cycles right back as they were kept initially. Each task was timed separately also the teams were judged purely on basis of time criterion, a swift and skilled team wins the race! A tool box with a multipurpose spanner, rags and air pumps were rightly provided to every team. A separate volunteer kept a track of one and all the

teams. The event was successfully held in 4 slots on each day with varied number of teams in every slot, considering the availability of the team members to complete a count of 56 teams. Around 26 teams were from Cummins College while the rest were from other colleges. Finally, we had a separate round for 13 teams of all the teaching as well as non-teaching enthusiasts which came up to be the sweetest cherry on the cake! The decision for the final two cash prizes was very tough, though. The winner completed the whole event in record time of 3 min 32 sec. A separate set of parameters which included handling the cycle, assembling the parts correctly, not missing any of the parts; neither the smallest of the washers, placing the things back correctly and carrying the team tags while the member rides, were consistently announced while the event was being conducted. These parameters were the tie breakers. In a nutshell, Cylothon was an interest driven and properly geared experiment and hence evolved into a brilliant result!

- **Purva Rajadnya (TE Mech)**

Interesting Facts about the famous Innovators

1. Dr. Yoshiro Nakamatsu, who patented more than 3,300 inventions in his 73-year-old life, got his creativity from sinking himself underwater for hours at a time. Point? "To starve the brain of oxygen. Zero-point-fiveseconds before death, I visualize an invention."
2. After becoming recognized as one of the world's greatest minds, Newton was appointed England's Warden of the Mint. His job was to find and build cases against counterfeiters, and he caught one particularly well-connected counterfeiter named William Chaloner, by bribing crooks for information.

BAJA 2017-2018

TEAM ZENITH 4.0

BAJA is an intercollegiate competition run by the Society of Automotive Engineers (SAE) where undergraduate students from different colleges participate to design and build off-road cars. The goal of this event is to design, build and race off-road vehicles that can withstand the harshest elements of rough terrain.

Team Zenith 4.0, the official BAJA team of Cummins College, participated in BAJA 2017-2018 event which was scheduled from 24th-28th Jan 2018 at NATRAX, Pithampur, Indore, Madhya Pradesh. It was Zenith's 6th year in BAJA.

Our journey started back in the month of March 2017, where a total of 24 automobile enthusiasts from Mechanical engineering department, Electronics and telecommunication department and Instrumentation and control department came together to live that one dream with lots of enthusiasm and hopes. This year the team also recruited 5 first year students as off team members.

After rigorous study, design and analysis of various components, and successfully mapping the required and desired parameters, the team was ready to face their first challenge, the 'Virtuals' Round, held at Chitkara University, Chandigarh on 14th-15th July 2017. 5 members from the team represented the college at the event. The team had to present their car and also face an oral exam. After successfully clearing all the categories with a score of 180.3/200, we ranked **14th all over India** of the 400 teams that participated, and 150 teams qualified for the main event at Prithampur.

The team started with the manufacturing of the buggy in full swing in the month of July after the first phase. Right from roll-cage prototype to the final one, making stiff and stable suspension and wheel fixtures, notching and welding the tubes, getting the components manufactured and assembling them together, the team took immense efforts to maintain the symmetry of the vehicle and reduce errors. Working late nights, going to

unknown places with aim and determination, getting our hands dirty on the shop floor, dealing with technical surprises and a lot more made our journey thrilling and memorable. Finally, on 22nd November 2017, the team had their first successful test run and then the rigorous testing phase commenced. The car testing was carried out with a view of all the events like acceleration test, brake test, sled pull, Maneuverability event, suspension traction event and the 4 hours endurance race.

At the main event, as per schedule the team successfully cleared the technical inspection on the first day in first attempt. Getting this clearance as early as possible was very important this year as in the previous years the team had faced many challenges. Team zenith was amongst the first few teams to clear TI. After this the team started performing all the dynamic events and simultaneously went for the static events such as design evaluation, cost evaluation and sales presentation. With a **grid position of 13th**, Team Zenith was all set for the final 4 hours endurance race with full confidence. The team was racing in top 5 and top 10 continuously and with this the team completed 18 laps in the endurance race.

Team Zenith 4.0, an all-girls team from Cummins College ranked **15th all over India** at BAJA SAEINDIA 2018 event. It was indeed a very proud moment for all of us. The team gave a tough fight to all the competitors and performed exceptionally well at the main event. It was a dream come true and definitely a podium finish for the team.

We thank the college, our families and our sponsors Cummins India Ltd. and SKF for having faith in us and giving us this amazing opportunity to work and learn here and take away so many important things.

Some dream their #own

Some buy their #own

But we build our #own

We live for the glory,

We work hard to achieve it,

We raced towards ZENITH!!!

- Radheshree Ingle (BE Mech) (Captain)

WORKSHOP ON 'ELECTRIC VEHICLES: OPPORTUNITIES AND CHALLENGES IN INDIA'

- **Dr. Deepak Watvisave**
(WorkshopCoordinator)

The future of Automobile is Electric Vehicles as it is a new way of refuelling. The Indian Government has outlined an ambitious plan to shift to Electric Vehicles by 2030.

The Electric Vehicles Workshop organized by the Mechanical Department was the first of its kind in Pune. 120 students and 30 Faculty members from all over the city had participated in the workshop.

It was a 2-Day workshop divided into 6 sessions. The sessions were delivered by the experts in the EVs field. For the inauguration, we had a video call with our alumni Miss. Anchalika Pathak who currently works at Tesla, USA. She shared her experience about working at Tesla. The first session was delivered by Dr. Prabeer Barapanda (IISc Bangalore), a renowned researcher in Battery Technology. We also had with us Dr. Mitra and Dr. Venkat from IIT Bombay. They explained the Manufacturing and Transportation through Modelling and Simulation.

For the second day, we had a session of Dr. Om Prakash Kulkarni, a well-known Scientist who owns 18 commercialized patents. He talked about Energy Storage and Government policies for EVs. Dr. Sally Pardue and Dr. Rao from Tennessee Tech. University, USA embraced the Valedictory session as guest speakers.

The session by such Professionals was a great learning experience for all the participants. We have received a positive feedback from the students and the faculty. Our Department has plans to continue with such upcoming trends and take up more such emergent technical topics for the future workshops.

- **Prof. Amit Rajurkar**

AMAZING VEHICLES

- **Biggest dumper truck:**

The General Motors Terex Titan 33-19 mine truck, made in 1974, can carry 317.5 tonnes. An average truck carries about 5 tonnes.

- **Fastest Car:**

The Thrust SSC is the most powerful car ever built. It uses two Roll-Royce engines from Phantom fighter craft. It was also the first land vehicle to break the sound barrier.

