

DEPARTMENT OF CIVIL ENGINEERING
AMITY SCHOOL OF ENGINEERING AND TECHNOLOGY

Event Report

Event Name: Seminar/Expert Talk

Aim of Event: Technological Advancements in Construction of High Rise Structures and their Foundations

Participation: 70 participants from Department of Civil Engineering, Amity University Haryana

Date: 27 February 2019

Venue: Smart Class Room, C-214, ASET, AUH

Organized By: Department of Civil Engineering, ASET, AUH

Faculty Coordinators:

Chair: Prof.(Dr). Sridhara.S.N. Director, Amity School of Engineering & Technology, AUH.

Co-Chair: Prof. (Dr.) Malik.R.K. Prof. & Head, Dept. of Civil Engg., AUH.

Convener: Dr. Naveen B.P., Associate Professor, Dept. of Civil Engg., AUH.

Hospitality: Mr. Sambhav Jain, Assistant Professor, Dept. of Civil Engg., AUH.

Outcome related to Academia Connect

The past two decades have seen a remarkable increase of the construction of “super-tall” Buildings in excess of 300 m in height. A large number of these buildings are in the Middle East or in China. Dubai has now the tallest building in the world, the Burj Khalifa, which is 828 m in height, while in Jeddah, Saudi Arabia, the Kingdom Tower is 1000 m in height. Now in India also these types of structures are being constructed.

Super-tall buildings in excess of 300 m in height are presenting new challenges to engineers, particularly in relation to structural and geotechnical designs. The commonly used traditional design methods cannot be applied with more confidence since they require extrapolation well beyond the realms of prior experience and accordingly, structural and geotechnical designers are being forced to utilize more sophisticated methods of analysis and design. In particular, Geotechnical engineers involved in the design of foundations for super-tall buildings are leaving behind empirical methods and are employing state-of-the-art methods increasingly. The focus of the seminar addressed the common difficulties/ irregularities and technologies occur in Developed and Developing Countries of high-rise building and their Foundations.

Outcome related to Industry Connect

Overall, it was an overwhelming experience where the experts shared their insights and gave new perspectives which can lead to further sustainable action and fruitful interactions.

This seminar includes with a discussion about the development of structural system with respect to first generation (1780-1850); second generation (1850-1940) and third generation (1940-present), tall building trends in 2017, various load structural loads (i.e. live load, dead

load, environmental loads, seismic loads, wind loads), variation of wind load with the variation of forms, load distribution system, structural member, core, structural typology, interior structure, shear wall hinged frame, outrigger system, exterior structure, framed tube, Geograical distribution of high-rise buildings.

Based upon deliberation of seminar/expert talk, technical sessions, participants presentations, question answer session, several rounds of formal and informal discussions on different aspects of high rise structural system in building, this seminar been able to document few very critical suggestions and able to recommend following points for industrial waste as whole.

1. Within this generation there are those of steel-framed construction (core construction and tube construction), reinforced concrete construction (shear wall), and steel-framed reinforced concrete construction. Hybrid systems also evolved during this time. These systems make use more than one type of structural system in a building
2. To train the students on analytical and numerical techniques with software tools like STAAD PRO and E TAB model to predict the BMD & SFD for high rise structure and their foundations.
3. To provide knowledge and skills to students on advanced techniques for designing high rise structures and their foundations.

Outcome related to Students Learning & Grooming

There is an increasing need for high-rise building due to demographic and economic developments. Usual designs and construction methods differ greatly from continent to continent, but will all have to be adopted as a result of increasingly stringent requirement in terms of safety, ecology and the varied use of a high-rise buildings.

Outcome related to Society outreach

When the building plans include vertical combination of uses, the choice of building method and techniques will not differ greatly from high-rise building with a single function. A separate construction method will be chosen for each specific function, however. Where one function runs over into another, special attention has to be paid to the transitional construction

- High-rise construction merits a new approach to enable it to meet the required performance following expected developments.
- This new approach should improve techniques and logistics.
- Ecology can shed a new light on design, production and user satisfaction.

Glimpses of the Event (Photographs)



Fecilitating the guest of honour



Welcome address by Prof. (Dr).Sridhara .S.N, Director, ASET



Expert Talk Address titled “Technological Advancements in Construction of High Rise Structures and Their Foundations” by Prof.(Dr).Rajesh Goyal, Professor & Dean of National Institute of Construction Management and Research (NICMAR), NCR campus at Bahadurgarh



Discussion Session with students by Dr. Naveen BP



Momentum handover to the Guest Speaker



Vote of Thanks & Concluding Remarks
Prof. (Dr.) R.K. Malik, Head, Department of Civil Engineering

Glimpse



Venue: Smart Class Room C-214



Group Photo: Department of Civil Engineering Faculty



Group Photo: Department of Civil Engineering Faculty & Students (UG & PG)