



MAHARSHI KARVE STREE SHIKSHAN SAMANTHA'S  
CUMMINS COLLEGE OF ENGINEERING FOR WOMEN

# MECHANICAL EXPRESS

MECHANICAL ENGINEERING DEPARTMENT



2020-2021

ISSUE#9

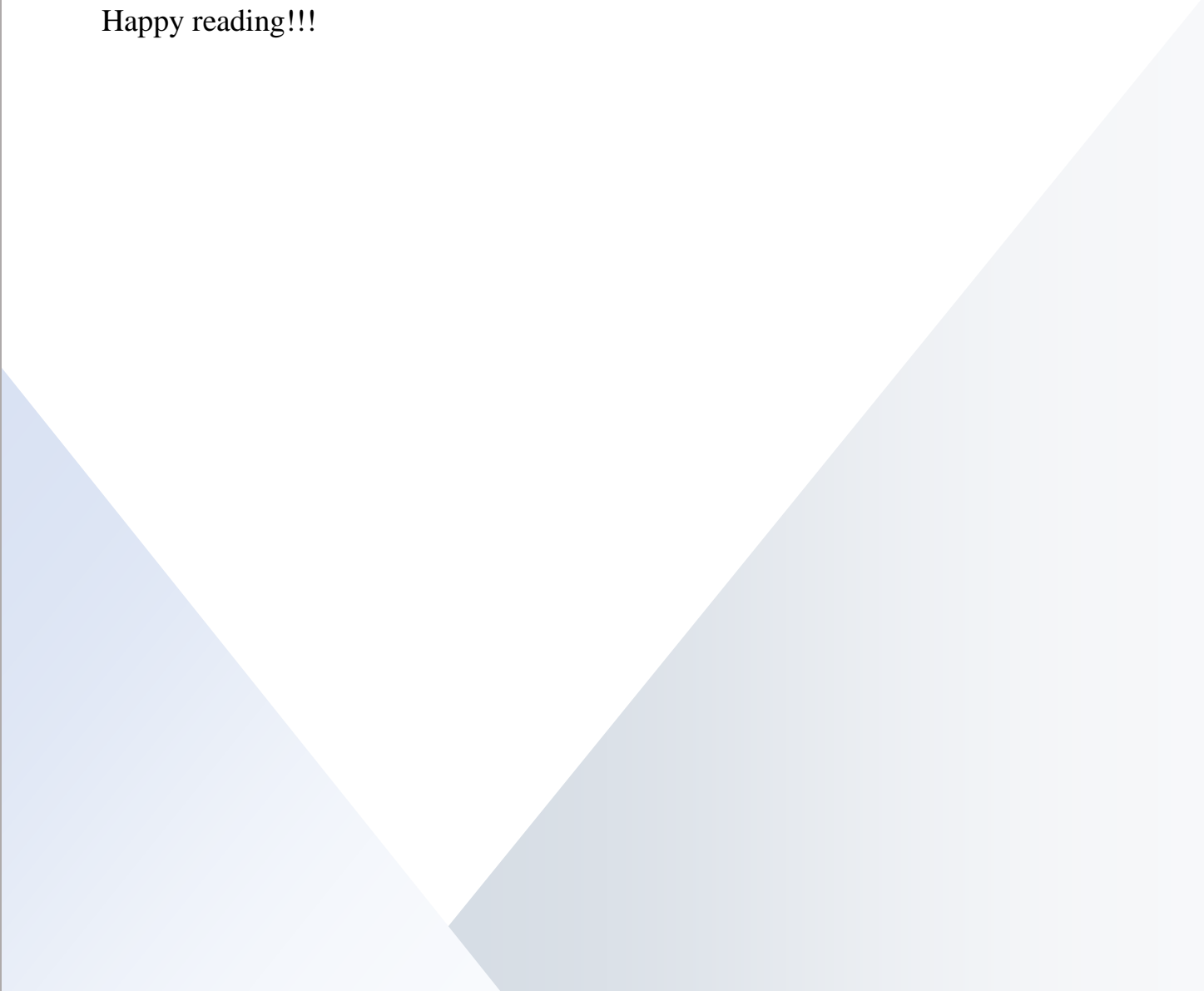
# FROM THE TEAM

---

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 ninth edition of MechExpress hopes to jog up your memories of the academic year 2020-21. We bring to you the achievements of faculty and students, 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! Even in the pandemic, the clubs managed to function smoothly. We hope that the new design of the magazine will make the reading experience pleasant and enjoyable. 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 Poonam Bhore Ma'am for her guidance.

Happy reading!!!



# CONTENTS

Our Team 1

HOD Desk 2

Toppers 4

Industry Expert Interview 5

Alumni Interview 10

SAE BAJA Team Zenith 7.0 14

Team Bharadwaj 20

ASME Student Section 22

National Service Scheme 27

Placements 2020-2021 32

Achievements 35



# OUR TEAM

## *Advisors*



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



Prof. Poonam Bhore  
Faculty Advisor

## *Design*



Namita Sabnis  
B.E. Co-ordinator



Shruti Sethuramalingam  
T.Y. Editor



Anuja Patil  
S.Y.



Khushboo Agarwal  
S.Y.

## *Literature*



Gargi Mhasakar  
B.E. Co-ordinator



Radhika Joshi  
T.Y. Editor



Rahee Kulkarni  
T.Y.



Shreya Vijith  
S.Y.



Shivani Pandit  
S.Y.



Sharvari Kulkarni  
S.Y.



Prajakta Joshi  
S.Y.

# HOD DESK



Greetings to all!!

The academic year 2020-21 has been full of adjusting to the new normal and virtual learning. We started by welcoming Second Year students, who are the fourth batch of the autonomous B.Tech. course in the Mechanical Department. They were briefed about the various facets of the Mechanical Engineering course by the faculty. The session was a success as many queries were raised by the students and eventually, we could satisfy them all.

The M. Tech students have secured placements in companies like Aditya Group, Alstom, Faurecia, Schindler, Cummins, General Electric etc.

The compulsory internship program for the current Third Year students under the curriculum has also been met with success and companies such as Cummins India, Suez water, Schneider electric, Schindler and Fractal analysis.

The department proposed a two-month course in automotive mechatronics. The contents of the course were mainly focused on the Mercedes Benz car. The faculty for this course was Dr. Parag Chaware. A total of 35 students from T. Y B.Tech had applied for the course.

The placements for both the UG and PG programs have been outstanding with nearly 90% of students getting job offers in companies across the country. Mercedes Benz R&D India, Cummins India, MG Motors, Ford Motors, EATON, Hero MotoCorp, Becton Dickinson etc have recruited students and have offered excellent salary packages.

The BAJA team of the College, Team Zenith, achieved outstanding results and emerged gloriously, in spite of the challenges they faced due to virtual competitions. They received the following result in the National Competition: Statics - AIR 4, Dynamics - AIR 34, Design evaluation - AIR 2, Manufacturing - AIR 5, Cost - AIR 6, Acceleration - AIR 9, Brakes - AIR 10, Overall - AIR 13.

The performance put up by the team in international competition was extremely commendable and they emerged glorious having secured impressive ranks in all departments of the event such as endurance, design, acceleration and so on. The team secured Overall -16<sup>th</sup>, Cost- 35<sup>th</sup>, Design -9<sup>th</sup>, Sales -82<sup>nd</sup>rank. They have made us all exceedingly proud.

Team Bharadwaj secured AIR 3 in the winning a cash prize of 25,000 rupees. Along with this, the team secured AIR 2

for the Best technical presentation in the Aero Design Challenge (ADC) held by the Society of Automotive Engineers (SAE) 2020. The team has made great efforts to achieve success. Congratulations to the team.

