



## EDITOR'S COLUMN

The department 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 world of competition. It provides a platform for exposing the merits and academic achievements of the faculty and students. This enhances the documentation culture of the institute. This would definitely create an impact in the minds of readers, by way of providing larger visibility and dimension to the campus. I hope that this culture of releasing Newsletter continue forever and become a quoted example for all other colleges to follow.



**EDITOR'S IN CHEIF**  
**MR. PAWAN NAIN**

## ***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.

## ***Program Educational Objectives (PEOs)***

### **Mechanical Engineering graduates will be able to:**

- PEO1:** Develop dexterity to analyze and synthesize data and technical concepts for design, development and manufacturing.
- PEO2:** Meet the present needs of industry effectively.
- PEO3:** Embrace multidisciplinary view with an ability to work diligently as leader /team member on various projects with a focus on the economic, environmental and social feasibility of the project.
- PEO4:** Exhibit communication skills along with mathematical and scientific fundamentals to excel in various career related aspects.
- PEO5:** Engage in continuous self-improvement, personal enrichment and professional ethics through lifelong learning.

## DEBATE COMPETITION

Organized by Mechnorobs on March 21, 2018 on the topic, “India’s ability to be the world power”. India has been witnessing many ups and downs since Harappa civilization, Mesopotamians, Mughals, British rule to independent India. Our country was named “the Golden Bird.” The land of great kings like Akbar, the land of gargantuan culture still with the boon of unity with diversity is jinxed. So the topic commemorates the past, present and future of India and lets the developing young brains to strongly think on it.



Sr. No.	Winner
1.	Taranvir
2.	Vikrant Katoch
3.	Paramvir
4.	Rajvardan

## EXPERT/GUEST LECTURES

.No	Date	Topic	Resource Person
1	03.04.2018	INDUSTRIAL AUTOMATION, MECHATRONICS	Mr. Deepak Sharma Prolific Systems Technologies Pvt. Ltd
2	04.04.2018	Capacitor Discharge ignition and iSmart Technology	Mr. Dushyant Sharma Dy. Manager HeroMotoCop Limited
3.	10.04.201	Creativity, Innovation and Entrepreneurship	Dr Deepika Bhalla & JPS Sibia PTU Nalanda School of TQM & Entrepreneurship



Mr. Dushyant Sharma addressing the students about CAPACITOR DISCHARGE IGNITION and ISMART Technology



Mr. Deepak Sharma addressing the students about INDUSTRIAL AUTOMATION, MECHATRONICS



Dr Deepika Bhalla & JPS Sibia addressing the students regarding CREATIVITY, INNOVATION and ENTREPRENEURSHIP

## SOLAR ROADWAYS –A Brighter Future

Life has existed for millions of years before electricity was ever developed. All thanks to the giant Nuclear Fusion reactor at the center of our solar system, Energy can also be harnessed and converted into electricity and heat. Solar panels consisting of arrays of 'Photovoltaic cells' (photodiode semiconductors) which works on the principle of "photoelectric effect". Then there are solar concentrators which concentrate a portion of the sun's energy into a smaller area by using lenses or mirrors.



Solar Roadways is a currently trending innovation which focuses on replacing the common roads with structurally engineered solar panels which can withstand the weight of vehicles as well as tough out other environmental conditions. They consist of solar cells placed under hardened glass. The energy received from these roads can power road lights, traffic lights, signs and also local dwellings. If successful, the entire roadway system (if not, a majority) of a country can be turned into a solar power plant. It can also provide a source of electricity to charge electric cars on the go as an added advantage. Solar roads can cut harmful emissions of a country by at least 50% which is a number which cannot be ignored keeping in mind the alarming rate of increase in Global Warming. Solar Road in Krommanie, Netherlands, is the first solar powered bike path laid in the world which was opened in November, 2014. In this article, we will discuss the economics of solar energy and the technology that goes into the making of the solar roadways.

**1 Solar Energy – Statistics:-**The earth receives a fraction of sun's energy every day, which we know as solar energy. In full sun, the earth receives 100 Watts of solar energy per square foot. Assuming about 12 hours of sun in a day for 365 days in a year, the annual energy from the sun is around 438KW-Hrs per square foot. There are 10,760,000 square feet per square kilometre which makes the energy available, 4.7 Terawatt-hours per square kilometre annually. India covers about 3,000,000 square kilometres. Current technology is limited in its efficiency failing to provide a larger profit, which is deciding factor in a country's economy.

**Article By:-**  
Shailesh Goyal  
ME-(A+B)-6<sup>th</sup> Sem

# *5 Reason Why India Is Not Good In Football*

- **Dual Nationality Rule**-Indian government does not allow dual citizenship in India. It is the most important reason that our country is not good in football. Government of India decided to Grant “Overseas Citizenship of India”(OCI) which most people mistakenly refer as ‘Dual Citizenship’ but it is not true. If someone has got citizenship in USA then that person can’t represent India. But in foreign they have dual nationality rule. If we have dual nationality rule in India then we would be top of the mountain in football.



