

THE ASME GAZETTE

The Official Annual Newsletter of ASME CCOEW

Edited by Prajakta Joshi

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ASME CUMMINS STUDENT SECTION: MILESTONES REACHED (2018-21)

2018-19

Ms. Shraddha Pawar won the Technical Prize at the ASME E-Fest Asia Pacific Oral Guard Competition at Vellore Institute of Technology, Vellore.



2019-20

Ms. Radhika Dharmadhikari secured the 1st Place in the Elevator pitch competition and her team also bagged the 2nd place at the Biomimicry Challenge at E-Fest Asia Pacific at Marwadi University. She was also selected to attend the international Student Leadership Training Conference in Salt Lake City, Utah, USA.



2020-21

Ms. Arya Vyavahare won the Charles T. Main Student Leadership Award Gold Medal. She also bagged the 3rd place in the Oral competition at ASME E-Fest. She was also selected to attend the International Student Leadership Training Conference.



2020-21

Ms. Radhika Joshi got selected in the ASME Student Regional Board as a member representative.



2020-21

Ms. Rasika Kalokhe got selected in the Design team for the Student Regional Board Asia-Pacific's virtual annual magazine 'E-Mag'.



ASME CUMMINS STUDENT SECTION: ACHIEVEMENTS 2020-21

CHARLES T. MAIN STUDENT LEADERSHIP AWARD- GOLD MEDAL:

The Charles T. main Award recognizes undergraduate ASME Student members with exceptional leadership and service qualities and have contributed to enhancing the student activities at their section, their institute department, the engineering profession and ASME. The nominations are accepted globally and this is the first time in 95 years that an Indian Student has won the Gold Medal since the award was instituted.

SELECTION AT THE STUDENT REGIONAL BOARD :

The SRB Asia Pacific is a committee that forms a nexus of engineering students at all stages and promotes the vision and mission of ASME from a regional level. A selection in this prestigious committee, helped us enhance our representation and gain national recognition.

STUDENT LEADERSHIP TRAINING CONFERENCE :

The SLTC is a two-day immersive leadership experience with the ASME leaders, student section chairperson's and industrialists across the globe. This is the second time in a row that the Chair of ASME Cummins Student Section was selected to attend the conference.

E-FEST DIGITAL:

They are a movement driven by engineering students and young engineers from around world to ignite innovation, build your resume, meet with potential employers, participate in stimulating competitions, jumpstart your career and most importantly, celebrate engineering! Ms. Arya Vyavahare won the 3rd Place at the Oral Competition for her presentation on the topic- 'Electroactive Polymers for Cell Stimulation'.

E-FEST CAREERS:

Selection for a mentorship program on LinkedIn was conducted and Ms. Arya was selected to represent India as a panelist and speaker for the 'Getting Ready, Getting Noticed' Session at the ASME E-Fest Careers 2020.

MONTHLY THEME VIDEOS:

Our section was featured twice in the ASME India's monthly themed videos for our events on themes of - 'Energy Conservation month' and 'International Women's Day'.

A MESSAGE FROM THE FACULTY ADVISORS



Prof. Dr. Ravindra Ingle
Faculty Advisor, ASME CCOEW



Prof. Yashwant Munde
Co-Faculty Advisor, ASME CCOEW

The ASME Cummins Student Section was established in September 2015. This is the first student section of its kind established in Savitribai Phule Pune University. ASME is unique and one of the broadest knowledge sharing platforms in Mechanical Engineering discipline.

The following are the opportunities that student members get through ASME:

1. ASME encourages students to participate in various Conferences in India and abroad.
2. ASME provides the opportunity to download the ASME publications and journal papers.
3. ASME provides the platform to work

as a Leader and as a Team member.

4. ASME develops students' interest in engineering through field trips and guest speakers.

5. ASME also provides its members with opportunities for student employment and for scholarships.

6. Finally, the ASME student section aids its graduating members to find jobs through resume books and career fairs.

The ASME Cummins Student Section has grown exponentially from its inception and has achieved significant milestones over the years. Join us to learn, develop, network and most importantly to bring out the best in you!