ASME (American Society of Mechanical Engineers) Cummins Student Chapter also had quite an eventful year. Our ASME chair Ms. Arya Vyavahare got selected to attend the Student Leadership Training Conference (SLTC). She won third prize in EFest Digital 2021 Oral Competition. She was also awarded the Charles T Main leadership award by ASME and became the first Indian in 95 years to be honored with this award. Our webmaster, Miss Radhika Joshi was selected to serve as a member representative in the ASME Student Regional Board of the Asia Pacific region. The section organized virtual events including webinars, GD Competition and a Virtual Industrial Visit to Cummins CGP SEZ Plant.

Dr. D. S. Watvisave, Shridhar A Kedar received a research grant of Rs. 30,23,724/- for their project Development of Hydro Dynamically-Optimum and Smart Sanitation Equipment for Minimization of Water Consumption by DTS New Delhi.

Dr. Ajit A. Bhosale and Yashwant S. Munde received a research grant of Rs. 13,24,000/- for their project Modernization of Composite Material Laboratory for composite materials processing, materials testing and machining from AICTE modernisation and removal of obsolescence (MODROBS) scheme.

In a nutshell, it has been an exciting year with lots of positive outcomes, important learnings and amazing experiences. The Mechanical Department strives to keep this momentum going in all spheres.

Best Wishes to All for a Bright Future.

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

# TOPPERS

ACADEMIC YEAR 2019-2020

## SECOND YEAR



Siddhi Prakash Kinage

CGPA 9.24

## THIRD YEAR



Siddhi Umesh Joshi

CGPA 9.54

## FINAL YEAR



Sneha Rajendra Patil

CGPA 8.98

# INDUSTRY EXPERT INTERVIEW

5



**Mr. Shriniwas Jogipethkar**

**Director- Anzen Packaging LLP**

**Since 2017.**

**21 years of industrial experience.**

**Q. Good morning, Sir. We are pleased to have this opportunity to interview you. Please tell us a little bit about yourself.**

I completed my graduation in production engineering in 1996. After that, I shifted to Pune and joined a small-scale company near Pirangut as a trainee engineer. I worked there for 4 years and at the end of 4 years, I was function head- production department. Then I shifted to Hyderabad for 2 years at a company called WIDIA India limited where I was

doing some process improvement and process planning activities. After that, I joined Thermax limited in Pune in the department called manufacturing engineering which oversees process, product development, plant layout and new projects. I worked there for 3 years and then I got the opportunity to work with Cummins India limited in Budruk. I joined the toolroom department in which the special purpose machines for in-house purpose are manufactured. I was head of that department for 2 years before Thermax called me again for a different purpose. They had implemented the lean manufacturing concept and they wanted someone with a knowledge of their product and process for that. I implemented many tools of lean manufacturing right from the proposal department to the exhibition department. at the site. Thermax manufactures boilers and pressure vessels so some of their projects are of 6 months duration. There are a lot of restrictions in a process that have to be identified and eliminated in a systematic manner, the tools have to be implemented properly so that the lead time has to be reduced properly which benefits the end-user and financially helps the company. Then I joined Demag cranes and



components which is a German-based company. They were setting up a new plant in Chakan and I started working as an infield engineer. Infield means the projects are started from scratch. There, I implemented the greenfield project for the machine shops and application shop within a span of 18 months and due to that project, I got the opportunity to go abroad. Multinational companies have the concept of technology transport. It means that they use the same process in all their plants that are located worldwide. After that I became deputy general manager for that department where I worked for 3.5 years. Further, I got the opportunity to work with a multinational company called Sematic elevator. They have 7 plants all over the world and they wanted to start a plant in Pune. So, I joined there as plant head of India productions. After that company shifted to Chennai, I thought I had 21 years of experience so why not start the business. Initially, there was some resistance from the family as no one in my family had been in business before, it was a risk and leaving the job with secured payment etc. but I felt after 21 years of experience it is a social responsibility to create job opportunities. Hence, in 2017 I started this company Anzen packaging. My friends who invested in the company are the sleeping partners. Since 2017 we are manufacturing packaging boxes for

customers who have domestic and export concerns but our expertise is in export because due to my experience I know the stringent norms for custom clearance. So, this is my journey for the last 25 years.

**Q. What were the different experiences you got from working in various companies?**

Engineers can work anywhere because the basic concept remains the same. Be it engines, elevator parts, boilers, the common thing is that we follow the process. In lean manufacturing, there is a concept “don’t blame the person, blame the process” because human errors can be controlled by processes. Hence training the people to follow the process is very important. As the head of the department, you should be able to get the work done by others. Because with that role comes the responsibility of achieving the company’s KPM (key performance measurement). KPM is a yearly target to be achieved which is then broken down up to a daily target, and the head of the department makes sure that the daily target is achieved.

**Q. What do you think, were the crucial steps or decisions taken in the initial stages of your company that led to its success?**

After I left sematic elevator in February 2017, till June 2017, I met all the people I was previously associated with. I traveled almost 25000km in my car and told them that I am starting my own venture and that I need your support and guidance. That was one potential customer acquiring. Then I looked into investment, prepared a five years business plan- the yearly expected turnover. Based on the potential customer list that I had prepared, who will give the order and what will it be. Based on that I prepared a break-even point i.e., no profit no gain. Then the selection of the machines and technical people, training them etc. were I think some of the important steps in the initial phase.

**Q. What was the impact of the COVID-19 Pandemic and what measures were taken by the company?**

The pandemic affected all the businesses. Many companies decided to reduce their operation. One of our products is pharmaceutical boxes. Hence I got permission to continue the work. The employees have their families to feed so we decided not to cut down the salary but to hand over 50% of it later when the lockdown restrictions are eased and the company starts normal functioning again.

But we also realized that depending on one vertical like packaging is not enough. So, we started another vertical 'Anzen engineering' which will do manufacturing of industrial components and sub-assemblies for the customers. I am associated with a business forum called 'Saturday club global trust' which is for Maharashtrian people in business and it forms a network to support the entrepreneurs. I realised through that forum that the pandemic has given different aspects to all of the businesses. Many people I met in this forum started different business in COVID. They started selling masks, sanitizers etc because that was the need of the hour. You should have constant upgradation in your business. In Anzen packaging there are two sectors- wooden and corrugated. I have trained my employees in such a way that they know the working of both the sectors. Because the operator falls sick and the machine gets stopped, the product cannot be supplied to the customer in time.

**Q. How do you describe your future vision for Anzen packaging?**

According to my vision, by 2025, the minimum employment in both companies should be 100 people. Anzen packaging will be a 20 Cr. Company and Anzen engineering will be a 70 Cr. Company.

**Q. What, do you think, was the lowest point in your career so far and how did you deal with it?**

I remember an incident in Thermax where I worked in the MD department wherein, I had to submit productivity calculation. Productivity calculation is a means in a day shift time of 8 hours, how much productivity has to be produced from that machine and that calculation is very critical. And there was a difference in opinion that my calculations would not work. So, I had to prove that they were right. Such moments tend to demotivate you.

High points and low points are embedded in any business. During the pandemic itself, there was no income for 3-4 months but you have to survive. In such situations, patience is very important. Pandemic has taught us that we have to secure the company's finance. Shutting down the company is not an option.

**Q. How would you describe yourself as a student? Which is your fondest college memory?**

College days are very memorable days. As a student, I was very studious. In our college, we used to have a lot of sports. We used to have night cricket sessions. And participating in such activities is

important as it improves your leadership skills and teamwork which is crucial in the industry.

**Q. When you look back at your engineering education, what do you wish to change or do differently?**

We have a group of people who have more than 20 years of experience in the industry. We are planning activities for colleges. What we realise is that the students lack practical knowledge. As a student, you think that there are only two departments- design and production. But in the third year when you join a company as an intern, you realise that there are various departments like production planning, quality etc. For that, some industry experts have to visit the college and give the students insights about what is going on in the industry.

