CHANDIGARH ENGINEERING COLLEGE

Buiding Careers. Transforming lives.

Mechnotimes

Newsletter

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2021

Vision of the Chandigarh Engineering College

To become a leading institute of the country for providing quality technical education in a research based environment for developing competent professionals and successful entrepreneurs.

Mission of the Chandigarh Engineering College

1. To provide state of the art infrastructure and engage proficient faculty for enhancing the teaching learning process to deliver quality education.
2. To give a conducive environment for utilizing the research abilities to attain new learning for solving industrial problems and societal issues.
3. To collaborate with prominent
industries for establishing advanced labs and using their expertise to give contemporary industry exposure to the students and faculty.
4. To cater opportunities for global exposure through association with foreign universities.
5.To extend choice based career options for students in campus placements, entrepreneurship and higher studies through career development program.

Vision of the Department

To emerge as centre of quality education for creating competent mechanical engineers catering to the ever-changing needs of industry and society.

Mission of the Department

M1: To provide quality education by constantly updating departmental resources and using effective teaching learning methodology.

M2: To promote research practices in the field of mechanical engineering in pursuit of academic excellence and for the benefit of society.

M3: To establish industrial collaborations for imparting contemporary knowledge to keep pace with the technological challenges in the interdisciplinary and core areas of mechanical engineering.

M4: To provide opportunities to the students for global exposure through international collaborations.

M5: To nurture students through pre-placement training programs to succeed in campus placements and to provide guidance for entrepreneurship and higher studies.

EDITOR'S COLUMN

The departmental Newsletter will definitely help to showcase the activities that are happening in the Department. It also helps in building up teamwork which is very much needed today in the competitive world. It provides a platform for exposing the merits and academic achievements of the faculties and students. This enhances the documentation culture among the students. It would definitely create an impact in the mind of readers, by providing larger visibility and dimension to the department. We hope that this culture of releasing Newsletter continue forever and become a quoted example for all to follow.

AISHNA MAHAJAN

EDITOR-IN-CHIEF

MECHNOTIMES

FROM EDITORIAL'S DESK

Welcome to Issue 2 of Volume 6 of the Mechnotimes of Mechanical Department Newsletter of Chandigarh Engineering Colleges, Landran.

We are really proud and exuberant that each quarterly issue of this Newsletter acts as a turning moment of the events and expert lectures which is being hosted by our department. It tackles recent events and attempts to formulate viewpoints based on an objective analysis of happenings and conflicting/contrary opinions. The positivity and enthusiasm is being spread among the students through this innovative idea as well as Faculty's hard work.

We sincerely hope that the readers will find the cases interesting, relevant and intellectually stimulating leading to building up diverse outlook about the department.

Deepak Yadav 1st sem(Mtech)(2102545)

Damunas Kalra 7th sem(Btech)(1802768)

Aditya Yadav 5th sem(Btech)(1902789)

Kaustubha Srivastava 5th sem(Btech)(1902851)

Nishant Thakur 5th sem(Btech)(1902875)

Workshop on Computer Aided Manufacturing

The Department of Mechanical Engineering organized a workshop for students of Mechanical Engineering on November 26, 2021. This workshop was conducted by Ankush Gupta, Proprietor of A.N.G Industries. The topic of this workshop was “CNC Machining”. During this workshop the students learned about the concept of Computer aided Manufacturing and Computer Numerical Control (CNC) machining. After an interactive session with the students, the practical training session was conducted in the advanced manufacturing lab (CNC Lab), where the students were given practical knowledge about the CNC machine and its working.

Expert Lecture on Rapid Prototyping and 3-D printing

The Department of Mechanical Engineering organized an expert talk for the students of Mechanical Engineering on November 29, 2021. Dr. Rupinder Singh, Professor & Head NITTTR Chandigarh apprised the students about the concept of 3D and 4D printing with practical examples. He also discussed the current research scenario in the field of Rapid Prototyping and its prospects in the broad area of Design Engineering.

AICTE sponsored Study Trip to Atal Tunnel

The All India Council of Technical Education (AICTE) has funded 100 top engineering colleges in India to take its top ranked students from Civil, Mechanical and Structural engineering branches on a study tour to Atal Tunnel in Himachal Pradesh - Youth Undertaking Visit for Acquiring Knowledge -YUVAK Scheme.