- **Biggest Tyres:**

The largest Road vehicle tyres are 3.82m in diameter. They are made by Bridgestone Corporation, Tokyo, Japan. Normal car tyres are 60cm in diameter.

Why do we drive on the left???

Drivers in most countries drive on the right. But in more than 70 countries people drive on the left. These include the UK, Japan, Australia, India, South Africa, Pakistan, Ireland, Malaysia, Indonesia, Thailand, and New Zealand. The different explanations for the tradition of keeping to the left of the road dates back to the time when most people used horses to travel. One is that it is easier to mount the horse from left and then it is easiest to stay on the left. Another is that as most people are right handed, riding on the left side allowed them to use a sword freely to defend themselves against approaching riders.



**BEST OUTGOING
STUDENT'S INTERVIEW
DEEPTI GNANASEELAN**

Q. Hi Deepti, before we begin, congratulations on winning the Best Outgoing Student Award. How do you feel?

Hi Anushka, thank you so much! Well, I feel very excited. When I first heard about it, for a second, I really couldn't believe that I had won this award. The news reached me at a very significant time, as I had just heard about the passing away of one of my classmates from junior college, barely 10 minutes before I received a mail about me having won the award. So, naturally, I had mixed feelings at that moment. I was upset, but the award was a bright spot in an otherwise emotionally low situation. My reaction was a little delayed, but I am extremely happy.

Q. That is a lot to process at once. I am sorry. What do you think were the qualities that made you shine brighter than the others?

I would say that the main thing that made me shine brighter was the fact that I could balance both academics and extracurricular activities well. I guess everyone says that at this point, but it is the truth. I have always been among the top 3 students in class as far as academics was concerned, while also attending multiple workshops, being an active participant (even volunteer) in both Gandhaar and Innovation, and also taking part in events outside our college. However, according to me the deciding factor was that I was a recipient of the WeTechGoldmann Sachs Scholars Award for Leadership. I was one among 26 who received this award, and the only person from all over India who was a student of mechanical engineering. That probably was my X-Factor.

Q. What an amazing achievement! Congratulations on that as well. On a more personal note, what kind of role did your teachers, peers and family play in this achievement?

As far as my family is concerned, academics or otherwise, they have always fully supported me in all my endeavours. So, I would definitely like to thank them first. As for my friends, if not for them, I wouldn't have had much participation in extracurricular activities. So, a big thank you to them as well. The faculty have also played an important role in supporting me, especially Rujuta Agavekar Ma'am and N.R. Patil Sir for recommending my name for the scholarship.

Q. Would you share what the process was for the Goldman Sachs scholarship?

So, for this award, the main criterion was an individual's capabilities. Being a leadership award, they wanted to know about the leadership roles that we had taken up and the potential we had. The application was a comprehensive questionnaire that required essay-like answers on your leadership roles, your ambitions and how you think the award could help you. The actual scholarship involves an amount of \$1500 and a 6-month virtual mentorship that concluded in Bangalore just a few days ago. I would specially like to encourage people to actively look out for scholarships and their eligibility requirements as they are given a great deal of importance in college applications, and of course it only adds more value to your resume.

Q. What is the biggest lesson you learnt in college, from your own experience or others'?

The biggest lesson I learnt, from my own mistake, is that I should have published at least one of my own papers. Bhooshan Kelkar Sir has also always stressed on the importance of publishing papers. Unfortunately, I failed to get this done. All college applications almost have an entire page dedicated to publications so I really wish I had paid more attention to this.

Q. An interesting question – You took last year's interview for the Best Outgoing Student. At that point did you think you would be the one getting interviewed one year down the line? Oh God, no I did not (laughs). At that point I had not even won the scholarship. When I was taking the interview, I remember thinking about how little I had done as compared to Vaishnavi Radkar.

She had taken part in BAJA, attended a biomedical conclave at IIT-Bombay and other such activities. I remember thinking how she was a class apart and that I was far from standing a chance. My main achievements were after that interview.

Q. Now that you are in her place, what word of advice do you have for aspirants from the upcoming batches?

An important advice I would like to give is that you should take at least one confirmed decision before entering the fourth year, i.e., whether you want to work after graduation or pursue higher education immediately. That decision controls a lot of things as the priorities slightly vary. Although resume building will eventually help both, for higher education, publications will have a greater weightage, and from the job perspective it would be important to understand what field you would like to work in. And once you have made up your mind, you can accordingly concentrate your efforts as needed. Specific advice for hopeful Best Outgoing Student award winners would be to look for differentiators and develop them. Only an academic-extracurricular balance won't stand out.

Q. If you had to reminisce your 4-year journey in this institution, are there any memories or anecdotes that you would like to share with us?

The most vivid memory I have of our college was our first day here, the induction programme. Out of my group of 8 people, 5 of us became friends on that very day itself. And the funny story behind that is why this memory stands out, and narrating would push this article over the word limit. We've remained great friends to this day, so it is not only a funny anecdote but also a very special memory. Another memory that stands out is winning the second position in the group singing competition in Gandhaar 2k18 as we had put in a lot of hard work and efforts after having had unpleasant outings for 2 consecutive years. It was a "WOW" moment and a memory that stands out.

Q. What are the things that you will miss most about college? And what will you miss the least?

What I'll miss most is Gandhaar and my friends. Actually, first my friends, and then Gandhaar(laughs). As for what I'll miss the least, I shall quote from Vaishnavi's interview, 'assignments!'

Q. If you could, what is the one thing that you would change in the education system?

It will have to be the number of days of leave we get. We don't even have enough times for internships. And internships are an important experience for engineering students.

Q. Lastly, do you have any message for our readers?

I would sincerely say, enjoy your college life and these 4 years because you are not going to get these days back. I spent 12 years in my school, 2 years in my junior college and now I am in the fourth year here, but I know and can say with all my heart that this is the life I am going to miss the most. This is the place and these are the friends I am going to miss the most. The worst part is the fact that after 4 years of graduation, we end up in different institutes which are in completely different countries, unlike school or college where we are only a phone call away from our friends. College is the most difficult phase to get past. The feeling still hasn't sunk in that in a few more months it will all be over. My heartfelt advice would be to cherish these moments as they come. They are what make these 4 years this special.

- **Anushka Mookherjee (TE Mech)**

GUESS WHO!!!

- An Austrian born actress and inventor, credited with developing a radio guidance system with spread spectrum technology_____
- A mathematician, philosopher and most importantly a mechanical engineer, without whom the branch of computer engineering would not have existed_____

Answers: Hedy Lamarr, Charles Babbage



ALUMNI INTERVIEW
ANCHALIKA PATHAK
SENIOR TEST ENGINEER,
TESLA

Q. Welcome back Anchalika, how does it feel to come back to college?

It feels great, I am so comfortable here. I have been punished here, had fun here, all at the same time.