**Q. What do you think is the golden rule for a successful start-up? What advice would you give to the budding entrepreneurs?**

In business, you have to take a firm decision. If you have a doubt regarding anything, do SWOT analysis. From this analysis, you can derive your strength and weaknesses and improve the weak areas. There is a concept called 1001 days of

business. Any business that survives for the first 1001 days sustains further. You have to chalk out a proper road map for it. Management of cash flow is also very important. Make a list of potential customers, make a product plan, assess the market, and most importantly have patience and faith in yourself.

-Radhika Joshi

T.Y mechanical

## *Did you know?*

*Bagger 288 is one of the world's largest and heaviest moving machines which can move about 240,000 cubic meters of soil in a single day. The machine took ten years to complete, from design to assembling with a total cost of \$100 million.*

*-Interesting Engineering*

*SpaceX aims to fly its Starship spaceship into orbit in 2022. This is scheduled to be the lander of NASA's Artemis program to take humans back to the moon by 2025.*

*-Business insider*



# ALUMNI INTERVIEW



**Dr. Poorva Joshi**

**Ph.D. from Carnegie Mellon University.**

**Currently pursuing Post Doctorate at Harvard.**

**Q. Hello Poorva, Thanks for connecting with us! How was your journey from Graduation to Ph.D. like, and what have you planned out for the future?**

It was an interesting journey! After graduation, I started my master's at Carnegie Mellon (CM). I enjoyed my work and when my advisor offered me the Ph.D. there, I accepted it. So interesting is the only word I can say (laughs). After this, I'll be moving to translate the principles I have learned during my Ph.D. to another field. I would be

working on preserving small organisms for the development of vaccines and it comes under heat transfer and cryogenic preservation.

**Q. How was your experience as a student in Cummins College, and in what way do you think it prepared you for the workforce?**

I was involved in a lot of activities. I wrote the script for the faculty performance in Gandhaar then there was the fashion show for B.Tech. I was a member of team Baja and in the third year, I was training and placement representative. We also had Mechanical Techfest. Being a part of all these activities is also important because it teaches you people skills that a course cannot teach.

I was doing my BTech project under the guidance of Dr. Chandekar sir. He introduced me to research. As a mechanical engineer, I always thought I do not require computational knowledge. But my project had some computational aspect, and I was able to prepare myself for the position that my present guide had to offer.

**Q. What were the factors you considered while choosing your major and subject for Ph.D.?**

I worked for my post graduate and Ph.D. research under the same advisor as I felt I had more to learn from him. But a few factors to be considered are the advisor. I think it is the most important aspect because you should be able to connect with him/her. The advisor should have a good network in your field. The next factor is School. The duration of the program that is being offered. The ranking is important when you are going for Ph.D. as the grant depends on it.

**Q. How would you describe life at Carnegie Mellon?**

CM is an intensive school. When you are a post graduate or Ph.D. student, you also have to manage your house, cooking, groceries etc. so having a really good support network and a friends group helps a lot. The evaluation is based on continuous assessment, so you are allowed to collaborate with your friends and discuss the problems amongst each other which reduces the work load. There is no formula as such for a balanced life, you have to keep advancing and push yourself. If you need help, ask for it. It's okay to feel overwhelmed.

**Q. Could you tell us a bit more about the awards you have received at CM?**

I received the best master's thesis award for my work on minimal invasive cryosurgery. My focus was prostate cancer and I did the computational planning for that using the tool that the previous Ph.D. student had developed. During my Ph.D., I received some travel awards in which they cover your expenses when you go to a conference. I received the crystal award in 2020 which is given by the cryo-biology society for best research. I also received a few fellowships and my guide funded my entire Ph.D.

**Q. What were the issues you faced during the transition of colleges and cultures?**

The main issue I faced did not come from others but from me. Every Indian student around me was either from IIT or BITS, so I used to think that I am not good enough. But as I started my course work, I started talking to my peers, the teaching assistants and it really aided me during the initial phase. Hence, I realised that I should not doubt myself and have faith in my capabilities.

**Q. What is the difference between engineering education in India and abroad?**

There is a lot of difference. Firstly, the choice, of course, is very fluid. You can select courses from any engineering branch and also which are not related to engineering like psychology or business management. It makes you a unique person with a unique choice of courses! Even the way these courses are designed in India is very different than the way here. In CM, a professor designs a course the way he feels is right at that point and amends it regularly in accordance with the recent advancements. In India, the portion is not updated that frequently. And secondly, there's a major focus on research. Even as an undergraduate student, you are given excellent research opportunities. These are the major differences I see in education in India and abroad.

**Q. What changes do you think should be incorporated in engineering colleges in India and in the US?**

I think there should be enough research opportunities for willing students. Interdisciplinary course choice should be made available. The pattern of the exam

also can be altered. At CM, we have a lot of open-book tests where they don't care if I know the formula or I have memorized the definition, all they care is whether I'm able to apply that to solve a real-life problem. You are evaluated on how accurate you can frame your assumptions and how logical your explanation is. Furthermore, there are a lot of facilities here to accommodate your physical and mental health problems. They have a complete

setup on the campus to help the students with these problems. The faculty also helps them with examinations and the curriculum. This should be incorporated in the Indian education system right from the kinder garden to the highest level of education. But in the US, the students are given too much liberty like eating in class, which I feel is not essential. The bond that you form with the professors here is very homely. I remember I visited Cummins some years ago and I went with the professors to have tea, but here I cannot do that.

**Q. Reflecting back, what do you wish you should have known when you were an under graduate student?**

I wish I knew that even a mechanical engineer should have computational skills.

You need not be an expert but you should have an idea of it. The world is changing rapidly and we are moving away from pen and paper.

**Q. What message would you give the students who will soon be working in the industries?**

I would say don't lean into rote learning; it is fine if you get a few marks less but make sure that you understand the concept. correlate things, notice the implication of the subject you have learned. Don't learn the formulae, derive the equation and question it. It is not written in stone. The research keeps changing and so do these equations. As they say, Communication is key. We hesitate to connect with people because we are scared of getting rejected. But we should take the first step and not wait for the professor or the mentor to initiate conversation. Try to communicate efficiently and form a network. Because no matter how intelligent you are or how good your work is unless you are able to present it efficiently, it is not going to be appreciated and you are not going to be noticed.

**-Rahee Kulkarni**

T.Y. Mechanical

## *Did you know?*

*With a massive weight of 360 tonnes, Belaz 75710 is the world's largest dump truck with a hauling capacity of 450 tonnes. The giant dump truck consists of a pair of eight wheels, each capable of supporting 102 tonnes.*

*-Interesting Engineering*

*According to Moore's Law, microchips double in power every 18 to 24 months.*

*-RELIABLEPLANT*



# SAE BAJA TEAM ZENITH 7.0

---



BAJA SAE is an intercollegiate engineering design competition which is conducted by SAE (Society of Automotive Engineers), where teams of undergraduate engineering students from all over the country compete to design, fabricate, and run off-road vehicles that can withstand the harshest conditions and be driven in extremely rough terrains. The Cummins College of Engineering's Team Zenith has been participating in this event for the last 8 years. This competition is divided into 2 sections - Virtual Events and the Main Event. However, this year, both sets of events were conducted virtually. Apart from the regular 5 subsystems - Transmission, Vehicle Dynamics (Steering and Suspension), Brakes, roll cage, and Data Acquisition this year had 2 new sections - Finance and Sponsorship. The team of 50 students from Mechanical Engineering, Instrumentation and

Electronics and Telecommunication department had almost completed working back in the month of March 2020 as the actual event was to be held in April 2020. However, the work on the physical vehicle had to be completely paused, due to the lockdown. The event was postponed to a further date, but with no end to the pandemic, the committee finally decided to conduct the event online. In spite of the initial challenges, the members kept working hard. After a rigorous study, came the designing phase where the team used different software like SOLIDWORKS, CATIA, etc., and analysis using ANSYS, HYPER MESH, etc. for various components which were designed and successfully mapped according to the requirement and desired parameters. Being a virtual event, there was a new software named IPG Car Maker which was used to integrate all subsystems and run them together. IPG can be used for testing the vehicle - similar to what the members would have done by physically running the buggy in rough terrain. Commands could be given to the car accordingly to prevent penalties and have a smooth run. In this

way, they were ready to face the first challenge, the Virtual Round.