Best Wishes!

FROM THE CHAIRPERSON'S DESK



Ms. Arya Vyavahare
Chairperson 2020-21

ASME expands to 135 countries and has around 150 student sections in India and ASME Cummins Student Section forms a part of this large community with being the first of its kind to be established in SPPU. Since its inception in 2015, the section has been growing consistently with regards to the activities and opportunities provided to the students.

It is my pleasure to be working in a team of 14 talented and highly spirited women who are determined to disseminate knowledge and communicate the excitement of engineering despite the unprecedented pandemic uncertainties. The section has not only continued to follow its mission but has also expanded to include the E&TC and Instrumentation students along with Mechanical engineering to cater to the multidisciplinary demands of the

industry. Surmounting the challenges, we have been able to conduct several events by making every effort to keep the students' technological knowledge advancing. We have been successful in creating a place at the national and international levels in various ways.

We owe this ascent to all our speakers, judges, sponsors, and attendees who made it possible by adapting to the new normal. We express sincere gratitude for the belief, optimism, support, guidance, and advice from our Student Section Advisors - Dr. Ingle and Dr. Munde, and are grateful to them for empowering us to be able to lead and help lead.

The legacy of the ASME Cummins Student Section will continue to progress and we urge you to take this step towards development.

Come with us because here we - CELEBRATE Engineering!

American Society of Mechanical Engineers (ASME) is a non-profit professional association that serves the engineering community through technological conferences, skills development, research and publications, scholarships, and other forms of outreach. It proves to be an encouraging platform for wholesome growth and helps explore the different opportunities for an engineer on a local and global scale.

FLY~MIGRATE~SAIL

Event: Talk on 'Educational Opportunities Abroad'

Speakers: Dr. Srivaths Vaidya, Mr. Ankur Rupani & Ms. Aishwarya Sangle (Imperial overseas Educational Consultancy)

by Asra Fatima Husain

S.Y. B.Tech Mechanical

Aiming at guiding the students for abroad education, talk by Imperial Overseas Educational Consultancy was conducted on September the 12th, 2020. Speaker for the event Dr. Srivaths Vaidya is an alumni of IIT Madras, Worked as Scientist at NCL and is currently working as Head of Counselling at Imperial Overseas Education Consultancy . Dr. Vaidya started the ball rolling by stating merits of abroad Education. She said that it offers better education, it has a lot of scope in R&D, we get to learn new cultures and most importantly it also helps us get into our dream companies. She then presented the statistics of

screening Exam-wise level of difficulty of each paper.

Dr. Vaidya provided a clear insight of top edge Universities that most students prefer for higher education. Mr. Ankur Rupani, Head of Training at Imperial Overseas Consultancy, thoroughly explained that students need to prepare for GRE, TOEFL, IELTS etc. and discussed the approach for attempting respective exams. Dr. Vaidya provided detailed information about scope of every Engineering branch in different countries. She later discussed the STEM program offered by Imperial Overseas Consultancy which includes all educational support along with

help in VISA procedure. Lastly Ms. Aishwarya Sangle, an Imperial Overseas Consultancy student with admit in University of Texas at Dallas shared her valuable experience with Imperial Overseas. She shared her journey as well as cleared some of the doubts of the students. The session ended with a hearty vote of Thanks by panelists to the speakers and attendees.



Dr. Vaidya guiding the students over choosing the top universities in Europe

DELVE INTO SPACE

Event: Talk on 'A brief history of Space Exploration'

Speaker: Prof. Dr. Atma Prakash

by Mugdha Patil

T.Y. B.Tech Mechanical

ASME Cummins Student Section arranged a guest lecture about 'Space Exploration' on October the 15th, 2020 and I was fortunate enough to get a chance to attend it! The guest lecturer was Dr. Atma Prakash. He is a lecturer at the Teesside University in the United Kingdom and has a specialization in Aerospace Engineering. The entire history of space research, literally from the experiments that took place in Chinese and Mongolian times to the latest discoveries in

