

TECHNICAL ACTIVITY CARRIED OUT BY CENTRES / OVERSEAS CHAPTERS

Name of Centre		The Institution of Engineers (India), Goa State Centre	
Title of Activity:		2 DAYS ALL INDIA SEMINAR, 'NEW AND INNOVATIVE TECHNOLOGIES IN CIVIL ENGINEERING'	
Activity under Divisional Board		Civil Engineering	
Dates:	15 to 16/03/19	Venue:	Conference Hall, Ravindra Bhavan, Margao Goa



Er. Thomas D'Costa, Convenor of 2 days seminar is seen lighting the lamp. Also seen in the picture are Chief Guest, Shri. Nilesh Cabral, Guest of Honour, Dr. Krupashankara M. S. and Chairman, IEL, GSC, Er. Chandrashekar Prabhudessai



The 2 days Seminar CD being released at the hands of Chief Guest, Shri. Nilesh Cabral, Guest of Honour . Also present are Er. Thomas D'Costa, Dr. Krupashankara M. S. and Chairman, IEL, GSC, Er. Chandrashekar Prabhudessai



Er. Thomas D'Costa giving a brief idea about the Seminar



Dr. Krupashankara M. S. addressing the gathering



**Shri. Nilesh Cabral, Chief Guest addressing the audience**



**Chairman, IEI, GSC, Er. Chandrashekar Prabhudessai presenting memento to Chief Guest, Shri. Nilesh Cabral**



**Speaker Anil Hira, Director of Buro Happold speaking on Unique characteristics in Structural design of Tall Building**



**Er. Vinod Alisinghani shared the knowledge about the Microfine material**



**Er. Aditya V S. highlighting the latest technology using 3-D Printing of concrete**



**Dr. Jaydeep Wagh, explaining the innovation in design of different types of foundation**



**Mr. Ashwani Kumar Jha displaying the new tool 'BIM – Building Information Modeling'**

**Raghavendra D. S. while sharing the knowledge on UHPC**





**Dr. H. M. Raje, Director of Raje Structural Consultant, Mumbai** giving an insight into the health related issues, of civil engineering structures



**Er. Anirudhan I V** explaining the behavior of the sub structure and super structure under hostile soil environment



**Er. Sayed Majid Hashmi**, presenting the Construction challenges in the Design of Tall Buildings



**Guest of Honour, Dr. Neena Panadikar** addressing the audience



**Chief Guest, Mr. Jose Manuel Noronha** addressing the gathering



**Speakers and members of the Organising Committee** at the end of the two Days Seminar



Members registering at the Registration Counter.

Question being raised by one member of audience

### Brief Report

The Institution of Engineers (India) Goa State Centre successfully organized the 2 days All India Seminar on the theme, '**NEW & INNOVATIVE TECHNOLOGIES IN CIVIL ENGINEERING**' on 15<sup>th</sup> & 16<sup>th</sup> of March 2019, in the Conference Hall of Ravindra Bhavan at Margao, Goa. Shri Nilesh Cabral, Hon. Minister of Power, Government of Goa was the Chief Guest for the function and Dr. Krupashankara M S, Principal, Goa Engineering College was the Guest of Honour. While inaugurating the event, Shri Nilesh Cabral, Hon. Minister of Power, Government of Goa appreciated the work done by the Institution of Engineers and stressed that it was necessary that the new technologies in civil engineering be brought forth to the door step of the engineers to have the best infrastructure in Goa. Er. Chandrashekar Prabhudessai, Chairman, the Institution of Engineers (India), Goa State Centre explained the role of the Institution of Engineers (India) and Goa State Centre to the audience. He also informed the audience about the representation given to the Goa State Centre in various committees by electing the Chairman in 5 committees at centre. He requested the Chief Guest to help the centre by allotting a piece of land for the construction of the state centre's office building around the capital city of Goa. Er. Thomas D' Costa, Convenor of the Two days Seminar gave a brief idea about the various knowledgeable speakers who had flown from India and abroad to share their rich experience in the latest technologies in Civil Engineering. He also highlighted that the seminar had 9 nos Technical Sessions with the help of Professionals & Experts who had worked at national and international arena to help the audience comprising of Engineers / Consultants to update and upgrade their knowledge with new, modern and latest technology used in Civil Engineering, and reinforce their professional skills and methods, so as to Design and Manage Construction Projects more efficiently and more economically with the help of best Technical Tools, Materials, Products, Methods, Skills and Technology, so as to face futuristic challenges of the environment and make this world a better and safer place to live in. Dr. Krupashankara M S, Principal, Goa Engineering College as the Guest of Honour and highlighted the use of innovative technologies and research in day to day work.

**The speaker for the first technical session was Anil Hira, Director of Buro Happold and resident of Australia**, who presented on Unique characteristics in Structural design of Tall Building, constructed for the 21<sup>st</sup> Century as per the Global Trends. He enlightened the audience on the importance of right structural concepts and optimization on design of Core of Tall Building with shear wall and its connectivity with the peripheral columns. Also optimization in design concept of Foundation with combination of Raft and piles as per the cone and pile test. He also focused on analysis and the behavior of the tall building against all the external forces including wind loads and providing innovation design solutions for safer and strong structure.