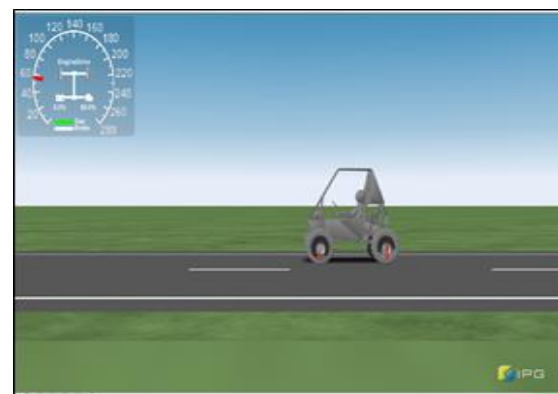


### Vehicle NOVA

The virtual event took place on June 3rd, with Team Zenith 7.0. presenting the vehicle NOVA. The name NOVA means novel beginnings and represents a new era at BAJA. Conducted by SAE India, there are usually 2 events - A Static Virtual Event- where the team needs to give several presentations on topics like sales, cost, manufacturing etc, and A Dynamic round- In which the vehicle was judged for the design, presentation, and other technical tests like acceleration, brakes, maneuverability, hill climbing capabilities, all-terrain performance, etc using simulations virtually. The team achieved a remarkable result.

For the 2021 event, the team was more prepared as they started working virtually from scratch. Most of the work was completed virtually. However, when there

was relaxation on the lockdown restrictions, a few members visited the college as well. The members gained pace and the work was completed way ahead of the timeline. The team presented its work in the form of PPTs, CAD Models, and other documents. Apart from these, they were judged on the basis of their thought process and innovation, whether customized or OEM parts were used, layout, timeline to complete work, and efficiency. Further, we also got a bonus of 5 points for presenting a 4WD!



### Acceleration Test simulation in ipg car maker software

This year, over 200 teams from across the nation competed in various static events like sales, cost, design evaluation, manufacturing event as well as dynamic events like acceleration, brakes, maneuverability, hill climb, suspension, and traction, and the grand endurance run which took place over a span of 5 days.

The 14th Edition of BAJA SAEINDIA concluded successfully on 25th April 2021 on a virtual platform and the team has succeeded with flying colours. The team achieved outstanding results and emerged gloriously, in spite of the challenges which they faced not only technically, but also due to working remotely from their homes. It is indeed a very proud moment for all as in spite of encountering setbacks during the event the team did not lose confidence but came out stronger every

time and successfully completed the event. Together with challenges and successes, quashing the gender stereotypes, Team Zenith stands as an epitome of strength and the extent of what women can achieve. Yet again, Team Zenith 7.0 has made us proud and we eagerly await their future endeavors!

-Shreya Vijith  
S.Y.Mechanical

## *Did you know?*

*Horch and Audi entered an agreement along with two other German car manufacturers, DKW and Wanderer, to form Auto Union. The four rings, which Audi still uses today, originally represented the four companies of Auto Union.*

*-Interesting Engineering*

*Ferrari engines are musically engineered to sound perfect by utilizing 3rd and 6th harmonics on the air intake, like an organ or flute.*

*-Ferrari info.in*

## Results-

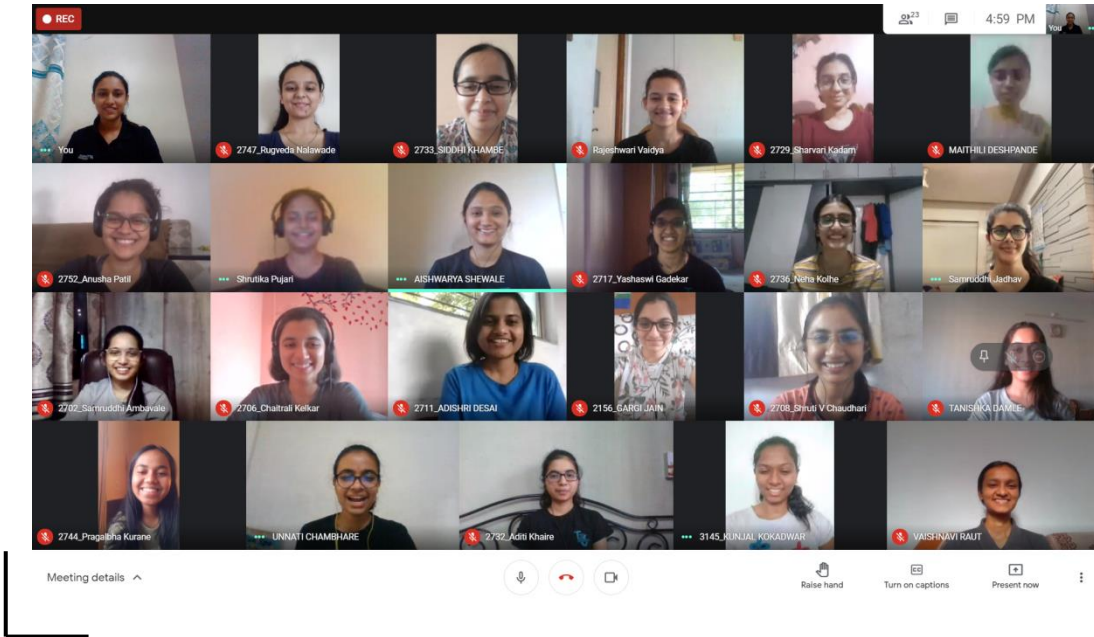
2020 National	2020 International	2021 National	2021 International
Acceleration - AIR 5 Design evaluation - AIR 7 Manoeuvrability - AIR 11 Overall - AIR 25 Skill Baja award	Baja SAE Illinois (2019-20) Sales - 20th (score 38.10) Design - 33rd (score 80.00) Cost - 48th (score 53.73) Overall - 34th (score 171.83)	Statics - AIR 4 Dynamics - AIR 34 Design evaluation - AIR 2 Manufacturing - AIR 5 Cost - AIR 6 Acceleration - AIR 9 Brakes - AIR 10 Overall - AIR 13	Overall - 16th (score 239.93) Static - (score 219.93) Cost - 35th (score - 76.19) Design - 9th (score - 110) Sales - 82nd (score 33.73)





**Team-**

<b>Sr No.</b>	<b>Name</b>	<b>Class</b>	<b>Role</b>
1.	Shrutika Pujari	B.E.Mech	Captain, RollCage
2.	Rajeshwari Vaidya	T.Y.Mech	Vice-Captain, Steering, Data Acquisition
3.	Samruddhi Jhadav	B.E.Mech	Sponsorship, Brakes
4.	Tanishka Damle	T.Y.Mech	Finance
5.	Aishwarya Shewale	B.E.Mech	Steering
6.	Siddhi Kinage	T.Y.Mech	Suspension
7.	Unnati Chambare	T.Y.Mech	Transmission
8.	Disha Shinde	T.Y.Mech	Transmission
9.	Shruti Chaudhari	S.Y.Mech	Transmission
10.	Sharvari Kadam	S.Y.Mech	Transmission
11.	Rucha Sangle	S.Y.Mech	Transmission, Sponsorship
12.	Yashaswi Gadekar	S.Y.Mech	Transmission, Manufacturing
13.	Vaishnavi Raut	T.Y.Mech	Brakes
14.	Chaitrali Kelkar	S.Y.Mech	Brakes
15.	Samruddhi Ambavale	S.Y.Mech	Brakes, Sponsorship
16.	Adishri Desai	S.Y.Mech	Suspension
17.	Siddhi Khambe	S.Y.Mech	Suspension
18.	Rugveda Nalawade	S.Y.Mech	Suspension, Manufacturing
19.	Aditi Khaire	S.Y.Mech	Suspension, Manufacturing
20.	Neha Kolhe	S.Y.Mech	Steering, Manufacturing
21.	Maithili Deshpande	T.Y.Instru	Data Acquisition, Manufacturing
22.	Kunjali Kokadwar	T.Y.E&TC	Data Acquisition, Manufacturing
23.	Gargi Jain	S.Y.E&TC	Data Acquisition, Sponsorship
24.	Anusha Patil	S.Y.Mech	Rollcage, Manufacturing
25.	Pragalbha Kurane	S.Y.Mech	Rollcage, Treasurer
26.	Dr.Ajit Bhosale	-	Faculty Advisor
27.	Dr.Gautam Chandekar	-	Faculty Advisor