Q. Tell us how and why you chose mechanical engineering in Cummins.

I always wanted to do mechanical engineering as I loved Newton and Archimedes physics. My parents had told me, especially my mother, that if I choose mechanical then I have to do it only in an all-girls college. The purpose of that was, that only in an all-girls college, will you be solely judged by your merit and not by your gender. There won't be any favouritism and you would have to do everything on your own. So, I always wanted to do mechanical engineering and in Cummins.

Q. Tell me something about Anchalika, the Cummins student?

I followed one principle given to me by my mother that was, do anything and everything but always top. So, when it came to studies I used to study (just not in front of the professors) and when it came to extracurricular I used to do that. For me, dance has always been my first love and during Gandhaar I used to be in like two to three dances. We would just go and participate to get the participation points for the department. I think that is the mechanical spirit. Also, I played basketball in school and junior college. So, I continued playing in Cummins as well. I have missed classes to play matches but at the same time I made sure that my scores never came down.

Q. How did these activities help you develop? How did they help you in your future?

They help in building your character. If you lose it teaches you to handle the failure, it teaches you to try again till you succeed. If you win it teaches you to stay humble. When you are working in an industry, you have daily tasks and you cannot always complete the task. Instead of going to bed unsatisfied, you will always have that resilience to bounce back the next day. I think this the most important of all that you learn.

Q. What role did the college play in deciding your career path?

It has played a very important role. I believe that it is the teacher who will make you like a subject or dislike it. So, college helped me understand what I really like. Engineering basically teaches you to have a very technical mindset and your analytics get very clear. It is very easy to slip out of the basic engineering subjects and do MBA or journalism or any other course but for staying in this tough field of mechanical engineering the teachers and the college needs to be credited. The environment here in the department, the exposure that we got, the collaboration of the college with the industries, specially Cummins and the opportunities given to us as students have all been the reasons for me to love mechanical and still stay in the same field for so long. The college and its support that we got for doing all sorts of various activities helped me in switching roles when need be and to developed a multitasking ability. I think all these factors are very important when you work in industries and college plays an important role in developing them.

Q. How will you sum up your four years of Cummins?

Oh amazing! We were a naughty batch actually. Those four years have been the best years. We have had loads of fun. With each professor there is one memory. In Gandhaar, we have called the professors on stage, on the spot comedy, crazy fun. Those four years are the most memorable years of my life. If I ever have a memory loss and I have to save something, I would save those four years forever.

Q. Now talking about the US, how was it getting selected for Purdue?

Hats off to the tie up that the college has with the Purdue University. Getting selected for the Purdue program felt like a birth right for us. They were selecting only from the mechanical department back then at least. I still remember the whole process of selection. The paper round, and then the interviews with principal ma'am and with the Purdue faculty. All of this was worth for what I got in return. I think our college by far is the best institute which promotes girl education. Not only for school, high school or graduation but also for post-graduation by means of these scholarship programmes.

Q. What made you stick with your interest for so long? Did you ever not feel like changing your field?

Again, I think it was the kind of teachers that I got in Purdue as well that helped me stick with these subjects like thermodynamics for so long. Also, I went to the professor and told him I want to work in this particular field and then I got funding for it from Cummins. So it is you who have to keep hunting for opportunities. My mentor there helped me choose the right courses for getting good grades. While working now I still at times write equations on a daily basis. That's what I love about the kind of work I do. I am still connected to the basics. In Cummins Corp. as well as Tesla, I am doing validation so I am not exactly dirtying my hands but if need be I can do that. I can go to the lab and fix things myself or at least know what to fix and get it done. So that is what I have always wanted to do and when you are doing it then you will never get bored. When you do what you like, there is always something in it that interests you and keeps you going.

Q. What is the difference in the teaching learning process of the US and India? Anything you would like to add to the course in India or US?

In India, we are more theory oriented than practical knowledge and getting our hands dirty. I think that is where we can build. But also, the study syllabus in India builds our basics very well. I would want to add or would love to add basically, linking thermal systems and renewables with small hands-on projects to create working

prototypes. The basics of thermal form the basics of creating effective renewable energy solutions.

Q. How did you get into Tesla and how is it working there?

I got into Tesla through a recruiter that contacted me based on my work experience and school projects. Working in Tesla is like going back to school with a new project and a problem, to solve each day. So, I would just say, exciting but also challenging. An amazing set of engineers and motivated people work there.

Q. How have your transitions helped you grow as a person?

My transitions from home to Pune to Purdue taught me to be more self-sufficient and independent. While moving from school to corporate I learnt to present myself and thoughts with clarity. The opportunities to apply what we have learnt so far into real use make you eager to keep learning more. Switching to Tesla has further taught me that learning is a forever process and one should always be looking to learn something new each day.

Q. Last question, who is the one influential person in your life, who motivates you and keeps you going?

My mother. She has, is and will continue to be my pillar, my motivation. She's my true best friend who has always given me a reality check and has taught me the value of resilience.

Q. Any message for all of us back here, studying in Cummins?

Well, every path is paved with gold - just keep giving your best and work whole heartedly. Also, health is wealth - so long as nothing you do tampers your mental and physical well-being - keep pursuing it. Also, for which you have to continue pursuing your hobbies. You need to make time to do what you like else you will not be able to vent out the weeks long working hours. Distraction is necessary to keep mind focused for long run.

Good luck to my alma-mater!

- **Shreya Jahirabadkar (TE Mech)**



THE EXPERT REVIEW:

DR. V. NARAYANAN

DIRECTOR, LPSC

Q. Congratulations on your recent appointment as the Director of LPSC, ISRO. Please tell me about your journey at ISRO.

I joined ISRO in 1984. For four years, I worked in the solid propulsion area mainly working in the nozzle systems of the liquid solid propellant rocket engine systems. After that, I went for my M. Tech. in Cryogenic engine systems at IIT, Kharagpur. Later, I joined back in the Cryogenic project. In the cryogenic system, liquid hydrogen and liquid oxygen propellant combination is used. That was when the development had begun. So, from the very beginning, I have been working in that area. Subsequently, I completed my Ph. D. in Aerospace Engineering from IIT Kharagpur mainly in the Cryogenic propulsion system. Since 1987 we have been working on experiments with liquid hydrogen and liquid oxygen to understand the technology behind the Cryogenic propulsion system. Somewhere around 1991, the GSLV Mark-II vehicle was configured with a cryogenic upper stage, which is the terminal stage. The GSLV Mark-II is meant for placing the communication payload in the geo-transfer orbit (GTO). When we talk about the GTO, the satellite has to be placed at a velocity of 37,000 km/hr. out of this the cryogenic stage imparts around 19,000 km/hr, i.e. 50% of the requirement. The cryogenic system is very complex and has high performance. At that time, only five countries had this guarded technology. Considering the long league in the development process, we hoped to get some support from other countries. However, no one was willing to come forward and help India. Finally, in 1991, we signed an agreement with USSR and as per the agreement, they were supposed to give two cryogenic propulsion stages hardware and the technology for realising the stage in India. Due to geopolitical reasons, the technology transfer was dropped in 1993. Then, we decided to develop our own cryogenic system in India. This started around 1995 and I was an active part of the team from the initial stages itself. We took around 20 years but succeeded in

