

Modeling and Design of Steel- Concrete Composite Structural Systems under Extreme Loading Conditions such as Seismic and Fire Effects

Overview

Composite construction allows for efficient use of material in comparison to the traditional steel or reinforced concrete design. In comparison to the reinforced concrete construction, composite construction enables rapid and lighter construction. In comparison to steel construction, the major advantage is that composite members are relatively less slender and generally have a closed cross-sections. As a consequence, local and global instabilities are less likely. With increasing labor costs and shortening timelines, composite construction is likely to gain more popularity in India. However, the unavailability of professionals with expertise and experience in composite construction may prove to be a bottle neck.

This two week course will focus on analysis and design of composite structural systems. The fundamental behavior of such systems and their interaction with other elements will be highlighted. A brief introduction will also be provided on the current state-of-the-practice in different parts of the world.

Internationally acclaimed academics and researchers with proven knowledge, experience, and demonstrable ability in teaching, consultancy, research, and training in the field of composite structures will deliver lectures and discuss examples in this course.

Modules	A: Composite Structures: Overview : May 16 , 2016 B: Composite Action and Interfacial Shear : May 17 - 20, 2016 C: Composite Beams, Columns, and Beam-Columns : May 23 - 25, 2016 D: Composite Walls: Modularity and Innovation : May 26 - 27, 2016
You Should Attend If...	you are a civil engineer or an architect interested in designing lightweight structures that are faster to construct. you are a student, faculty, or a research scientist from academic institutions or research laboratories interested in latest developments in structural engineering.
Fees	The participation fees for taking the course is as follows: Participants from abroad : US \$500 Industry/ Research Organizations: Rs. 20,000 Faculty/Staff from Academic Institutions: Rs. 10,000 Undergraduate/graduate students: Rs. 2,000 The above fee includes all instructional materials, tutorials, and internet facility during class hours. The participants will be provided with accommodation on payment basis depending on the availability of hostel facility.

The Faculty



Prof. Amit H. Varma is a professor and University Faculty Scholar at Purdue University, USA. His research interests include (i) fire and seismic behavior, analysis, and design of structures, (ii) design, analysis, and testing of structures for safety-related nuclear facilities, (iii) fatigue and fracture behavior of bridge structures, and (iv) repair, retrofit, and rehabilitation of damaged transportation structures.



Dr. Anil Agarwal is an assistant professor in the department of Civil Engineering at Indian Institute of Technology Hyderabad. His research interests include (i) behavior and design of structural systems under extreme loading conditions such as fire and earthquake, (ii) progressive collapse and prevention, (iii) structural dynamics and soil-structure interaction, etc.

Course Co-ordinator

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