## BAJA Team Online meet

# TEAM BHARADWAJ

---



**To most the sky's the limit...for us it's home.**

Team Bharadwaj is the official aeromodelling team at Cummins - started by Shraddha Kale in 2018 with the help of Prof. Amit Rajurkar-involving a group of dedicated aerospace enthusiasts from the mechanical, electronics and telecommunication, and instrumentation and control departments.

Team Bharadwaj participated in the SAE ADC 2020 and proved to be a formidable competitor. Led by Captain Shraddha Kale and with faculty advisor Dr. Atul Joshi, this was one of the only all-girls teams in the competition. They participated in the Regular and Micro classes.

The Aero Design Challenge (ADC) held by the Society of Automotive Engineers (SAE) is an intercollegiate competition

held annually where students all over the country conceive, design, fabricate and pilot RC UAVs. Their Unmanned Aerial Vehicles are tested in Static and Dynamic events in either the Regular or Micro classes. The purpose of the Regular class competition is to develop a fundamental understanding of flight and the goal is to lift as much payload as possible. Micro Class teams must make trades between two potentially conflicting requirements - carrying the highest payload fraction possible, while simultaneously pursuing the lowest empty weight possible. There are a series of other requirements such as the Design Report, the Technical Presentation etc.

The team spent all year researching and developing their UAV using a range of software. The wing and aerofoil were designed using a combination of ANSYS and XFLR5, the fuselage, stabilizers and landing gear using SOLIDWORKS and the electronics using MATLAB. The UAV was fabricated in the workshop. They conducted tests at Ahmednagar and came back each time with results and

improvements to fine-tune the model.

In the final days leading up to the event, there was an inauguration for the first-ever participants in SAE ADC Regular Class from our college.

They spent 3 days there flying through each challenge in Coimbatore. There was the Technical Inspection (TI), the Technical Presentation and the main flying event culminating in the awards ceremony for all the winners.

In the end, their dream and perseverance were substantiated with amazing results and a blaze of glory. They came a prestigious overall 2nd all India and AIR 2 in Technical Presentation. They won a cash prize of ₹25,000 and two trophies.



**BANNARI AMMAN INSTITUTE OF TECHNOLOGY**  
An Autonomous Institution Affiliated to Anna University - Chennai - Approved by AICTE - Accredited by NAAC with 'A+' Grade  
SATHYAMANGALAM - 638401 ERODE DISTRICT TAMILNADU INDIA  
Ph : 04295-226500/221289 Fax : 04295-226586 E-mail : stayahead@bitsathy.ac.in Web : www.bitsathy.ac.in

**BIT TECHFEST 2021 - SMART DRONE**  
Unmanned Aerial Vehicle Laboratory

Winner Position	Team ID	Team Name
First	SD2021-123	Team Bharadwaj
Second	SD2021-122	Team Griffin
Third	SD2021-113	Team Osprey
Fourth	SD2021-129	Anima
	SD2021-114	Team Voyagers



**The BIT TECHFEST 2021 Results**

They truly proved that with hard work, grit and spirit, success isn't far away. The next team has some big shoes to fill, but with the able guidance of the seniors, anything can be made possible.

**-Shivani Pandit**

**S.Y Mechanical**

**Team-**

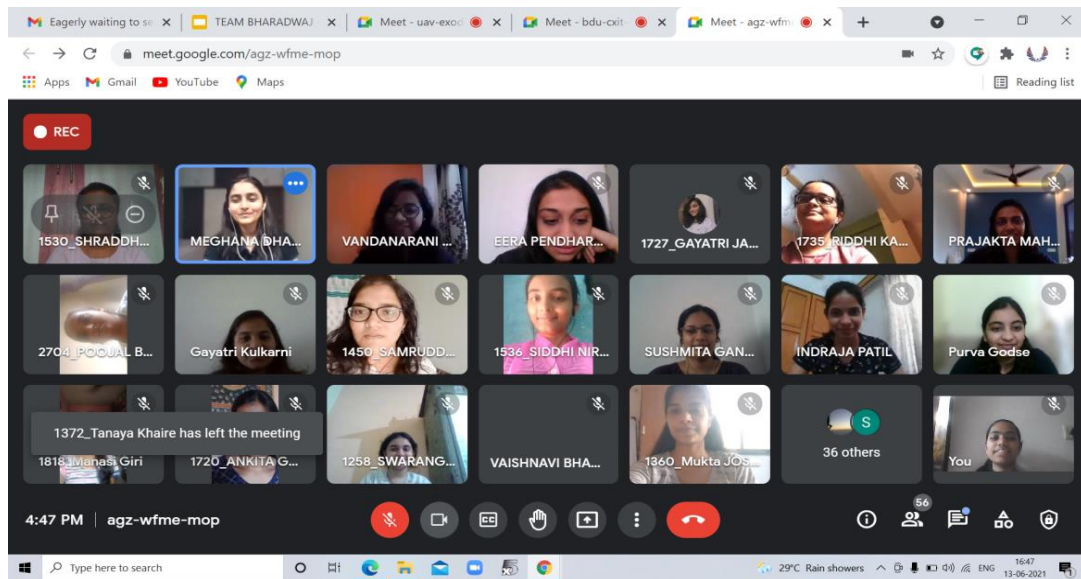
- 1] Shraddha Kale- Captain & Head of Analysis
- 2] Vandana Mishra- Vice-Captain & Treasurer
- 3] Janvi Patni- Captain of Micro Class Team & Treasurer
- 4] Shraddha Latpate- Head of Wing Design
- 5] Shweta More- Head of Fuselage
- 6] Apurva Patil- Head of Fuselage
- 7] Sayali Mane- Head of Analysis
- 8] Tanvi Kumbhar- Head of Electronics
- 9] Vibhuti Raina- Head of Empennage
- 10] Divya Sakhare
- 11] Eera Pendharkar
- 12] Meghana Dhanke

13] Vaishnavi Kshirsagar

14] Rutuja Gajankush

15] Samruddhi Nabriya

16] Faculty advisor- Dr. Atul Joshi



**The Bharadwaj team**



# STUDENT SECTION

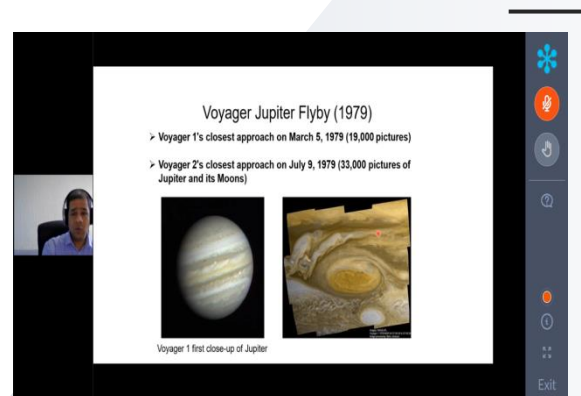


ASME's Cummins student section has been conducting various informative guest lectures, webinars and industrial visits, since its establishment in the year 2015. 2019 saw the onset of the covid-19 pandemic and everything was shut down. But as they say that challenges come along with innovative solutions, the section organised all its events virtually.