2014 when our first successful flight took place on the 5th of January that year. I was the Associate Vehicle Director for the cryogenic stage of that flight. Parallely, the GSLV MARK-III vehicle was conceptualised with a powerful upper stage that we call the C-20 stage. For the last 5 years, before taking up the role as Director of LPSC, I was the Project Director of that project. It was a stage that was completely conceived, designed, and developed in India and had its successful flight on 5th June, 2017. It is heartening to note that the final stage of development from the first engine test to the flight took us only 28 months against the 42 months taken by US which is the next shortest time, a world record. Around a year and a half back, I was appointed as the Associate Director at LPSC. In that capacity, I was responsible not only for Cryogenic propellant system but also Semi-cryogenic propulsion systems in which liquid oxygen and liquid kerosene combination is used. As the Associate Director, I was overseeing the activities of the semi-cryogenic engine development and also earth storable liquid propulsion. On the 22nd of January this year, I was elevated as the Director of LPSC and am now responsible for satellite launch vehicles and the liquid propulsion in spacecrafts. These are the two main responsibilities of our centre, LPSC, which is the lead propulsion centre for ISRO.

Q. Why did you choose a career at ISRO?

When I completed my studies, I didn't have much idea about the Aerospace activities. After I completed my diploma in 1982, I was initially working in a private sector which was responsible for the development of the rear section of the cycles. From there, I moved to the Madras rubber factory responsible for realising a lot of tyres for automobiles and aircrafts. From there I moved to BHEL where I worked for 9 months before I got this assignment. So, it happened by chance, but after joining ISRO, the job has been very exciting.

Q. So, what according to you, is the highlight of your career at ISRO?

The founder of our space program, Vikram Sarabhai, mentioned his vision for the program as 'We should be second to none in using the advanced technology for the benefit of the

common man. In India, the space activity started around 1963 in a small village in Thiruvananthapuram, called Thumba. When we started 50 years ago, Yuri Gagarin from USSR had already gone around the Earth and come back, and the Russians and Americans were in the process of developing heavy rockets for their moon landing program. At that point of time, we were about 50 years behind them. From that, within the last 50 years we have filled that gap, and in some areas, we have also become number 1. When we talk about space technology, we started from scratch and a lot of new developments in satellites, launch vehicles, and ground segments have now been made by us. In fact, I would say, I was lucky to be a part of this organisation, to contribute in a very complex area of liquid propulsion system. Being one of the youngsters who joined the cryogenic program at the initial stage itself, gave me a lot of leverage to work continuously and contribute for the development of two cryogenic stages, a technology that was denied to India by foreign countries. Today, we have mastered the complex liquid cryogenic propulsion technology and stand among the six countries who are having this technology.

Q. Now that you have been appointed as Director, what is your vision for the centre?

LPSC is responsible for three major activities. First is the launch vehicle liquid propulsion system; secondly, the control systems required for ensuring that rockets move in the specified trajectory during its flight; thirdly, the spacecraft propulsion system. Initially, we used to make one rocket in 3 years, which became a rocket a year a couple of years ago. However, our current demand is around 18 rockets per year. One priority is to make all these systems operational and deliver for all 18 missions per year. For this, a lot of infrastructure development is required, and a lot of industrial interfaces are required to make this possible. Secondly, we are concentrating on new developments. ISRO's current capability is to place 4 tonne payloads in the GTO. We are trying to increase the MARK-III payload to around 8-10 tonne. For that, we are developing a very high thrust (200 tonne thrust) LOX-kerosene engine which is essential to increase payload and reduce cost of the satellite. In addition, we currently have

earth-storable propellants which are toxic in nature. We want to dispense with this toxic propulsion system and use green propulsion systems. For this, we are again using an 80-tonne LOX-kerosene engine. Also, when we talk about interplanetary missions, all over the world, LOX-Methane engine development is in progress. We too have initiated the development of this green propellant. When it comes to the spacecraft, we only use chemical propulsion system. An alternate in the form of electrical propulsion system is being considered as their performance is up to 6 to 7 times higher than the convention. Out of the entire mass of a rocket, the propellant mass accounts for 60 to 70 percent of the total weight. This can be reduced substantially with the use of electric systems and can instead be used to carry payload. We are currently developing an electrical propulsion system with Xenon gas as the basic medium. Also, you may have heard of Alan Musk bringing back the rocket stages. Currently, we only have expendable rockets. We are now working on reusable rockets wherein the hardware from one flight can be used in the next one, resulting in substantial cost savings. The other area that we are working on is air-breathing propulsion systems. This is a technology in which rather than carrying the oxidiser along with the fuel in the rocket, atmospheric air entering the rocket is used as oxidiser directly, hence substantially reducing launch mass. The only drawback here is that we can use this system only within the atmospheric region. Now the third major contribution of the centre is in the development of sensors. All types of sensors for space flight are developed here. The latest work under progress is human space flight program. For this, the propulsion system should have high margins and high reliability. So, a lot of associated systems are involved. Though the propulsion studies started 50 years ago, it was brought under a single umbrella around 30 years back, to form LPSC. Over these 30 years we have contributed for 5 generations of rockets in India – SLV, ASLV, PSLV, GSLV, and GSLV MARK III. I recently chaired a meeting for developing the road map for the liquid propulsion system for the next 20 years, i.e., 2017 to 2037. To do all this, we need a lot of industrial infrastructure for material development, manufacturing, and testing infrastructure. We project that, after 20 years, our capability will increase multi-fold. To meet this,

we created a vision document through a committee that I chaired. We are now executing the activities outlined in our vision statement.

Q. Advancements in space program has greatly helped the development of the country. Please express your views on the same?