The next lecture was given by **Dr. Jaydeep Wagh, a renowned Geotechnical Expert from Mumbai**, who focused on innovation in design of different types of foundation for all Buildings for various constraints and problems faced due vulnerability of the soil strata at different locations. He also explained how to provide economical and composite solutions for different type of soils and for different conditions of the soil while designing substructures of a building. He stressed on Geotechnical Subsoil Investigation and soil structure interaction with settlement contours of the soil with respect to raft or Pile foundation. He also pointed out Ground improvement solutions including Stone columns, Band drains and dynamic compaction. He also pointed out the common causes of failures of excavation shoring schemes and gave unique solution for shoring for excavation of Multilayer floors Basement.

**The third session was by Dr. H. M. Raje, Director of Raje Structural Consultant from Mumbai** who gave an insight into the various health related issues, faced by the civil engineering structures and provided different approaches for structural Audit of the Building and also help them with latest technology and test like Rebound Hammer test, Ultrasonic Pulse Velocity Test, Corrosion Test, Carbonation Test, Rebar locator test and Vibration test while monitoring the health of the Building so that Repairs and rehabilitation of the building could be done in time to avoid any collapse of the building causing destruction of life and properties. He also enlightened on regular maintenance so as to have the long lasting, durable and safe structures.

**Er. Anirudhan I V, a renowned Geotechnical Consultant from Geotechnical Solutions, Chennai,** the next speaker highlighted the behavior of the sub structure and super structure under hostile soil environment and provided Innovative and composite design solutions towards foundation as per the types of soil conditions like soft soil, sandy soil, expansive soil, Black cotton soil and other harsh conditions of the soil.

**In the next session, Er. Sayed Majid Hashmi, Ex- Buro hapold and Managing Director of KMH Engineering from Hyderabad,** illustrated the Construction challenges in the Design of Tall Buildings right from Excavation and Shoring system of Basement including Sheet piling, Diaphragm wall with anchors, innovative foundation system and optimisation in Design of Piles and Pile caps or Raft, procedures of Testing of Piles like Osterburg cell testing, Methodology of Concreting with respect to Durability, Temperature, Pumpability, Mass Concrete etc. He also highlighted the importance of Shuttering system like jumpform system for faster construction and Optimization in design of superstructure of tall buildings including Gravity system specially while designing Core of the building and column at peripheral locations.

**The sixth session was by Raghavendra D S, Manger in Satish Jain Consulting Engineers Pvt. Ltd, Mumbai,** who enlightened the audience about the new and innovative ULTRA HIGH PERFORMANCE CONCRETE – UHPC, its composition, its use and its advantages with reference to Size of the structure, its strength, its durability and other technical parameter so that the prime projects are constructed more strong, more durable and more aesthetic. He said that the Ultra High Performance Concrete optimizes the designs of structural members, thereby saving on cost and space at the same time.

**Er. Aditya V S, Director of Tvasta Manufacutring solutions from Chennai** was the next speaker who highlighted the latest technology used in construction by which one could construct the house by using 3-D Printing of concrete using computer technology. He provided the details of the technology, the material used in special concrete, Equipment and Printers used in construction for printing and also focused on its advantages by using computer technology for the repetitive design jobs to achieve greater efficiency and rapid design.

**The eighth session was by Mr. Ashwani Kumar Jha,** a Project Management Consultant from Bangalore who explained the new and effective tool of Project management known as ‘BIM – Building Information Modeling’ which help our Engineers, Architects and Builders to manage their project by correlating the actual construction with the BIM model so that construction of the project could be done with lower Cost, high speed and with better quality. He explained that BIM helped in developing 3-D, 4-D and 5-D models of the project so as to plan and design all the services / networks like MEP, HVAC, FIRE, CCTV etc so that construction could be executed as per plan and without any hindrance.

**The last session was by Er. Vinod Alisinghani, specification head of Ambhuja Cement** who shared the knowledge and information about the Microfine material used in concrete

which increase the strength and durability of the Concrete.

Mr. Jose Manuel Noronha, Hon. Chairman, Goa Public Service Commission and Chairman of Goa State Innovation Council was the Chief Guest and Dr. Neena Panandikar, Principal of Don Bosco College of Engineering was the Guest of Honour for the Valedictory Function on the 16<sup>th</sup> March 2019. Er. Thomas D' Costa, Convenor gave a report on the various sessions in the Valedictory session. The Chief Guest, Mr. Jose Manuel Noronha, explained the significance of innovation and expressed his wish to see more innovations in the state of Goa. Dr. Neena Panandikar, Principal of Don Bosco College of Engineering described the work done by the students of Don Bosco college of Engineering in making a drone with camera and mapping the Sonsodo area which was unique and something very innovative done by students in the state of Goa. Austin Rodrigues, Organizing Secretary of the two Days Seminar conveyed the vote of thanks.

The Session Chairmen were Er. Ernesto Moniz, Er. Olavo Carvalho, Er. Joseph Silveira and Ar. Mangesh Prabhugaonkar. This Seminar was attended more than 200 professional delegates from all over India including Engineers and consultants from Jammu & Kashmir, Mumbai, Hyderabad, Bangalore, Chennai and also local Civil Engineers, RCC & Structural Consultants, Architects, Interior and Landscape Designers, Builders, Engineers from PWD, WRD, GSIDC, & other Govt. departments, Valuers, student from Engineering colleges and Polytechnic and other professionals involved in the construction industry. Ms. Mercy and Mr. Pant compered the event.