Atal Tunnel connects Manali in Himachal Pradesh to Leh in Ladakh and is the world's longest highway tunnel (9.02 km) constructed at a height of above 3000 meters from the sea level. It cuts down the travel time between Manali and Keylong towns by 3-4 hours. The objective of this study tour was to understand the geological and geotechnical challenges faced in the construction of the tunnel, the novel method adopted in the construction of the tunnel, inculcate research, innovation and patriotism among the budding engineers of the country.

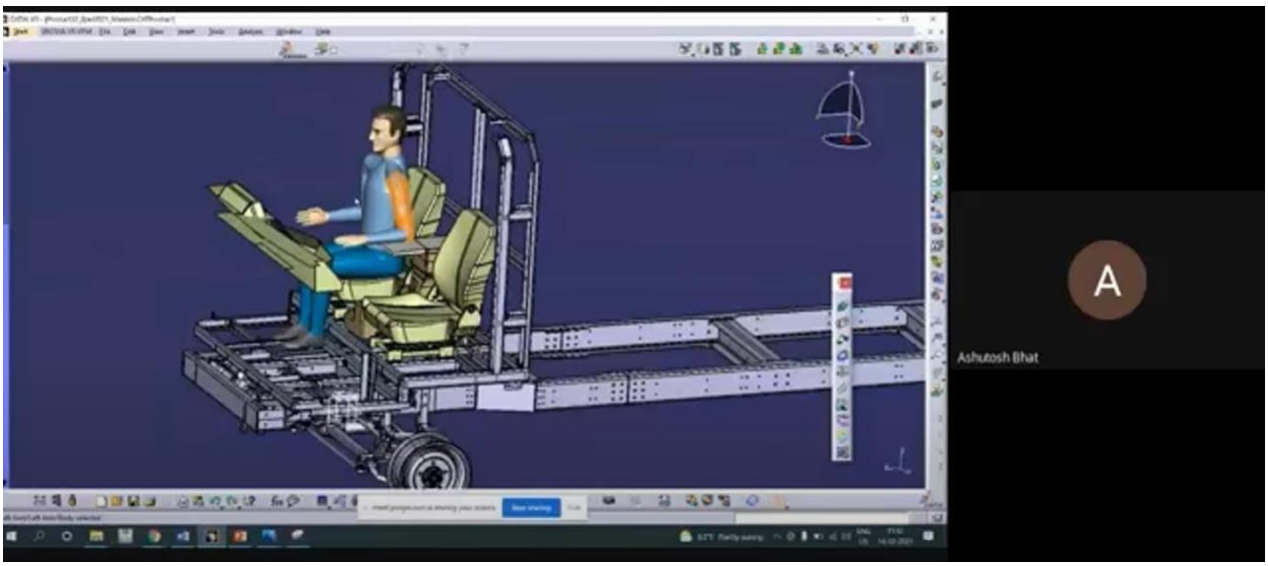
A team of 10 students of Department of Mechanical Engineering were selected for this study tour and visited Atal Tunnel on November 30, 2021. Engineers from Border Roads Organization who constructed this tunnel, took the students on a half-day guided tour and explained the New Austrian Tunnelling Method (NATM) adopted, the ventilation systems, pollution monitoring inside the tunnel and the mode of dilution of air pollution by injecting fresh air using heavy duty fans.