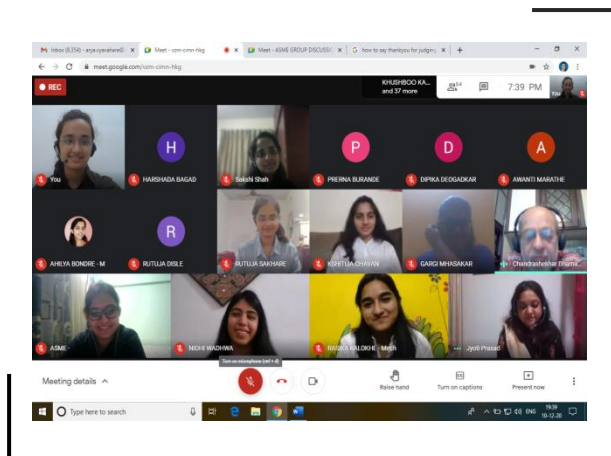
Abroad education opens a lot of exciting opportunities to the students. Thrilled with the audience response in the past year, the ASME Cummins student chapter welcomed back eminent speakers from Imperial Overseas Education Consultancy, Pune through the webinar on 12th September 2020. Dr. Srivathsa Vaidya explained the different avenues in studying abroad. She also talked about top countries and universities that most of the students prefer and the different exams that students need to prepare. Adding to it, she briefed up about the process right from the

preparation till admission. Students were able to clear the myths about overseas education.

Regardless of age, Astronomy awes us all!! In the best interest, on 15th October 2020, the section arranged a guest lecture on "A brief history of Space exploration" by Dr. Atma Prakash, lecturer at Teesside University, U.K., who specialised in aerospace engineering. He revealed the entire history of rocket developments right from the Chinese and Mongolian times. Also, the development process gradually from the first unmanned mission to the first man to enter the interstellar had been discussed. He shared some details about his ongoing project 'tu2space' with the audience, which held their interest. It gave students a field of vision.



**Astronomy Session by Dr. Atma Prakash**



### **Virtual Group discussion Competition**

On 11th December 2020, a Virtual Group discussion competition was organized by the section for students of Cummins. The session witnessed two experts from different domains, Mr. Chandrashekhar Dhamankar, General manager at Forbes Marshall Group, Pune and Prof. Jyoti Prasad, Professor at Cummins College, Pune. Students were divided into 7 groups beforehand. 10 minutes were given for GD and topics were disclosed then and there. Various day-to-day topics like, “The scope of engineering industry in rural areas”, “Need of energy conservation”, “Is technology making us less human?” etc. were discussed. One student from each group was selected as the best speaker. Through this competition, students got an experience of the group discussion occurring in the industrial hiring process.

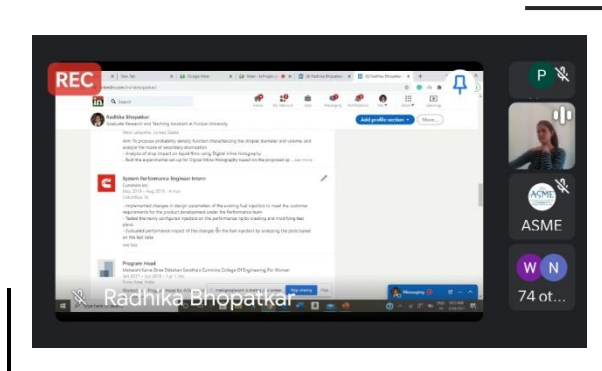
The section also arranged a session for ASME EFest orientation session on 22nd

December 2020 and urged everyone to participate in various competitions held at EFest, so as to broaden their perspective and add onto their skills. It was followed by an Alumni talk – by former chairperson of ASME CCOEW, Ms. Radhika Dharmadhikari who had bagged the first prize in the Elevator pitch competition and second prize in Biomimicry challenge at EFest 2020. She encouraged them to participate in such competitions which would help them to stimulate their personal and professional growth.

Well, it is often said that the right guidance at the right time from the right person leads you to the path of success. With that thought, the committee launched the “ASME CCOEW - Connect” program to dispel the gap between seniors and juniors that had formed due to the absence of students on campus and seek guidance in their field of interest. It also included hands-on mini-projects, where design projects on industrial problems were given to the students to trigger their imagination. This launch widened the vision and mission of ASME CCOEW. It received an overwhelming response from students.

On 20th February 2021, a LinkedIn awareness session was organized, and another alumnus, Ms. Radhika Bhopatkar-Graduate Research and Teaching assistant

at Purdue University, was invited to share her words of advice on LinkedIn proactiveness and networking. She emphasized on the need of being multidimensional in all engineering disciplines. Also, she gave valuable insight into her LinkedIn profile, which would surely help the attendees to build an apt profile. It panned out to be the event with maximum participation of the year as it witnessed more than 250 attendees.



### **LinkedIn Awareness session**

An ‘Orientation Program’ was conducted for the students newly admitted to the college, to introduce them to ASME CCOEW on 18th February 2021. They were briefed about ASME’s global significance, the establishment at CCOEW, activities carried out by the ASME section in our college, the two events of ASME, “EFx” and “EFest”. The section proudly announced the advent of

EFx at Cummins college in the academic year 2019-20.

On 8th March 2021, to celebrate the strength and the phenomenal role of women in society, the section invited Dr.Tutu Sengupta, Associate Scientist at Maharashtra Remote Sensing Applications Centre, Nagpur. She gave a brief idea of the “Insights into geospatial technology”. Students were enlightened about the working of Water bodies Demarcation, Standardization through Remote Sensing. It broadened the outlook of women in science.

On 22nd April 2021, the section planned a virtual industrial visit to Cummins CPG SEZ plant, Pune, India. The theory was covered right from the basics of sound, noise, their measurement methods like Anechoic chamber and open noise pads, moving on to sources of vibrations, experimental methods of assessing vibrations, modal analysis, FFT analysis for vibration assessment and so on. A brief presentation about the acoustic controls and vibration testing backed up by pictorial demonstrations and videos from the actual plant of Cummins made everything relatable and easy to understand.

The section's accomplishments were paired with the personal accomplishments of the committee members. The webmaster, Miss Radhika Joshi was selected to serve as a member representative in the ASME student regional board of the Asia Pacific region. The chairperson, Miss Arya Vyavahare was selected to attend the Student leadership Training Conference. She won third prize in EFest digital oral competition. She was awarded the Charles T Main leadership award by ASME and became the first Indian in 95 years to be honored with this award. The ASME Cummins student chapter will continue to flourish under the guidance of faculty advisors Prof. Dr. Ravindra Ingle and Prof. Yashwant Munde.