In our country, the space program is a little different than in other countries. In all Western countries, rocket development started as a part of the missile program and progressed from there. In India, however, based on the vision statement of Vikram Sarabhai, we started the rocket development program for the benefit of the common man. In 1963, we were helped by the fisherman community in Thumba, where the donated their land for starting our office. Today, I'm happy to say that, 2 months ago, we developed a technology in which 2-3 things are coupled. We have provided them with a device which, first of all, can identify the fishery zones available, and secondly, denotes their current location. The first helps them catch more fish by using satellite data, while the second prevents them from unknowingly entering foreign waters with the help of warning systems available in local languages as well, hence preventing their capture by other countries. We started a trial with 30 instruments provided to fishermen in Thiruvananthapuram, who ventured up to 1800 nautical miles into the ocean with the help of this instrument. They claimed that they had never seen so many fish together in their life! Further we plan to also incorporate a disaster warning system within the instrument. So, this was about helping back the fishermen who had helped us so many years ago. In addition, we have several satellites which are beneficial to the common man. The first one is the Earth Observation Satellite which help to monitor the resources of the Earth. We have 13 of these satellites currently in operation. One of the major applications of this is water resource management. Almost 3 lakh potential wells have been identified using the satellite data, with a success rate of 90%, as opposed to the earlier 10-20%. The other applications include weather forecasting, ore finding, disaster management system, ocean monitoring, crop harvesting time, and potential fishing zone identification. It is interesting to note that the benefit to the country from the last application alone, exceeds the entire

ISRO budget! The next type of satellites is communication satellites. When we compare to India 20 years ago, today's communication systems have seen a large boom. That is all thanks to 15 of these communication satellites which are in orbit, along with 280 transponders. We currently have a capability of 4 GBPS. No television or mobile can function without the help of satellite communication. So, communication satellites basically help in mobile connectivity, television broadcasting, internet connectivity, ATMs, Tele-education for remote areas, and so on. The actual current demand is around 280GBPS, so we still have a long way to come. Till today, 56,000 villages in India do not have a single telephone connection. In 1975, India launched its first satellite, Aryabhata (around 330 kg). on that satellite, almost 95% of the components were acquired from foreign countries and we simply assembled everything together. It was brought in a bullock cart and launched by a foreign launch vehicle, free of cost. From that, we have moved forward to such an extent that last year, we launched a SAARC satellite, the brainchild of our Honourable Prime Minister. The satellite was developed by us, launched using our very own launch vehicle, and was given as a gift to all South Asian countries. This example clearly shows how much we have progressed since then. Another type of satellite that we have, are the 7 Navigation Satellites (NAVIC). The data from these are used mainly by the Airport Authorities, and sailors. As we know, sailors sometimes end up in international waters unintentionally. We hear of so many such arrests. NAVIC aims to completely eliminate this. Our present chairman, Dr. Sivan, who took charge on 15th January, has made a statement that within the next year and a half, none of the mobile manufacturers in India will be allowed to sell mobiles without inbuilt Indian Navigation data. This has already taken the form of a policy and people are moving towards its implementation. The last type is Scientific satellites. A good example of this is in the Chandrayaan-I mission. Not only could India spread its National flag precisely at the pre-planned location in the maiden mission, but India was also the first country to discover the presence of water on the moon. Similarly, we had the Mangalyaan mission in which the spacecraft has to travel 68 crore km and even a small deviation from path would mean failure. India is the only

country to have achieved success in the first attempt. Another highlight of the mission was that the cost of the mission was lower than the autorickshaw fare for the same distance! The third important mission was the Astrosat mission. And this year, we have planned another moon mission – Chandrayaan-II, in which a rover will be landed on the moon and experiments will be conducted. When the program started, no one thought that the common man would benefit so much from it. The program has benefitted farmers, vendors, businessmen, scientists, medical teams, and so on.

Q. In the global scenario, where does India's space program currently stand?

Though we started later in the race, there are many places where we stand at the Number one position. In February, 2017, we launched a very important mission, the PSLV C37 mission, which placed 104 satellites in different orbits (3 Indian, and 101 foreign), without a single collision. This was a world record for highest number of satellites launched using single mission, breaking Russia's earlier record of just 37. We were also the first to find water molecules on moon. We are the only country who met success in the very first Mars orbiter mission. Now coming to the cryogenic propulsion which was once denied to India, we had the shortest test-to-flight duration of 28 months as opposed to the next shortest of 42 months by the US. Last year, we also met success in the very first attempt, for the air-breathing propulsion system. Though other countries have also succeeded, none of these succeeded in the first attempt. Another technology was the reusable rocket technology development. Here too, we were successful in the very first attempt. Now there are more areas where we are number one. However, we can't simply compare these missions with that of other countries, because our development is need-based. We develop based on the needs of our people. The priorities differ from country to country. The only motto on which we work, is to help the common man of our country. We aren't here to compete with other countries for first or second position. On our journey to fulfil our mission to serve the common man, we just happened to reach number one in many of the areas. That's all.

Q. What is the biggest lesson that you have learnt throughout your ISRO career?

Nothing is impossible, and everything is possible. There are two main lessons that I have learnt. The first is that when Indians are challenged by others saying that can't do something, or when we are denied anything, we excel at it. If you can have proper vision, with determination and dedication, we can do great things. In fact, most of people who have contributed to the Indian space program, have been from ordinary engineering colleges, not from IITs. Whatever you are doing, you must have vision, hard work, dedication, determination, and single-minded devotion. If you have this, you can achieve great things, and you can contribute for the development of this country. Secondly, ISRO is an organisation that gives a lot of opportunities to youngsters. There is one thing that I always say – 'When I joined ISRO, I was a zero. ISRO has added a lot of zeroes to my worth with a one before them all'. Such is the case with many.

Q. Finally, what advice would you like to give us, the future mechanical engineers?

What I would like to say is, single-minded devotion and hard work are the pivotal qualities for those who want to achieve great heights. There is one more thing that I would like to add. In an organisation like ISRO, many students join from IITs, NITs, IISc, government colleges, private colleges, and so on. At the end of the day, it doesn't matter what college you are from. What matters is how you contribute. We generally make a statement, that the reward for hard work is more work, which is true. The harder you work, the more responsibilities come your way. You are all very lucky to have entered the field of mechanical engineering. There is great potential for you to contribute not only in space technology, but for the benefit of the country in general. I speak from my experience working in a private, public sector, and now government organisation. Basically, one should be very sincere in their assignments, systematic, very hard working, be devoted towards the job, and most importantly, one must enjoy the job. If you do, the sky is the limit

- **Deepti Gnanaseelan (BE Mech)**

RESULT ANALYSIS : MAY-JUNE 2016-2017

SECOND YEAR MECHANICAL ENGINEERING (TOP 10)