Aerospace research was revealed by him. This was backed by a last snap taken by Voyager 1, the first human object to enter space, which was very informative and quite new for me. It was interesting as well as enlightening. He talked about his latest project 'tut2 space'. There was a mention of various early space exploration missions by him and how they were helpful for the advancements in space, flights, and exploration. It is project-based on rocket propulsion with the help of an



Prof. Dr. Atma Prakash, a senior lecturer at Teesside university, U.K., revealing the details of various early space missions right from the Chinese and Mongolian times.

appropriate payload, a rocket body, and trajectory simulation which was quite new and also increased my curiosity.

And one of the most important part of the event was the space explorer quiz! The quiz was a great fun and

interesting!

The guest lecture and the whole event was very informative and enlightening for me and I would like to thank the ASME Cummins Student Section for this amazing event.



The quiz was taken through ASME CCOEW Instagram handle! It received an overwhelming response. The questions were based on Space exploration. Ms. Parnavi Kulkarni won the quiz among 30 students who had participated and received this ASME CCOEW virtual badge.

SEIZE THE DAY

Event: Group Discussion competition

Panelists: Mr. Chandrashekhar Dhamankar & Prof. Jyoti Prasad

by Tanvi Arey

T.Y. B.Tech Mechanical

Group discussion is an important activity in academic as well as professional spheres which improves listening, thinking and vocal skills. Thus, to provide us an opportunity to become proficient in the same, a group discussion competition was organized by the ASME Cummins student section, Pune on December the 11th, 2020.

It was judged by Mr. Chandrashekhar Dhamankar (Forbes Marshall) and Prof. Jyoti Prasad. The students from third year and

second year from the Mechanical, E&TC and Instrumentation branch enthusiastically participated in this event.

There were 70 participants divided into groups and the time given for each topic discussion was 15 minutes. The topics given were a mix of technical and general knowledge, based on what is going on in the world. These topics were given at the last moment to each group for discussion so students had to do spontaneous thinking.

To comprehend the topic given students

had been provided with an initial 5 minutes to prepare themselves. The activity was helpful for all participants for upcoming placements. Some participants had to cross the barrier of fear for speaking about day-to-day topics. The winners were declared at the end of the session from each group.

I understood what judges or interviewers look for qualities during GD. This competition gave real time experience.
~ Siddhali Gadiya
T.Y. B.Tech E&TC

ENRICHING STEPS

Event: ASME E-Fest Awareness Session & Alumni Talk

by Rasika Kalokhe

T.Y. B.Tech Mechanical

The amount of exposure, inspiration, and the sole opportunity to prove ourselves as an engineer from various aspects, provided by the ASME E-Fests is unparalleled. Thousands of students and young engineers from around the world ignite innovation, build their resume, meet with potential

employers, participate in stimulating competitions, jumpstart their career and most importantly, celebrate engineering at the ASME E-Fest.

After the enormous success that the ASME Cummins Section witnessed at the E-Fest Asia-Pacific 2020, the section decided to take it up a notch this

year. Thus, the ASME E-Fest Competitions Awareness Session was held on December the 22nd, 2021, which provided a wide perspective of the event and more importantly its competitions. ASME was gracious enough to modify the older and introduce newer competitions in the

E-Fests which were better suited for remote participation. A comprehensive presentation was made by the ASME CCOEW Committee which included the explanation of the problem statements, competition description, deadlines, judging rubrics, and suggested approach to the solution, to the entire range of competitions available at the E-Fest 2021. This introduced the new members of the section to the event and gave the renewed members a glance at competitions.

To further inspire the members to participate in the E-Fests, the latter half of the session was an interview of Ms Radhika Dharmadbikari, former ASME CCOEW Chair, the first ever winner of the Elevator pitch competition, and the first runner-up of the Biomimicry Challenge.

She was kind enough to guide her juniors through her entire experience of the ASME E-Fest Asia Pacific held the previous year, and give pointers to those for participating in the competitions the following year.