- Prajakta A. Joshi

S.Y. Mechanical

### **Team-**

- 1] Arya Vyavahare- Chair
- 2] Sanyami Kothari- Vice Chair
- 3] Kshitija Chavan- Vice Chair
- 4] Gargi Mhasakar- Secretary
- 5] Rasika Kalokhe- Associate Secretary
- 6] Sakshi Shah- Program Head
- 7] RashiGulhane- Associate Program Head
- 8] RutujaSakhare- Treasurer
- 9] Asra Fatima Husain- Vice Treasurer
- 10] Awanti Marathe- Publicity Head
- 11]SrushtiDeore- Associate Publicity Head
- 12]Nidhi Wadhwa- Outsourcing Head
- 13] Radhika Joshi- Webmaster

# NATIONAL SERVICE SCHEME

27



## “NOT ME, BUT YOU”

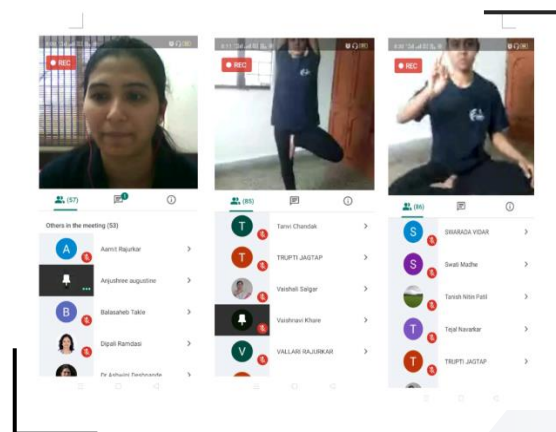
The National Service Scheme (NSS) is a Central Sector Scheme of Government of India, Ministry of Youth Affairs & Sports. The aim of the NSS is to provide hands on experience to young students in delivering community service. Like every year, the NSS team of our college made sure that they continued serving the nation with full spirit and enthusiasm, spreading awareness about various events of social, cultural, and historical importance despite the ongoing pandemic, through the events they organized:

### International Day of Yoga

Date: 21st June 2020

Due to COVID -19 pandemic the session was conducted through virtual mode. The session was conducted by Mrs. Anjushree Augustine (Director of Physical Education and Sports), Ms. Vaishnavi Khare (B.Tech. Computer and Yogasana / Rope Mallakhamb National Player) and Ms.

Radhika Khandave (Guest speaker and Yoga expert from Yogvidyadham Nashik). Everyone was made aware of Yoga's proven positive impact on general health, immunity enhancement and its role as a globally accepted stress reliever.



Virtual yoga session

### FIT INDIA

Date: 12 Sept 2020 - 14 Sept 2020

NSS CCOEW organized an event called 'THE VIRTUAL WALKATHON – HOW FAR CAN YOU GO' under 'FIT INDIA' which was integrated with 'STEP SET GO' to motivate people to be fit and healthy. Under the 'STEP SET GO App', the event went on online for 2 days. The event witnessed a huge response of 300



people from a varied age group, be it college students, children, the young and aged.

### **NSS DAY**

Date: 21 Sept 2020

On this day, NSS volunteers arranged various informative programs. They planted saplings in their houses, some of them conducted cleanliness drives in their localities, some spread awareness using social media about various dangerous diseases that may cause problems to human health. And at the end, a small program was arranged to congratulate and appreciate everyone's efforts. It was a day spent well.

### **FIT INDIA FREEDOM RUN 2020**

Date: 2 October 2020

Under the initiative taken by Department of Youth Affairs (AICTE) taking inspiration from our Prime Minister Shri Narendra Modi, the activity conducted was a '7km Virtual Run/Jog/Walk event' which was all about promoting physical activity for students, staff, alumnae, family, and friends. As the world battled a pandemic, the college propagated the importance of embracing an active lifestyle that integrates physical activity into everyday routines. The challenge was

to complete 7km in 2 days span, from any location, at anytime. The event was hosted on the Fitket app.

### **Majhe Kutumba Majhi Jababdari Campaign**

Date: 8 Nov 2020

Under this initiative, NSS members spread awareness about the precautionary measures that need to be taken against Corona virus. Under the guidance of the Government, NSS volunteers personally visited many households considering all safety measures, to make people aware the right way on grass root level. They made around 50-100 masks and distributed them amongst many people. They also spread awareness through social media- Facebook and Instagram.

### **NOT ZERO NET ZERO**

Date: 12 Dec 2020

NSS volunteers and students pledged together to make our campus carbon neutral by enhancing energy efficiency, deploying renewable energy, innovating the sources of energy like hydrogen, waste and others and offsetting CO2 through tree plantation.

### **FIT INDIA CAMPAIGN**

Date: 30 Nov 2020 to 5 Dec 2020.

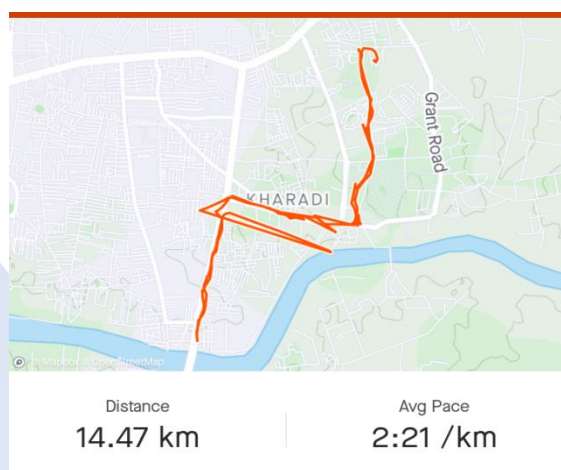
Under the aegis of ‘Fit India Movement’, the activities conducted by the college were as follows:

The promotion of the Fit India Thematic Campaign

“Fitness ka Dose Aadhaar Ghanta Roj” was promoted by making fitness videos, which showed demonstration done by college students.

**FIT INDIA CYCLOTHON** 2020 from 23rd December to 27th December 2020

College students and staff participated and submitted a digital app screenshot of a particular physical activity performed in a google form circulated, thereby promoting lifelong physical activity, and striving towards a healthier nation.



**Fit India Cyclothon**  
**Screenshot from the app**

## **HARIT SHAPPATH**

Date: 1 Jan 2021 to 15 Jan 2021

This activity was carried out under the campaign of ‘MAJHI VASUNDHARA’. NSS volunteers and students pledged together to plant at least 5 trees on any of their special occasions, and to always opt for greener modes of transport like bicycle, consciously optimize water usage, develop a kitchen garden, practice reuse in daily life and opt for green gifting options.

## **Voters’ Day**

Date: 21 Jan 2021

Students, volunteers, and staff pledged together and understood the main reason to celebrate this day every year. The activity also emphasized why everyone should vote above a certain age. In the end, there was an interaction between NSS members, where everyone expressed their views and thoughts about Voters’ Day. The pledge reminded everyone of the importance of fulfilling one’s responsibility towards the nation by actively participating in the democratic process.

## **World Environment Day**

Date: 29 May – 30 May 2021

In collaboration with ASHWAS FOUNDATION, COEP, PCCOE & VIT,

Cummins College celebrated 'World Environment Day for 2 days. On day 1, volunteers performed tasks such as ploughing or collecting trash from their surroundings, or some of them followed a perfect physical exercise routine with a balanced diet. Some volunteers also created T-Shirt bags or paper bags. On the second day, volunteers contributed in seed ball making, to go green and grow green. They mixed soil, manure, and seeds together forming small balls out of it. Some of them planted small trees as well.



### **Day 1: Trash collection from surroundings**

NSS CCOEW team has continued to make our college proud by conducting such activities that are worth appreciating. In

spite of not being able to deliver on-ground service, NSS members made sure that they never stopped achieving their goal by conducting appropriate virtual events. Their hard work and continued community service is truly commendable.