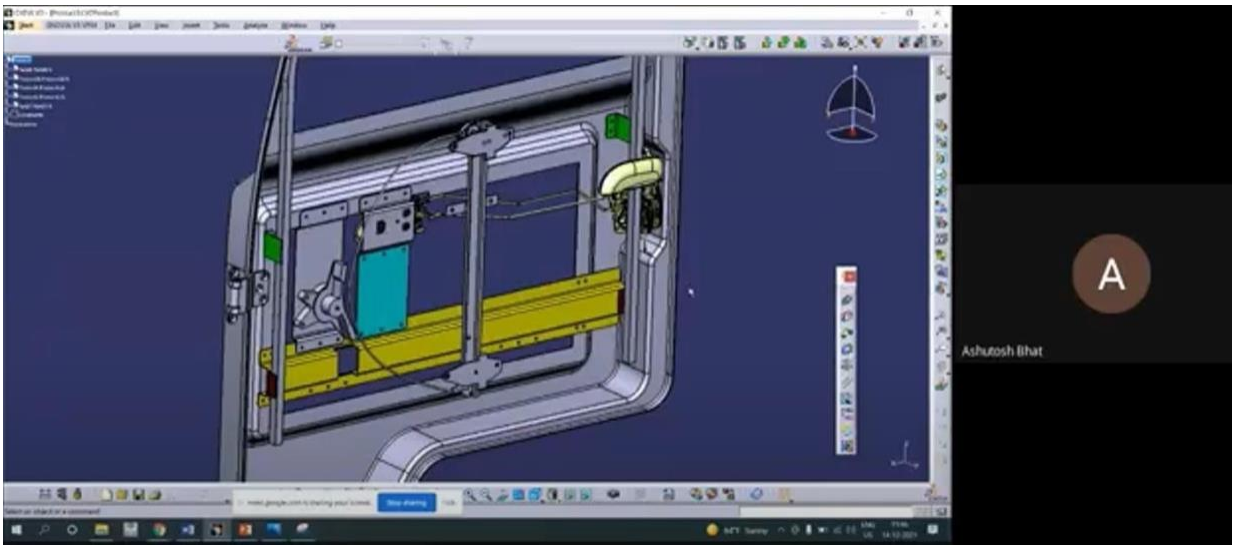
Workshop in association with Henkel Adhesives

The Department of Mechanical Engineering organized a workshop for students of Mechanical Engineering on December 06, 2021. This workshop was conducted by Mr. Amit Grewal from Henkel Adhesives. The topic of this workshop was “Maintenance and Assembly Solutions (Loctite)”. During this workshop the students learned about the applications of adhesives in various manufacturing industries. The students were also briefed about the use of Loctite in thread locking, shafts, Torque Augmentation, etc.

Expert talk on “Industrial Project - Case Studies”

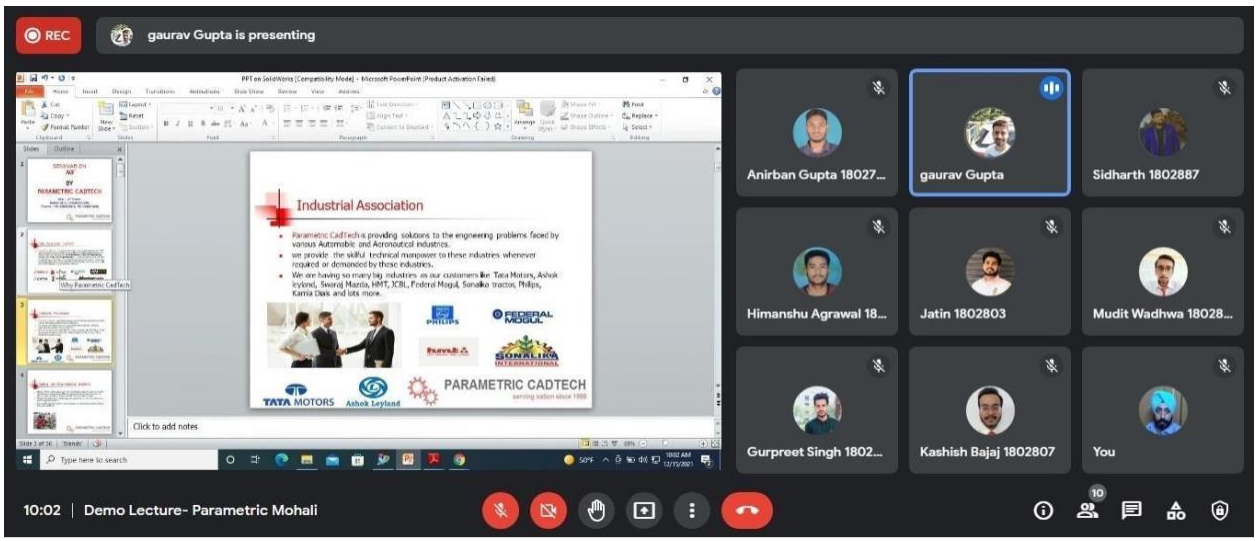
The Department of Mechanical Engineering, Chandigarh Engineering College, Landran organized an expert talk entitled “Industrial Project - Case Studies” on December 14, 2021. The lecture was delivered by industry expert, Mr. Ashutosh Butt, Sr. Consultant, AeroSphere, Chandigarh.

