

## The Faculty

### Prof. Venkatesh Kodur

Prof. Venkatesh Kodur is a professor in the department of Civil and Environmental Engineering at Michigan State University, USA. Prof. Kodur is one of the pioneers in the field of structural fire safety. He is a renowned researcher and educator. He serves as Associate Editor of Journal of Structural Engineering and Journal of Structural Fire Engineering. He is also the chairman of the ASCE Standards Committee on Fire Resistance and the ACI-TMS Committee 216 on Fire Protection. Prof. Kodur has over 175 refereed journal papers and 129 refereed conference articles to his credit. He has authored or edited 9 books and contributed to 13 book chapters in the field of fire safety of structural systems. He has been elected as a "fellow" of several organizations including SEI (Structural Engineering Institute), ASCE (American Society of Civil Engineers), ACI (American Concrete Institute), (CAE) Canadian Academy of Engineers, and a "foreign fellow" of the Indian National Academy of Engineering (INAE).



### Dr. Anil Agarwal

Dr. Anil Agarwal is an assistant professor in the department of Civil Engineering at the 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. He has authored several refereed journal papers and conference proceedings in the area of structural fire safety. He serves as a reviewer for the Journal of Constructional Structural Steel and the ASCE Structural Engineering Journal. He has also worked for Bentley Systems, Inc., where he co-developed finite element based nonlinear collapse analysis and soil-structure interaction modules for offshore structures. He has also co-authored revised code and commentary of IS 1893 (Part 1) and IS 13920 for the Gujarat State Disaster Management Authority (GSDMA).



## About IIT Hyderabad

Inventions and innovations are key words on which the foundation of IITH is based. One of India's eight new IITs - IITH started functioning in August 2008. Currently it has 1050 students in total and offers undergraduate programs in eight disciplines, M.Sc in Chemistry, Physics, and Mathematics, M.Tech in fifteen specializations and PhD in 13 disciplines.

Research is a culture among the faculty and students of IITH. This is evident from the several research projects that are ongoing at IITH. On top of the gamut of sponsored projects from various funding agencies, IITH has active collaboration with industry as well.

IITH also has an innovative academic program where the students are offered fractional credits and the first semester undergraduates are allowed to do a project of their choice. Many more innovations in the academic front are in the offing. IITH always strives to offer an innovative environment where one is not afraid to experiment with high-risk ideas.

<http://www.iith.ac.in/>



Please send the application form to:

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Phone: +91-040-2301 6137 Email: [anil@iith.ac.in](mailto:anil@iith.ac.in)

Course webpage: <https://goo.gl/Ca0NUV>

A 10-Days Course  
on

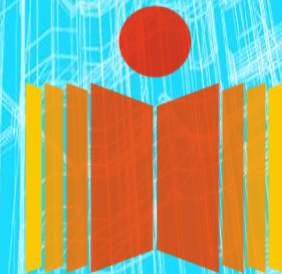
# Structural Behavior and Design in Extreme Thermal Conditions including Fire Effects

July 11 - 22, 2016

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Indian Institute of Technology Hyderabad

## OVERVIEW

Structural fire safety is the next frontier in the development of resilient built environment. The civil engineering industry has been moving from the traditional prescriptive design approach for fire safety towards performance based design approach. Performance based design approach offers consistent level of fire safety for individual structural components. Also it ensures the overall structural safety. It may also help reduce the cost of fire protection. Significant research has been conducted in this area in the last couple of decades. However, the state of practice has fallen behind in taking advantage of the latest research. The objective of this course is to introduce engineering professionals to the challenges of structural fire safety and familiarize them with fundamental concepts and engineering tools employed in addressing this problem. Special attention will be paid to the latest developments so that more people are motivated to conduct research in the area of structural fire safety.

## COURSE OBJECTIVE

This course is designed to provide the basic knowledge of the effects of fire on structural behavior and the factors that play key role in determining the risks to structural fire safety. The course will be planned so that it will be useful for engineering students, teachers, practicing engineers, and researchers.

The focus of this course will be on the fundamental behavior of structural systems in fire, the underlying principles, and the mechanics. A significant amount of time will be dedicated to introduce the analysis and design tools employed for analysis and design of structures in fire conditions. Special attention will be paid to discuss the state of the practice in different parts of the world.

## COURSE MATERIAL AND GRADING

A copy of the overheads used in the presentations of the course will be provided as a part of the course material. Morning sessions will be reserved for lectures and the afternoons will be used for discussions and evaluations. Student participants will have 2-3 evaluations on the understanding of the basics. A letter grade will be assigned at the end of the course to student participants. A course completion certificate will also be issued to all the participants.

## COURSE CONTENT

### Introduction

Fire safety objectives from structural engineering point of view; effects of fire in structural systems, state of the practice in different parts of the world; limitations of the existing approach

### Fire Loads

Types of fire and influencing parameters; fire load estimation

### Thermal Response of Structural Systems

Steady-state and transient heat transfer analysis; introduction to analytical, numerical and empirical methods

### Behavior and Design of Structures in Fire

Reinforced concrete members; steel and composite structures; retrofitting techniques

### Performance Based Design (PBD)

System performance objectives and evaluation; recent developments in PBD

## REGISTRATION DETAILS

### Registration Fee

<b>Industry/ Research Organizations:</b>	<b>Rs. 10,000</b>
<b>Faculty from academic institutions:</b>	<b>Rs. 5,000</b>
<b>Undergraduate/graduate students:</b>	<b>Rs. 2,000</b>
<b>Foreign Delegates:</b>	<b>USD 500</b>

- **A group of four or more participants from the same institute registering together will get 50% waiver in the registration fee.**
- The above fee includes the tuition fee and the lecture notes. Student participants will be provided with accommodation in IITH hostels for a nominal fee, subject to the availability of hostel rooms.
- All payments should be made in the form of a demand draft in favor of "IIT Hyderabad," payable at State Bank of India, Hyderabad.
- An additional fee of Rs. 2,000/- will be required to avail lunch and refreshments on the days the classes are held.

### Important Dates

<b>Last date for receiving application</b>	<b>: June 10, 2016</b>
<b>Course dates</b>	<b>: July 11-22, 2016</b>

## REGISTRATION FORM

### Behavior and Design of Structural Systems in Extreme Thermal Conditions including Fire Effects

Title:  Mr.  Ms.  Mrs.  Dr.

Name: \_\_\_\_\_

Date of birth: \_\_\_\_\_

Designation: \_\_\_\_\_

Organization: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Phone: \_\_\_\_\_

Email: \_\_\_\_\_

Registration Fee Enclosed (tick one):

Rs. 10,000  Rs. 5,000

Rs. 2,000  USD 500

Draft No: \_\_\_\_\_

Hostel accommodation (for student candidates):

Yes  No

Please send this form along with the demand draft and a proof of the present affiliation to Dr. Anil Agarwal.