

SRISHTI

NEWS LETTER

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DEPARTMENT OF CIVIL ENGINEERING
MANGALAM COLLEGE OF ENGINEERING

DEPARTMENT OF CIVIL ENGINEERING

Civil engineering branch is an ever growing stream of engineering with the huge amount of demand for new constructions with the increasing developments taking place in the world. The academic activities of the Department lays emphasis on deep understanding of fundamental concepts, development of creative ability to handle the challenges of Civil Engineering, and the analytical ability to solve problems which are interdisciplinary in nature. The department is committed to produce Civil Engineers which would usher India into a utopia of development.

VISION

To emerge as a knowledge center in civil engineering education focusing on research and industry outreach services with emphasis on sustainable development.



MISSION

Mould Civil Engineers with high level of professional, moral and ethical values. Attain highest standards in theoretical as well as practical knowledge. Excel in major areas of Civil Engineering to respond to the current and future needs of the industry and higher studies. Employ the principles of continual quality improvement to enhance its programme and faculty.

FROM THE CHIEF EDITOR'S DESK



Prof. Reshma Kassim
Head of the Department

As we start a new year and a new semester, I would like to extend a warm welcome back to all our students and staff members who contribute to making the 'Civil Engineering Department' the vibrant center of intellectual, cultural and sporting activity that it is all year round. A new year always ushers in the sense of renewal – a renewal of purpose and collective commitment to excellence in teaching, learning, research and service to our community. With this comes the firm resolution to achieve desired results and meet deliverables. The New Year: A time to bring from the past all that is right and good, to give to the future the best we have to offer.

EDITOR'S



Prof. Reshma Kassim
Chief Editor



Asst. Prof. Sruthi Krishnan V.
Editor



Asst. Prof. Alice Johny
Editor

We've been getting and sending a lot of holiday greetings, but one we have yet to hear is: "Have a Very New Year!" Perhaps it sounds too ambiguous for a real felicitation; safer to wish upon each other happiness rather than newness. But what if the newness of the new year was more than a calendrical trope? What if we rolled into January as if we were rolling into undiscovered country - ties cut, wagons loaded, oxen hitched?

For all of the toasts and vows, it is easy to dismiss the new year as an artificial made-for-Champagne-purveyors boundary. If we move past it - and our limited resolutions - quickly it is because life has a profound continuity that has little reference to the calendar's pages. For most of us, time falls into different, and largely private, patterns. It's more natural to measure time by how long you've lived in the same apartment or worked at a job, how long a relationship has endured and how old the children have grown, how large the trees you planted years ago have gotten.

That's one thing the new year always offers: a look back across the plains into the past before we move onward into the future. It is a holiday that insists upon our temporality and reminds us that time is, in fact, the strangest thing. No one ever sat you down, when you were young, and explained the workings of time the way the safe way to cross a street was explained. You just grew into it, into the way we trail the past behind us while the future comes rushing forward.

It also offers possibility. We're all surging forward - some with more impetus than others. And now we have 2016 before us, a year that seemed unimaginable until we were right at its border.

FACULTY CORNER

FACULTY ACTIVITIES

SL.NO:	NAME OF FACULTY	DATE	FDP/SHORT TERM COURSE	DETAILS
1	Fr.Bennet Kuriakose	5 th Dec 2015	FDP on A new dimension in approaching a student	MLMCE
	Geethu Thomas			
	Sruthi Krishnan V			
2	Fr.Bennet Kuriakose	13 th Nov 2015	Workshop on Five manjor errors and how to prevent them	CSI Student Chapter, MLMCE
3	Reni Kuruvilla	9-15 July 2015	FDP on Bridging the Gaps in Structural Conservation – Philosophy and Practice of Conservation of Built Heritage	RIT Pampady
	Sipli Abraham			

The Department of Civil Engineering organized the following technical talks :

1. "How to do Research?" on 19th September 2015 by Fr. Bennet Kuriakose.
2. "Introduction to ANSYS" on 12th October 2015 by Fr. Bennet Kuriakose.
3. "Basics of Structural Dynamics" on 27th November 2015 by Fr. Bennet Kuriakose.

“Engineering is a great profession. There is the satisfaction of watching a figment of the imagination emerge through the aid of science to a plan on paper. Then it moves to realisation in stone or metal or energy. Then it brings homes to men or women. Then it elevates the standard of living and adds to the comforts of life. This is the engineer's high privilege.”
—Herbert Hoover



NEW IDEAS solutions
marketing latest innovations
CONCEPTS invention

Fresh
THINKING

The Water Cube, Beijing.

The Beijing National Aquatics Center, also officially known as the National Aquatics Center, and colloquially known as the Water Cube, is an aquatics center that was built alongside Beijing National Stadium in the Olympic Green for the swimming competitions of the 2008 Summer Olympics.