Poster was made by ASME Cummins team as an invitation elaborating them about ASME E-Fest events.

Always ready with her insightful comments and benevolence towards her juniors, it felt like she was home. This event proved to be a catalyst for the exponential growth in the number of participants in the ASME E-Fest from CCOEW.

It was a call to all the members of the ASME Cummins family to uphold the legacy of the section at the E-Fest while scaling greater heights.



Ms. Radhika Dharmadbikari, alumni of Cummins college, winner of Elevator Pitch competition at ASME efest 2019-20 sharing her valuable experience with the audience.

CONNECT~SHARE~EVOLVE

Event: LinkedIn Awareness Program
Speaker: Ms. Radhika Bhopatkar

by Prajakta Joshi
S.Y. B.Tech Mechanical

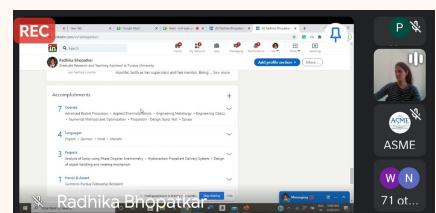
Engineering outlets applications and innovations. An engineer is always in search of knowledge and technical exchange pipelines. Social platforms like LinkedIn always help us to connect with professional experts.

In the zest, a “LinkedIn Awareness program” was organized for undergraduates of Cummins college, Pune by ASME Cummins Student Section on February the 20th, 2021. Event started with an opening note by Ms. Asra Fatima Husain. Ms.

Radhika Bhopatkar, an alumni of Cummins college, was invited to guide the undergrads about LinkedIn proactiveness and networking who

was connected with the students straight from Purdue University, West Lafayette. She set the ball rolling by presenting a picture which depicted a thought-provoking message “What matters is our perspective and the way we shape our lives!!” She elaborated on her journey from the beginning, with her vibrant communication style which engaged the audience throughout. Later on, she gave invaluable insight into her LinkedIn profile which would surely help the attendees to build an apt profile. She emphasized on the need of being multidimensional in all engineering disciplines.

“It came out as a record breaking event of the year which received more than 250 responses and the team managed it using two google meet links”



Radhika while guiding the students on how to develop the LinkedIn profile.

Also, she briefed all about the digital competences. She summarized her talk with some valuable words which motivated all participants.

In the end there was a question-answer session. She was astounded by listening to the questions and answered them with immense pleasure. It was indeed a treat to our ears to

listen to her briefings. Ms Arya, the chairperson concluded the session. The ions of CCOEW were recharged.

TAKE UP THE GAUNTLET

by Gargi Mhasakar
Final year B.Tech Mechanical

ASME CCOEW Connect was an initiative to build a platform where alumni, seniors and juniors can connect over their mutual career interests in order to help juniors navigate through their intended career path.

Duration of the program was 6 months. After the program was launched, registrations were open for Second Year, Third Year and Final Year Mechanical Engineering students.

We received an amazing response with 25 students registering as mentees and 14 alumni and seniors volunteering as mentors. The program saw active participation from mentees as they approached mentors for guidance related to various areas of interest like GRE, TOEFL Preparation, Opportunities for Masters, Placement Interview Preparation, Skill Development and Profile Building. Accordingly, juniors interacted with their seniors and

gained relevant insights. A mini-project was also undertaken by a group of students from second year. Industrial problem statements were provided to facilitate and develop real-life problem solving skills. The program was a great success this year which has motivated us to continue it for upcoming years. Through this initiative, we aim to build a strong community network which would continue to grow and mutually benefit everyone.



Feedback from students benefited from the program :

* We have designed a drone for agricultural purposes and a substitute for car belts. It was fun as we got to learn different Software like Solidworks and Ansys. We were new to this but after some practice we finally did it!! We learned to work as a team even when we are living in different parts of the city. It was a great experience for all 3 of us!!