RANK	LAST NAME	FIRST NAME	GRADE
1	Dhokey	Apurva	8.86
2	Tambolkar	Pooja	8.82
3	Rajadnya	Purva	8.66
4	Gejji	Abha	8.64
5	Bhawar	Snehal	8.62
6	Bandiwadekar	Siddhi	8.60
7	Shukla	Shruti	8.58
8	Daphal	Dnyaneshwari	8.56
9	Bhojane	Megha	8.48
10	Pathan	Nilofar	8.38

THIRD YEAR MECHANICAL ENGINEERING (TOP 10)

RANK	LAST NAME	FIRST NAME	Percentage Marks (%)
1	Arthekar	Anuja	82.20%
2	Patki	Akshata	80.20%
3	Gnanaseelan	Deepti	79.20%
4	Bhopatkar	Radhika	79.00%
5	More	Purva	78.60%
6	Kulkarni	Rasika	78.00%
7	Haque	Alfareeza	76.60%
8	Salvi	Sanketa	75.80%
9	Wankhede	Utkarsha	75.73%
10	Deshmukh	Trupti	75.40%

FOURTH YEAR MECHANICAL ENGINEERING (TOP 10)

RANK	LAST NAME	FIRST NAME	Percentage Marks (%)
1	Radkar	Vaishnavi	80.00%
2	Cheema	Zareen	79.87%
3	Khandekar	Saanchi	79.27%
4	Patil	Juli	78.60%
5	Limaye	Madhura	78.47%
6	Jaglan	Tejaswani	78.13%
7	Wadhavkar	Ashwini	78.07%
8	Inamdar	Swarupa	77.67%
9	Thakur	Pooja	76.33%
10	Patwardhan	Aishwarya	76.27%

SUBJECT TOPPER

SEMESTER 1

SECOND YEAR

SR.NO	STUDENT NAME	SUBJECT NAME	MARKS
1	Aboli Lakhe	Thermodynamics	84
2	Purva Rajadnya	Material Science	81
3	Snehal Bhawar	Manufacturing Process-1	68
4	Megha Bhojane	Strength of Material	69
5	Snehal Bhawar	Engineering Mathematics-2	100

THIRD YEAR

SR.NO	STUDENT NAME	SUBJECT NAME	MARKS
1	Akshata Patki	Design of Machine Elements-1	89
2	Akshata Patki	Heat Transfer	89
3	Trupti Deshmukh	Theory of Machine-2	86
4	Radhika Bhopatkar	Metrology and Quality Control	82
5	Sheryl Daniel	Hydraulics and Pneumatics	74

FOURTH YEAR

SR.NO	STUDENT NAME	SUBJECT NAME	MARKS
1	Pooja Thakur	Refrigeration and Air Conditioning	74
2	Akshata Mane	CAD/CAM and Automation	87
3	Vaishnavi Radkar	Dynamics of Machinery	86
4	Supriya Kelkar	Energy Audit and Management	86
5	Monali Ghule	Advanced Manufacturing Process	71
6	Swarupa Inamdar	Operations Research	82

SUBJECT TOPPER

SEMESTER 2

SECOND YEAR

SR.NO	STUDENT NAME	SUBJECT NAME	MARKS
1	Madhura Kunte	Fluid Mechanics	82
2	Madhura Kunte	Theory of Machines-1	68
3	Srushti Unde	Engineering Metallurgy	71
4	Pooja Tambolkar	Applied Thermodynamics	72
5	Ankita Daga	Electrical and Electronics Engineering	77

THIRD YEAR

SR.NO	STUDENT NAME	SUBJECT NAME	MARKS
1	Purva More	Numerical Methods & Optimization	88
2	Rasika Kulkarni	Design of Machine Elements-2	95
3	Alfareeza Haque	Turbo Machines	83
4	Vidya Shinde	Mechatronics	88
5	Amarja Joshi	Manufacturing Process-2	78

FOURTH YEAR

SR.NO	STUDENT NAME	SUBJECT NAME	MARKS
1	Swarupa Inamdar	Power Plant Engineering	91
2	Kranti Gunale	Mechanical System Design	87
3	Neha Sawant	Industrial Engineering	84
4	Zareen Cheema	Design of Pumps, Blowers & Compressors	93
5	Ishani Tergaonkar	Finite Element Analysis	68

PLACEMENTS 2017-18

NAME OF THE COMPANY	NAME OF THE STUDENT	SALARY OFFERED (LPA)
GE –JFWTC –EDISION PROJECT	Anuja Arthekar	8.25
	Prachi Tappu	
GE-OMLP	Radheshree Ingle	8.25
	Sneha Abhyankar	
HSBC HDPI	Shivani Tayade	7.25
Hero Motocorp	Sonika Raghuvanshi	7
	Shweta Patil	
Mahindra and Mahindra	Pallavi Yadav	6.15
	Diksha Gariya	
Eaton	Aishwarya Joshi	6
	Poorva More	
Tata Motors	Priyanka Panakkal	6
	Shweta Patil	
	Snehal Malshikare	
	Riya Kaul	
	Meghana Kanade	
Honda Cars	Olivia Jose	5.04
Siemens	Amraja Joshi	5
	Aishwarya Patwardhan	
Anand Group	Akshata Mahajan	4.5
	Sanketa Salvi	
FL Smidth	Suchismita Dam	4.5
TCE	Akshata Patki	4.5
Cummins Group	Avantika Bharati(PPO)	4.3
	Alfareeza Haque(PPO)	
	Sneha Kumbhare	
	Aishwarya More	
	Preeti Patil	
	Pallavi Satsangi	
	Indrani Gadgil	
	Pranita Bhadale	
Greaves Cotton	Alfiya Khatib	4.25
	Trupti Deshmukh	
	Akshata Poojary	
	Prajakta Datar	
	Pallavi Dhake	
Accenture	Apurva Gawande	3.5
Faurecia	Rasika Kulkarni	3.5
	Vidya Shinde	
Behr Mahle	Ashwini Rampure	3.25
	Chaitali Gawade	
	Reshma Rajmane	

MECHANICAL ENGINEERING STUDENTS IN CUMMINS STUDENTS PANEL**ACADEMIC YEAR 2017-2018**

SR.NO.	NAME OF THE STUDENT	CLASS	POST HELD
1.	Durga Tilak	BE	Magazine Secretary
2.	Chaitrali Bhoi	TE	Branch Representative
3.	Siddhi Bandiwadekar	TE	Training & Placement Cell Representative
4.	Anushka Mookherjee	TE	Assistant General Secretary
5.	Apurva Dhokey	TE	Assistant Technical Secretary
6.	Sayali Mahajan	TE	Assistant Treasurer
7.	Snehal Bhawar	TE	Library Representative
8.	Ankita Tyagi	TE	Assistant Magazine Editor
9.	Shreya Kulkarni	SY	Marathi Editor
10.	Tejal Gujarathi	SY	Assistant Treasurer
11.	Aishwarya Landekar	SY	Assistant Cultural Secretary