ARCHITECTURE

In July 2003, the Water Cube design was chosen from 10 proposals in an international architectural competition for the aquatic center project. The Water Cube was specially designed and built by a consortium made up of PTW Architects (an Australian architecture firm), Arup international engineering group, CSCEC (China State Construction Engineering Corporation), and CCDI (China Construction Design International) of Shanghai. The Water Cube's design was initiated by a team effort: the Chinese partners felt a square was more symbolic to Chinese culture and its relationship to the Bird's Nest stadium, while the Sydney based partners came up with the idea of covering the 'cube' with bubbles, symbolising water. Contextually the cube symbolises earth whilst the circle (represented by the stadium) represents heaven. Hence symbolically the water cube references Chinese symbolic architecture.

Comprising a steel space frame, it is the largest ETFE clad structure in the world with over 100,000 m² of ETFE pillows that are only 0.2 mm (1/125 of an inch) in total thickness. The ETFE cladding allows more light and heat penetration than traditional glass, resulting in a 30% decrease in energy costs.

The outer wall is based on the Weaire–Phelan structure, a structure devised from the natural pattern of bubbles in soap lather. In the true Weaire-Phelan structure the edge of each cell is curved in order to maintain 109.5 degree angles at each vertex (satisfying Plateau's rules), but of course as a structural support system each beam was required to be straight so as to better resist axial compression. The complex Weaire–Phelan pattern was developed by slicing through bubbles in soap foam, resulting in more irregular, organic patterns than foam bubble structures proposed earlier by the scientist Kelvin. Using the Weaire–Phelan geometry, the Water Cube's exterior cladding is made of 4,000 ETFE bubbles, some as large as 9.14 metres (30.0 ft) across, with seven different sizes for the roof and 15 for the walls.

The structure had a capacity of 17,000 during the games that is being reduced to 7,000. It also has a total land surface of 65,000 square meters and will cover a total of 32,000 square meters (7.9 acres). Although called the Water Cube, the aquatic center is really a rectangular box (cuboid) 178 metres (584 ft) square and 31 metres (102 ft) high.





STUDENT'S CORNER



STUDENT PARTICIPATIONS

1. Anju Das K, Ashly Nazar and Fathima Shajahan of S5 A Batch have participated in Master Minds 2015 conducted by CADD Centre on October 2015.

'Experience is simply the name we give our mistakes.'

The ideal student would be one who was not working for grades but was working because he was interested in the work and not trying to compete with fellow students.

(Carl David Anderson)



ICE HOTEL , THE FROZEN WORLD.

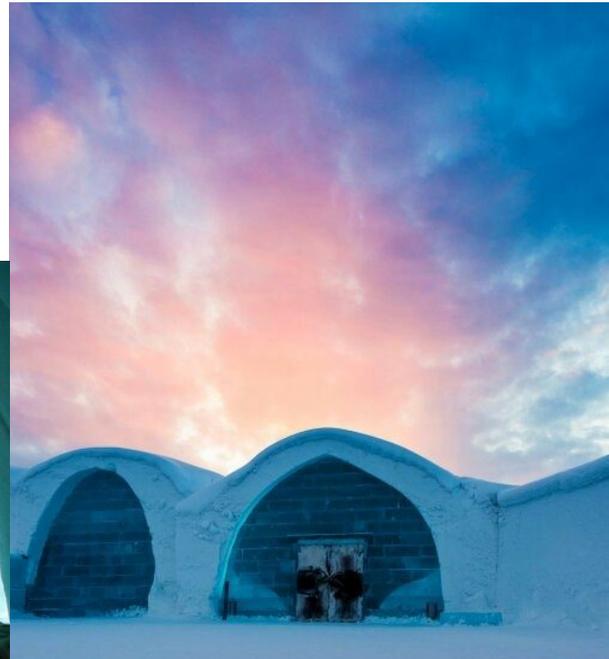
Ice hotels are the only transient engineering marvels. This is where innovation has made best out of a gloomy season. They are rebuilt every year in a matter of months, the entire structure is made from ice, and the workers brave temperatures of up to -40 degrees Fahrenheit. Hence making them the only structures having peaceful destruction and repeated reconstruction.

ICEHOTEL of Jukkasjärvi, in northern Sweden is the "coolest" frozen monument. the world's first and largest hotel built of ice and snow. The hotel, including the chairs and beds, is constructed from snow and ice blocks. If you get too cold, there's a bar to warm you up, as well as a church should you need to consult with a higher power when temperatures feel too unbearable.

ICEHOTEL church

Open from December to April every year until it eventually melts away, the structure collabotated by engineers, architects, artists around the world has been called one of the "Seven Wonders of Sweden."

**"It always
seems
impossible
until it's done."
– Nelson
Mandela**





Makers of Architectural and Structural Symphony Association of Civil Department

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MASS