~ Isha Ekbote, Sakshi Dighe, Akshata mulik (S.Y. B.Tech Mechanical)

* Being a part of the 'ASME Connect' initiative was in all a wonderful experience for us. We got a very good opportunity to interact and seek guidance from our seniors. They gave us invaluable advice, on not only academics but in general, how to make the best out of our 4 years in college. They also gave information on internships, placements and higher studies from a students' point of view, which is going to be useful to us, when we will be taking important decisions in the near future.

~ Sharvari Kulkarni, Shreya Vijith, Prajakta Joshi (S.Y.B.Tech Mechanical)

CELEBERATING WOMEN IN SCIENCE

Event: International Women's day
Speaker: Dr. Tutu Sengupta (Associate Scientist MRSAC, Nagpur).
by Sakshi Shah
Final year B.Tech Mechanical

"We must have perseverance and above all confidence in ourselves. We must believe that we are gifted for

something and that this thing must be attained." — Marie Curie
I felt the power of this very quote

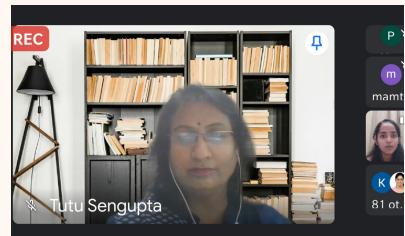
on the occasion of women's day, on March the 8th 2021, when ASME had conducted a webinar by Dr

Sengupta, associate scientist MRSAC Nagpur, to celebrate women in science.

Dr. Sengupta in her lecture gave us a deep insight into geospatial technology, involving ways to use satellite data available from polar orbit satellites situated 700-900km above earth's surface. She told us about MRSAC, working of water bodies demarcation standardization and updation through remote sensing, and also briefed us about micro level water supply through pipelines in water user association. We got the opportunity to understand how data from different satellites is collected, mapped according to the project and

provided through geoportal, catering to the specific geographic location. She explained the impacts of topology on accuracy of remote sensing, instancing Sinhagad fort. She also talked about the National Wetland Inventory and Assessment Project, of which she had been the principal investigator. This session widened our horizons and enlightened us about various opportunities in this very interesting field, which was not that familiar to us before. As it is rightly said empowered women empower women, her persistence, dedication and interest in her subject reflected through her detailed yet fluid and easy to understand guest talk that

inspired us all to not only dream big, but also work hard to achieve it.



Dr. Tutu addressing the audience via Google meet



Dr. Tutu explaining about the modifications brought to the GPS technology through graphics and pictures.

VIRTUAL INDUSTRY VISIT

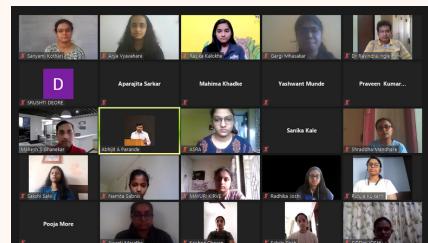
Industry: Cummins CPG SEZ plant, Phaltan

by Rashi Gulhane
S.Y. B.Tech Mechanical

Overcoming enormous challenges of the online learning mode, ASME managed to bring the golden opportunity of witnessing an Industrial Visit virtually for its member students. On 22nd April 2021, we attended an IV to the Cummins CPG SEZ Plant, Phaltan. Initially we were briefed about the Cummins plant overview and their five-principal pillars: Safe, Green, Clean, Diverse and Excellence. The company emphasizes on quality culture which results with satisfied customers. Then we were explained about sound, its measurement methods, its wavelength, vibration, failures due to excess vibration and frequency from scratch. We also

answered some quick pop questions and quizzes. The next part was about noise pads in detail. We learnt that its principle and purpose was that the hose pipe collects the noise and takes it an infinite distance away from the genset. This noise was collected by microphones kept 1 meter away from the genset. We also had the opportunity to watch a video demonstrating the mentioned setup at their Cummins plant. The next presentation was about vibrations, their sources and the failures caused by them. Various tests like rap-n-tap test, impact hammer test, are conducted to assess these vibrations. Later the session was open for QnA.