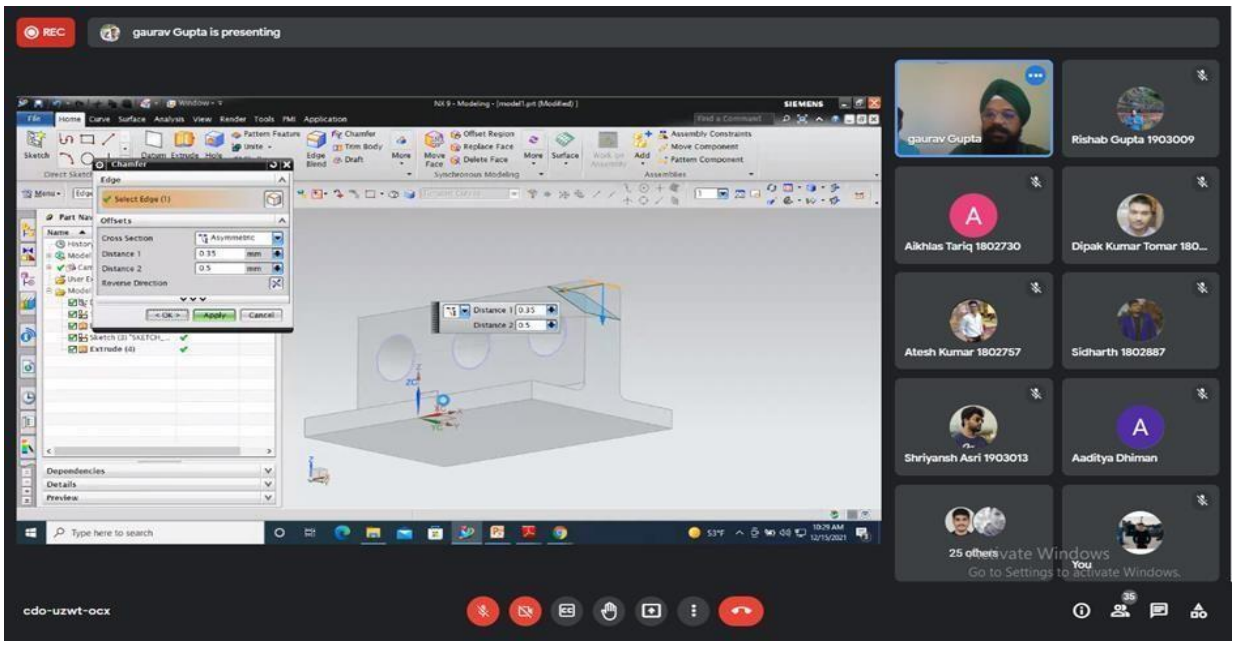




Expert Lecture

The Department of Mechanical Engineering organized an expert talk for the students of Mechanical Engineering on December 15, 2021. Mr. Gaurav Gupta, Sr. Consultant, Parametric CADTech, Mohali, delivered an expert talk on “Unigraphics NX-CAD”. The students of 4th year attended this session and learned about the concepts of Computer aided Design and Manufacturing. The expert gave an overview of the NX Cad software and explained different capabilities of the software with case studies.