GUEST LECTURE SERIES

SR. NO.	NAME OF SUBJECT	CLASS	INTERNAL FACULTY	EXPERT FACULTY	NAME OF THE COMPANY
1	Machine Design	TE/BE	Dr. A.A.Bhosale	Dr.Rajkumar Pant	IIT Bombay
2	Mechatronics	TE/BE	Dr. D. Watvisave	Mr.Durvankur Raut	Device Electronics Pvt.Ltd.
3	Metrology & Quality Control	TE	Dr. A.K.Bewoor	Mr.KailashPandhare	Jhurbi Metrology & Consultants
4	Energy Audit & Management (EAM)	BE	Prof. S.A.Kedar	Mr. AchyutMehandale	Enrich Consultant Pvt.Ltd.
5	Materials Technology	SY B.Tech	Prof. S.P. Divekar	Mrs.Sangita Kapote	Owner, Proficient NDT, Pune
6	Theory of Machines 2	TE	Dr. G.S. Chandekar	Prof. L.A.Avadhani	PCCOE, Pune
7	Research Design Methodology and System Engineering	M.Tech	Dr. A.K.Bewoor	Mr.Ajay Joshi	Cummins India Ltd.

PARTICIPATION OF STUDENTS IN SPORTS

ACADEMIC YEAR 2017-18

SR. NO	NAME	CLASS	SPORT	LEVEL	AWARD
1	Chaitali Gawade	BE	Cricket	Damini	Gold medal
			Field Cricket	COEP ZEST	Gold medal
			Box Cricket	COEP ZEST	Gold medal
			Mix Cricket	COEP ZEST	Gold medal
2	Anushka Mookherjee	TE	Handball	Zonal Pune University	Qualified (Bronze medal)
			Basketball	Inter Collegiate	Gold medal
				MIT Summit	Gold medal
				COEP ZEST	Gold medal
				Pentacle	Gold medal
				Damini	Gold medal
FLAME University Kurukshetra	Silver medal				
3	Ankita Jadhav	TE	Kho-Kho	University	Silver medal
				VIT Melange	Silver medal
				Damini	Participation
				COEP ZEST	Participation
			Tug of War	Damini	Bronze medal
4	Shridevi Gutte	TE	Kabaddi	COEP ZEST	Participation
				University	Participation
			Tug of War	Damini	Bronze medal
5	Shweta Jadhav	TE	Fencing	Inter Collegiate	Participation
6	Nikita Gayake	TE	Kabaddi	COEP ZEST	Participation
				University	Participation
7	Papiya Bhattacharya	SY	Basketball	Inter-collegiate	Gold medal
				MIT summit	Gold medal
				COEP ZEST	Gold medal
				Pentacle	Gold medal
				Damini	Gold medal
				FLAME University Kurukshetra	Silver medal
8	Rutuja Badve	SY	Kho-Kho	University	Silver medal
				VIT Melange	Silver medal
				Damini	Participation
				COEP ZEST	Participation
9	Vaishnavi Dhadane	SY	Cricket	Damini	Participation

SAE BAJA: TEAM MEMBERS

SR. NO.	NAME	CLASS	RESPONSIBILITY
1	Radheshree Ingle	B.E. Mech.	Captain, Driver, Suspension
2	Pranita Bhadale	B.E. Mech.	Steering
3	Madhura Kunte	T.E. Mech.	Vice-Captain, Transmission
4	Tamanna Pattharwala	T.E. Mech.	Transmission
5	Shubhada Desai	T.E. Mech.	Rollcage
6	Snehal Dhokle	T.E. Mech.	Suspension
7	Ankita Nandgaonkar	T.E. Mech.	Brakes
8	Preshita Mandekar	T.E. Mech.	Steering, Manufacturing
9	Komal Salgar	T.E. Mech.	Transmission, Manufacturing
10	Shwetali Bhandari	T.E. Mech.	Steering
11	Ketki Date	S.Y.Btech. Mech.	Brakes
12	Anuja Apte	S.Y.Btech. Mech.	Steering
13	Shraddha Chavan	S.Y.Btech. Mech.	Transmission, Manufacturing
14	Pallavi Deshmukh	S.Y.Btech. Mech.	Brakes
15	Hemangi Patil	S.Y.Btech. Mech.	Transmission
16	Poorva Joshi	S.Y.Btech. Mech.	Brakes
17	Aditi Gaikwad	S.Y.Btech. Mech.	Suspension, Sponsorship
18	Rutuja Waskar	S.Y.Btech. Mech.	Suspension, Manufacturing
19	Shivani Rajopadhye	S.Y.Btech. Mech.	Rollcage,Co-Driver, Manufacturing
20	Prajakta Sudrik	S.Y.Btech. Mech.	Treasurer, Brakes
21	Prajakta Gosavi	S.Y.Btech. Mech.	Rollcage
22	Anuja Sangwai	S.Y.Btech. Mech.	Suspension, Manufacturing
23	Ruta Kulkarni	S.Y.Btech. ENTC	Electricals, Sponsorship
24	Pooja Shinde	S.Y.Btech. Instru.	Electricals, Manufacturing
25	Tanvi Vaidya	F.Y.Btech. Mech.	Off-Team, Aesthetics
26	Shrutika Pujari	F.Y.Btech. Mech.	Off-Team, Aesthetics
27	Madhura Indulkar	F.Y.Btech. Mech.	Off-Team, Aesthetics
28	Gargi Mhaskar	F.Y.Btech. Mech.	Off-Team, Aesthetics
29	Ajit Bhosale		Faculty Advisor
30	Harish Shinde		Faculty Advisor