They demonstrated videos, graphical representations along with their detailed explanation, which made it easier for us to understand and grasp. It was indeed an enthralling and enlightening session that ignited the spark for application-based learning within us.



Industry people addressing the students of CCOEW.



Feedback from students :

- ★ The IV was very much informative. As I have taken mechanical vibration as an elective for final year, IV was totally relatable. Thank you to the entire ASME Cummins Section for this amazing opportunity.
- ★ It was a very informative IV. Looking forward to attend more such IVs!

~ Samruddhi Patil (Final year B.Tech Mechanical)

~ Aastha Gade (F.Y. B.Tech E&TC)

EN-ROUTE TO ASME E-FEST DIGITAL 2020-21

by Arya Vyavahare
Final year B.Tech Mechanical

The ASME EFest is an engineering festival that brings together thousands of students to ignite innovation, participate in competitions, lightning talks, interactive workshops, career-building opportunities, and mentoring. EFest was conducted digitally on a global level this year on 24th April, 2021 owing to the pandemic situation. It was filled with networking sessions with top ASME leaders and students. Beginning with a practical beneficial topic of 'life skills for engineers', it taught the

importance of taking up challenges outside the comfort zone. The biomedical industry was explored in the next segment where the role of engineers was made evident and opportunities for growth in the field were discussed. An important subject for engineers looking to manage their savings, finances was addressed and some real-world advice was provided. Insights on the framework of successful design thinking were given in great detail. The festival brought forth 24 hours of content that ranged from technical themes of aviation

careers, pipeline engineering, smart cities, additive manufacturing, AI, entrepreneurship to social concepts like women empowerment. Amazing acts of entertainment were performed by the students that helped us engage better and enjoy the fest. The event concluded with the announcement of the winners in the EFest Competitions. It was indeed a wonderful learning experience that spread optimism and energized all to give their full potential in the coming time.



Moments captured during the webinar at ASME E-Fest digital.



Feedback from participants:

- ★ I had participated in Elevator Pitch competition. It was indeed an enthralling experience. We got a global exposure, as the participants were spotted from all over the world. Also, as it was virtual, we could attend the whole event from our homes. I would definitely recommend other students to participate in such competitions.
- ★ The oral competition at E-Fest is a spectacular phenomenon to experience. It is inspiring to see people of our age from across the globe put forth mind-blowing ideas. The interaction with the judges is extremely wholesome wherein they point out various considerations in our project through their questions, which subsequently succeeds in improving the potential that the project holds. Will surely be participating next year too!

~ Rutuja Sakbare (T.Y. B.Tech Mechanical)

~ Rasika Kalokhe (T.Y. B.Tech Mechanical)

ENVISING CUISINE IN SPACE TRAVEL

ASME world

referenced from 'Mechanical Engineering: The Magazine of ASME'

We know most of the space shuttles have not been equipped with a refrigerator and thus there is no way to store or prepare fresh food.

NASA is funding a team of engineers to build a refrigerator that will work in various states of gravity to adapt to the conditions of the spacecraft.

Refrigerant is pumped through an expansion valve where it expands and absorbs heat from inside the

chamber, turns to vapor. The condenser converts it back into liquid which helps to keep the food cool. The oil is needed to lubricate the system and this is where the issue of microgravity comes into play.

Thus, an oil-free compressor would be ideal. The process called solid oxide electrolysis can be used here to convert carbon dioxide to oxygen in Martian atmosphere. Conduction of various experiments is done to

find any detrimental effects on refrigerator in microgravity.



A prototype of refrigerator which has to be tested in the flight (snap taken from ASME magazine)

~o~ ASME CUMMINS STUDENT SECTION 2020-21 ~o~

~ TOGETHER WE CONQUER ~



~ OUR MISSION ~

To serve diverse global communities by advancing, disseminating and applying engineering knowledge for improving the quality of life and communicating the excitement of engineering.

~ OUR VISION ~

To be essential resource for mechanical engineers and other technical professionals throughout the world for solutions that benefit humankind.