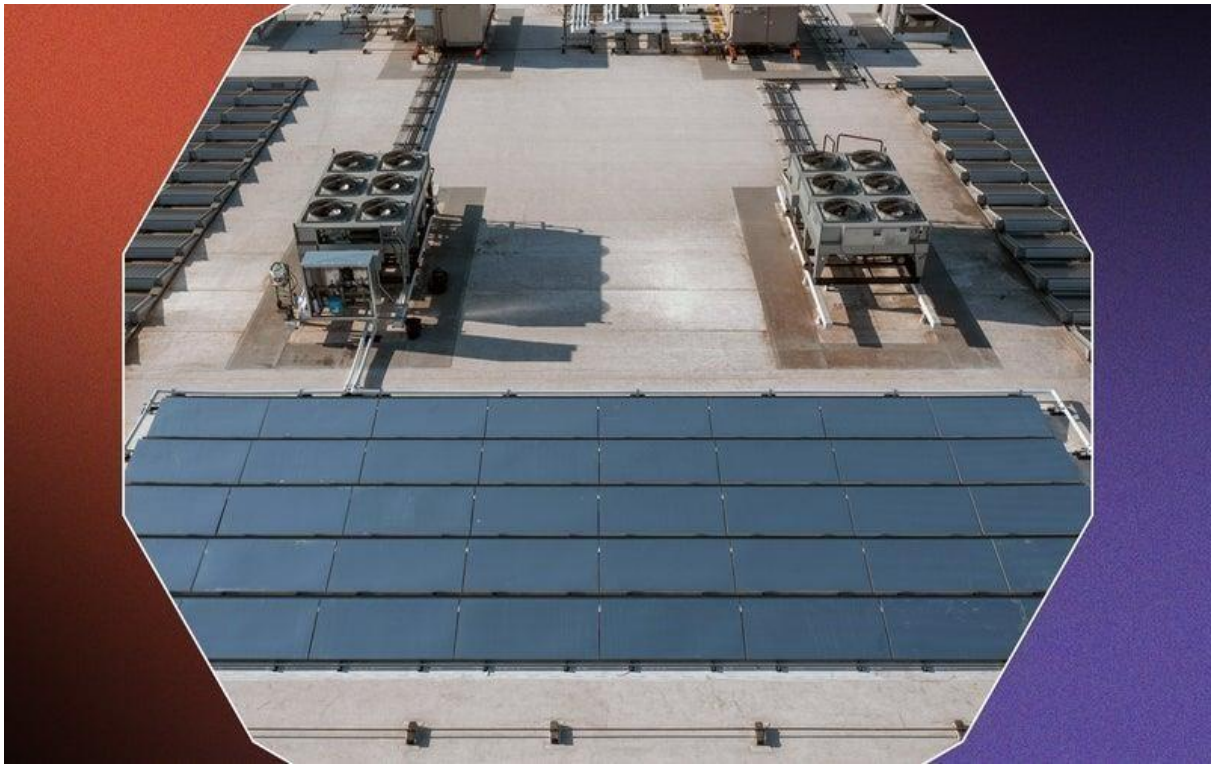


SMART INNOVATIONS

- **Batteries That Could Make Dirty Electricity Obsolete**

To maintain fully renewable grids, utilities need big, inexpensive batteries to meet peak demand when the wind isn't blowing or the sun isn't shining. But, the lithium-ion cells inside laptops and EVs are expensive. So Form Energy has pioneered a new and highly efficient battery chemistry based on one of the most abundant metals in the Earth: iron. The company's "Big Jim" prototype discharges electrons by reacting ambient oxygen with iron, creating rust. Inbound electrical current turns the rust back into iron, releasing oxygen, and recharging the battery. Environmental engineers say a battery that runs at $20 per kilowatt-hour is the magic number for utilities to say goodbye to coal and natural gas—which is where Form Energy hopes to price Big Jim's final product.

- **Using The Sky As An Air Conditioner**



Air conditioners and fans already consume 10 percentage of the world's electricity, and AC use is projected to triple by the year 2050, sucking up more energy and pushing heat back into the surrounding landscape. SkyCool is breaking this dangerous feedback loop with rooftop nanotech that reflects light. Coated with multiple layers of optical films, the aluminium-based panels bounce radiation at wavelengths between 8 and 13 micro meters, a specific spot that allows the waves to pass through Earth's atmosphere and into space. In doing so, the panel temperatures decline by up to 15°F, offering emissions-free cooling to a building's existing systems. A prototype installed last fall on a grocery store in Stockton, Calif., cooled water pipes beneath the panels to chill the store's refrigeration system—saving an estimated $6,000 a year in electrical bills.