### **Day 2: Volunteer planting at home.**

-Sharvari M. Kulkarni

S.Y Mechanical

**NSS team from Mechanical  
Department:**

1] Vaishnavi Shrigadi : TY  
(Branch Representative)

2] Gayatri Bhagat : TY

3] Gargi Salvekar : TY

4] Manasi Navghade : TY

5] Harshada Dhumal : SY

6] Rucha Sangale : SY

7] T Sanathani : SY

Faculty advisor: Prof. Shridhar A. Kedar

## *Did you know?*

*In order to achieve sustainable air travel, Rolls-Royce's ACCEL division in September successfully launched its Spirit of Aviation electric plane. A 400-kW, 500+hp electric powertrain, the most power-dense battery pack ever assembled for an aircraft, powered the plane for a 15-minute flight over England.*

*-ASME Magazine*

*The backbone of autonomous manufacturing is AI and ML. Industry 4.0, cloud based data systems and connected devices are now capable of computing at the edge in real time AI can avoid failures at the end of the line by predicting failures before building and implementing corrective actions before production begins.*

*-ASME Magazine*

# PLACEMENTS

## 2020-2021

NAME OF THE COMPANY	NAMES OF THE STUDENTS	SALARY OFFERED (LPA)
Wabtec	Siddhi Joshi	12.48
LAM Research	Mitali Kharul	11.75
	Rutuja Shete	
Caterpillar	Gargi Mhasakar	10.35
	Sanyami Kothari	
	Sakshi Salvi	
Siemens PLM	Sayali Mane	9
PwC	Rucha Patil	8.44
Hero Motocorp	Shrutika Pujari	7.25
	Shruti Lokhande	
	Sheetal Raskar	
	Shweta More	
Becton Dickinson	Devika Kulkarni	7
	Amruta Vaghela	
JCB	Shreya Bahalkar	7
Alstom	Shraddha Kale	6.5



	Ketki Shinde	
	Aastha Daryapurkar	
	Madhura Sahasrabuddhe	
Schneider Electric	Radhika Zanwar	6.5
Collins Aerospace (Off Campus)	Gauri Jadhav	6.25
Eaton	Namita Sabnis	6.25
	Neeraja Bhide	
	Sakshi Shah	
	Samruddhi Patil	
	Tanvi Kuray	
Mercedes Benz	Pranjali Joshi	6.2
	Snehal Bandekar	
	Arya Vyavahare	
	Saloni Gosavi	
	Madhura Mahagaonkar	
	Savani Prabhune	
	Mayuri Kirve	
Tata Hitachi	Aishwarya Shewale	6.1
	Puja Kambale	
MG Motors	Mayuri Ratnaparkhi	6
	Janhavi Halgarkar	

	Monali Bendale	
	Tanvi Apte	
Technip FMC	Kajal Bokde	6
Ford Motors	Tanvi Vaidya	5.5
	Samruddhi Jadhav	
Rockwell Automation	Shraddha Karandikar	5.2
Thermax	Mrunal Joglekar	4.75
	Priyanka Patil	
	Anisha Kulkarni	
Mahindra Logistics	Sharvari Buttepatil	4.5
	Harshada Bhambure	
Acelor Mittal Nippon Steel	Madhura Indulkar	4.5
Faurecia	Shraddha Latpate	4
	Sonali Rasane	
Araymond	Kiran Raskar	3
	Rutuja Kulkarni	
	Vibhuti Raina	

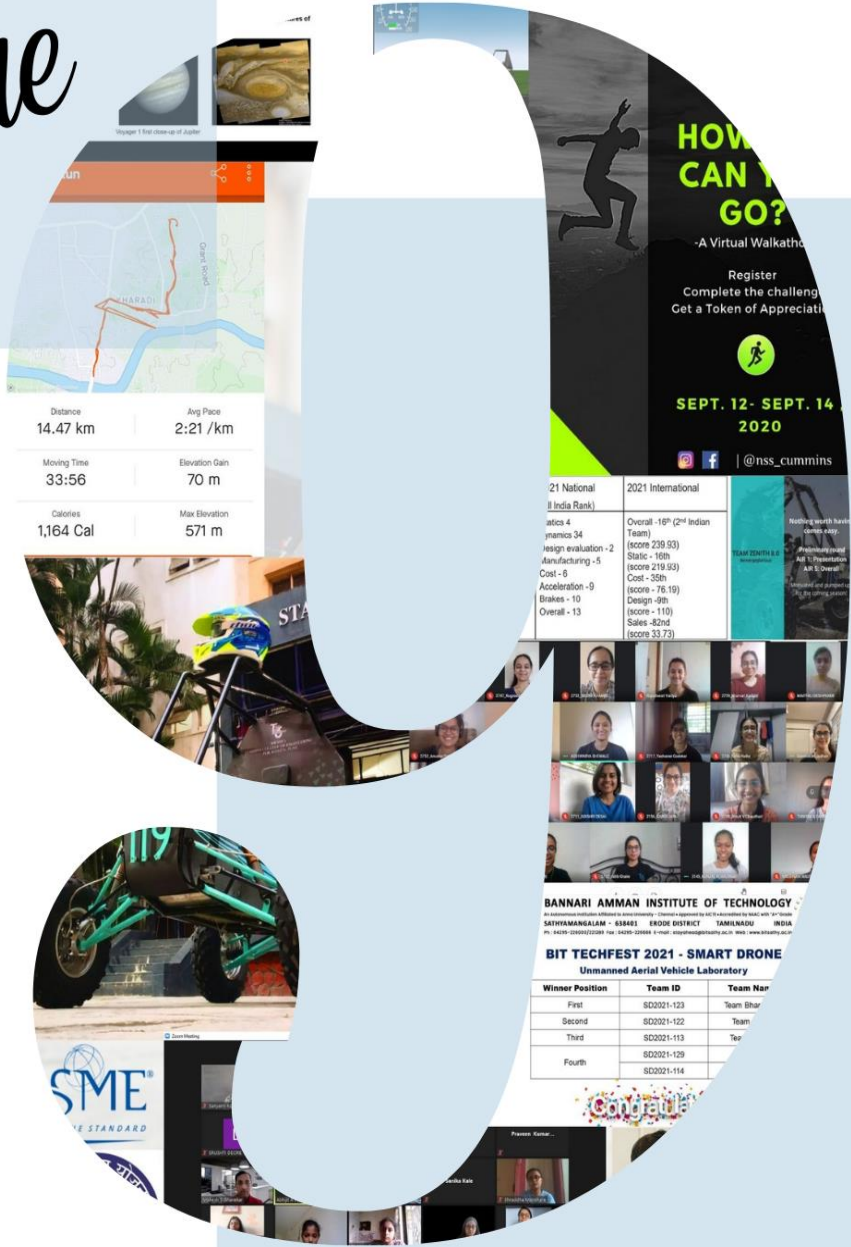
# ACHIEVEMENTS


Name	Year	Award/Scholarship/Achievement	Specifications
Namita Sabnis	B.Tech	Runner Up Finalist in Michelin India Mobility Challenge	National Level Design Idea competition hosted by Michelin India
Savani Prabhune			
Gargi Mhasakar			
Rutuja Gawali	TY	Won The Potential Real Venture	Under The course Entrepreneurship development we presented practice venture to the wadhvani foundation. The venture is evaluated by across 14 countries jury members and received score 4 over a scale of 5.
Pranali Pawar			
Dipalee Shelar			
Rutuja Gawali	TY	1st prize in Innovative Business Idea Competition	Organized by Start up cell of Cummins College of Engineering, Pune
Arya Vyavahare	B.Tech	ASME Achievements	Global level award recognizing leadership and service qualities. First time an Indian student has won the first place in 95 years since the award was instituted. Award includes- Honorarium of \$3000, a Gold Medal and a certificate from ASME. Date of receiving the award: May 11,2021
			Competition on a global scale emphasizing on the ability to deliver clear and concise oral presentations. Topic for presentation- "Electroactive Polymers in Cell Stimulation" Prize received \$200 and a Certificate. Date : April 24, 2021
			Selected from over 200

			applicants across the world to attend the ASME SLTC held virtually from 31st October to 1st November 2020.
Madhura Mahagaonkar and Shruti Lokhande	B.Tech	I2e Competition	Selected from 300 colleges under SPPU. Received Prize money of Rs.1 Lakh. The business idea competition i-2-e, was conducted by SPPU CIIE Innovation Cell. Got opportunity to participate in Power 2021 pre-incubation program (May 21 - July 21) by SPPU CIIE.
Radhika Joshi	TY	Selection in ASME Student Regional Board 2021-22	Collective representation of ASME Sections across six countries constituting the Asia Pacific region.

# MECHANICAL EXPRESS

Issue



 @mechccoew

 Mech Ccoew

 Mech Ccoew