FACULTY ACHIEVEMENTS

ACADEMIC YEAR OF PUBLICATIONS 2017-18 – JOURNAL & CONFERENCE PAPERS

SR. NO .	AUTHOR [FACULTY] NAME	PAPER TITLE	NAME OF JOURNAL / CONFERENCE	VOLUME, ISSUE NO., (MONTH/YR.& PAGE NO.)
1.	Prof. P.S.Chaware, C.M. Sewatkar	Effects of tangential and radial velocity on the heat transfer for flow through pipe with twisted tape insert-turbulent flow	International Journal of Heat and Technology	Vol 35, No 4, December 2017
2.	Dr.A.K.Bewoor, Dr.R.B.Ingle, SS Kulkarni	Noise and Vibration Worldwide	Noise & Vibration Worldwide	48 (1-2), 7-18, 5 th June,2017
3.	Dr.R.B.Ingle, Prof. Y.S.Munde	Vibration Damping Characteristics of Coir Fiber Reinforced Polypropylene Composite	20th International Conference on Advances in Materials & Processing Technologies (AMPT) at VIT University Chennai	11 th to 14 th December, 2017
4.	Dr.R.B.Ingle, Amit A. Panchwadkar	Experimental and Numerical analysis of Metallic Bellow for Acoustic Performance	International Conference on Materials, Alloys and Experimental Mechanics (ICMAEM-2017) from 3-4 July 2017 Narsimha Reddy Engineering College, India	IOP Conference Series: Materials Science and Engineering 7 th September, 2017
5.	Prof. P.S.Chaware, C.M. Sewatkar	Numerical Analysis of flow through pipe with twisted tape insert.	24th National and 2nd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTTC-2017) at BITS Hyderabad	27 th -30 th December, 2017
6.	Prof. N.R.Kolhalkar, V.L.Krishnan	Use of Mechatronics and Robotics for Technology enhanced agricultural Task	International Conference on Agriculture and Human Development in India (ICAHD-2017)	8 th -9 th September, 2017
7.	Dr.A.K.Bewoor, L.V.Awadhani	Analytical and experimental investigation of Effect of geometric parameters on the failure modes in a single lap single bolted metal to GFRP composite bolted joints subjected to axial tensile loading	Presented at International Conference on Advancements in Aeromechanical Materials for Manufacturing on 7 th to 9 th July 2016, at MLR Inst. of Tech., Hyderabad, India.	Published in Materials Today: Proceedings 4 (2017) 7345–7350.
8.	Prof. H.M.Shinde, Dr.A.K.Bewoor	Capacitive Sensor for Engine Oil Deterioration Measurement	International Conference on Design, Materials & Manufacture (IcDeM-2018), NITK Surathkal.	29 th -31 st January, 2018

STUDENT ACHIEVEMENTS

ACADEMIC YEAR 2017-18

SR. NO.	NAME OF THE STUDENT	CLASS	AWARDS / SCHOLARSHIPS
1	Vaishnavi Radkar	BE 2017	Sudha Murthy Award
2	Deepti Gnanaseelan	BE	Goldman Sachs Scholars Award, Best Outgoing Student Award, and Purdue-Cummins Fellowship
3	Radhika Bhopatkar	BE	Purdue-Cummins Fellowship
4	Durga Tilak	BE	Pratibha, The Eaton Excellence Prize
5	Sanketa Salvi	BE	Pratibha, The Eaton Excellence Prize
6	Aboli Lakhe	TE	Mercedes in Mech-MBRDI, India, and Pratibha, The Eaton Excellence Prize
7	Anushka Mookherjee	TE	Mercedes in Mech-MBRDI, India
8	Snehal Dhokle	TE	Mercedes in Mech-MBRDI, India
9	Shruti Shukla	TE	Mercedes in Mech-MBRDI, India
10	Prerna Meher	TE	Mercedes in Mech-MBRDI, India
11	Shwetal Bhandari	TE	Mercedes in Mech-MBRDI, India
12	Nikita Rane	TE	Mercedes in Mech-MBRDI, India
13	Pooja Tambolkar	TE	Mercedes in Mech-MBRDI, India
14	Madhura Kunte	TE	Mercedes in Mech-MBRDI, India
15	Manisha Chaudhari	SY	Cummins India
16	Anuja Sangwai	SY	Mercedes in Mech-MBRDI, India
17	Kshitija Kulkarni	SY	Mercedes in Mech-MBRDI, India
18	Nayan Parabat	SY	Mercedes in Mech-MBRDI, India

19	Tejal Gujarathi	SY	Mercedes in Mech-MBRDI, India
20	Rutuja Waskar	SY	Mercedes in Mech-MBRDI, India
21	Sneha Patil	SY	Katalyst
22	Nisha Kolekar	SY	Katalyst

- **Sudha Murthy Award :**
Awarded to the student passing out with the highest aggregate in the department.
- **WeTech Goldman Sachs Scholars Award :**
Awarded to women engineers with leadership potential. It comprises of a scholarship along with virtual mentorship. It has been instituted by Institute of International Education (IIE) and Goldman Sachs.
- **Best Outgoing Student Award :**
Awarded to the student who stands out due to their academic and overall excellence.
- **Purdue-Cummins Fellowship :**
Awarded to students aspiring to pursue Masters of Science at Purdue University, USA. It comprises a full tuition fee waiver with an opportunity to intern at Cummins Inc, Columbus. It is a part of the tie-up between CCOEW, Cummins Inc and Purdue University.
- **Pratibha, The Eaton Excellence Prize :**
Awarded to exceptional women engineers across leading institutions with academic excellence as well as co-curricular achievements.
- **Mercedes in Mech - MBRDI, India :**
Awarded to promising young women in engineering, as a part of a scholarship programme including mentorship, and internship opportunities. It is the first time this programme has been instituted by Mercedes Benz Research & Development Institute, India.
- **Cummins India :**
Open to all students from all branches. Aptitude tests and personal interviews are carried out for selection of 200 students from approximately 7500.
- **Katalyst :**
Awarded to budding women from low income backgrounds. The scholarship is awarded by an NGO and involves training in technical and soft skills. Criteria includes academic merit and performance in training sessions.

ASME Cummins Student Section



Guest lecture by Retd. Major General Vijay Pawar on Role of Women in Armed Forces



Guest lecture by Dr. V. Narayanan (Director of LPSC, ISRO) on Satellite Launch Vehicles



Visit to National Defence Academy, Pune,



MECHATHON-CAD Modelling Competition in collaboration with ASME VIT Section, Vellore



Guest lecture by Mr. Anand Jere on R&D Career Opportunities, Aviation industry



Guest lecture by Mr. Abhishek Gupta on Recent Technologies in Artillery Gun Systems



ASME Committee 2017-18

INDUSTRIAL VISITS



SY Mech and BE Mech Visit to Someshwar Sugar Factory



TE Mech Visit to Koyna Dam

NSS ACTIVITIES



NSS Camp



Guest Lecture on Road Safety



Blood Donation Camp



Thyroid Checkup Camp

GANDHAAR 2K18

GROUP DANCE



S. E



T.E



B.E



TRASHION



DEPARTMENT
ANTAKSHARI



RANGOLI
COMPETITION



FASHION
SHOW



TRADITIONAL DAY



TEACHER'S DAY



FACULTY



BE-MECH



FY- MTECH



BEST DEPARTMENT- MECHANICAL