- **Thinking Of Parents**-In India, parents only want to see their child good in studies. Half of the parents of India don’t support their child if their children want to make their career in sports. They just force their children to study day and night and then join a good engineering college. We can’t be good in football if parents’ thinking remains the same. I hope the person who is reading this article won’t force their child to do engineering.
- **Lack Of Infrastructure**-I think we are lacking in infrastructure and we are not having world class stadium in India. It can be clearly seen that cricket stadium are in every state of India. But when it comes to football the story is not the same. We don’t have any single world class stadium in India.
- **Coaches**-If a person is good in Football but he doesn’t have any coach than we can say that there will be a waste of talent. Coaches are just like candle that shines player life but sadly we are lacking coaches in India. If we look At England they have football coaches not in every city but at every street. So you can easily spot the difference. I think the players who have retired from football it is their responsibility to teach kids in their town.
- **Money Problem And No Academy**-Money is also a big problem in football yes it is true. I mean just look at the salary of cricketers and footballers. I think footballer not even gets 50% of salary of cricketers. This is completely ridiculous...and story not ends here some football players do some extra work to get money to survive in this nation.

**Article By-**  
Amandeep Singh  
ME-(A+B)

## Constructing the Future with Flying Robots

There are drones for package delivery, drones for search and rescue, drones for sensing, and drones for photography, among others. Now another application for drones has taken another step closer to reality: Drones for construction. Researchers at the Swiss Federal Institute of Technology (ETH) Zurich have demonstrated that the [flying robots](#) they customized and programmed can then build a rope bridge between scaffolding without human intervention, and the bridge can support the weight of a person walking across it. According to the researchers, flying machines offer a number of advantages over machines traditionally used to construct buildings and other objects because they can fly in and around existing objects and access places that may be



difficult for non-aerial robots “We’ve done research and a lot of different projects with flying machines for a long time,” says Federico Augugliaro, lead robotic researcher on the project. Augugliaro, who recently was awarded a Ph.D. in science from ETH Zurich, and earlier earned an M.S. in robotics, systems and control from the same university, has been working on flying machines as part of his academic work. Another earlier project included dancing quadcopters that demonstrated coordinated flight for a swarm of flying machines, and ability to hover “One area we decided to explore was [flying machines](#) interacting with their environment and [to do so by building] a structure that cannot be built in other ways by machines,” Augugliaro says. “We usually do some fundamental research to come up with methods and strategies that demonstrate what’s possible and demonstrate some concepts. With the bridge it was to showcase that flying machines can build a structure that is load-bearing. Instead of something more abstract, we went for a bridge because it is really tangible. You need a flying machine to make it work because you have to go around the structure and within the structure, and a crane or other grounded machine cannot do that.” “We had to solve different things and develop, for example, the rope-deploying mechanism and create some new algorithms.” The team used existing flying machines, which they customized with various components such as electronics and the rope-deploying mechanism to connect the scaffolding anchor points.

**Article By:-** Jaspreet Hothi

ME-4<sup>th</sup> Sem

# WINDMILLS

With the ever decreasing natural resources, it has become more and more imperative to look for the alternate energy resources. Fossil fuels are not only depleting, they are polluting the environment. In the ongoing search for alternate sources of energy, green, clean, and renewable energy sources have the topmost priorities. The emphasis on the cleaner and renewable energy resources, in order to protect the environment, has led to some of the innovative exploitations of the earth's energy resources. Way in which power systems used to be designed is undergoing a change. Large number of dispersed power generation units, both renewable and non-renewable, is being developed. Wind turbines, photovoltaic (PV) generators, small hydro, fuel cells and gas/steam powered Combined Heat and Power (CHP) stations are augmenting the conventional power plants. Thermal solar panels, photovoltaic cells, wind, biomass, and fossil fuels are some of the examples of the uses of solar energy. Currently, **wind energy** is one of the least expensive and most effective of all the alternate, renewable energy sources and is becoming more affordable with the improvement in the technology and the infrastructure.



## WIND ENERGY

Wind is nothing more than the movement of air from one place to another. It is air set in motion naturally. Winds exist over the earth's surface because of the variations in air pressure. These are in turn due to the variations in solar heating. Coriolis force due to earth rotation is also an important factor in wind production. In mid 1600s, Evangelista Torricelli gave the scientific explanation for the winds as, "*.. winds are produced by differences of air temperature, and hence density, between two regions of the earth.*" Winds are caused by the differential or uneven heating of the Earth's surface by radiant energy from the sun. Reason for the uneven heating is the composition of earth's surface. Since the Earth's surface is made of very different types of land and water, it absorbs the sun's energy at different rates. Another reason is the seasonal variations in solar incidence. Wind speed is influenced by the ground and generally increases with height above ground. This is because obstacles and the roughness of ground features such as vegetation, buildings, and mountains cause the wind to slow down. As the wind blows as long as the sun shines, Wind is called a renewable energy source

**Article By:** -Abhinab Thakur  
ME-(E+F)-4<sup>th</sup> Sem

## ACHIEVEMENT

Students from department of Mechanical Engineering and Electronics Engineering participated in the “CANSAT 2018”. It is an global event which held at every year. There are 2 teams from the college participated in this event “incassible” and “infinity”. Both teams got selected in the final round. The team “infinity” got 3<sup>rd</sup> rank in Asia and 12<sup>th</sup> rank globally. it was the great achievement of the students and they flourished the fame of their department as well as college.



## GALLERY

