Registrations



From 25th June 2025



PROF.SRI SRITHARAN FOREIGN EXPERT IOWA STATE UNIVERSITY,USA



ANALYSIS AND
DESIGN OF PRECAST
BUILDING SYSTEMS

Dec 15th, 2025 - Dec 23rd, 2025



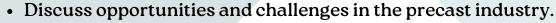
PROF. S. SURIYA PRAKASH INDIAN EXPERT IIT HYDERABAD



PROF. AMLAN SENGUPTA
INDIAN EXPERT
IIT MADRAS



This course aims to,



- Highlight the durability and sustainability of materials in precast construction.
- Explain the analysis and design aspects of various precast systems.
- Address the seismic and wind performance of precast buildings.
- Discuss planning and machinery considerations for precast fabrication and erection.
- Emphasize quality control and assurance in large-scale precast construction.

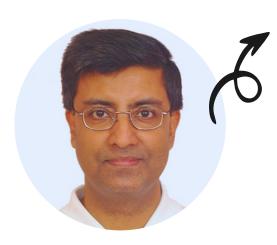
Teaching Experts



Dr. Sri Sritharan is a Wilkinson Chair Professor in the College of Engineering at Iowa State University. He specializes in earthquake-resistant design, precast systems, UHPC, and wind engineering. He earned his PhD in Structural Engineering from UC San Diego and has led numerous research projects funded by national and state agencies. His career includes significant contributions to the PRESSS program and leadership roles in research and graduate education.

Dr. S. Suriya Prakash, a Professor at IIT Hyderabad, is a recipient of the Ramanujan Fellowship with 15 years of experience. He holds a Ph.D. from Missouri University (2009) and an M.S. from IIT Madras (2005). His research focuses on advanced composites, precast housing, and structural rehabilitation.





Dr. Amlan Sengupta is a Professor at IIT Madras with expertise in precast prestressed concrete, structural analysis, and seismic retrofitting. He earned his B.Tech from IIT Kharagpur, MS from Rice University, and PhD from the University of Missouri-Rolla. Before academia, he worked with Ove Arup Partners and has published extensively on concrete behavior and strengthening techniques.



Day 1: Introduction to Precast Construction.

- Lecture 1: Basics of Prestressed Concrete.
- Lecture 2: Introduction to Precast Concrete Buildings with reference to ICI Handbook
- Lecture 3: Overview of Different Precast Concrete Building Systems.

Day 2: Overview of different Precast Structural Systems.

- Lecture 1: Total Precast Systems and Preliminary Design.
- Lecture 2: Analysis and Design of Precast Structures.
- Lecture 3: Material Aspects for Durable and Sustainable Precast Structures.
- Lecture 4: Manufacturing of Elements and Erection Considerations in Precast Building

Day 3: Overview of Precast Components and Connections.

- Lecture 1: Design of Precast, Prestressed Concrete Components.
- Lecture 2: Design and Detailing of Connections I & II.
- Lecture 3: Plant and Machinery Considerations for Producing Precast Elements.

Day 4: Design of Precast Systems for Lateral Loads.

- Lecture 1: Overview of Seismic and Wind Design Considerations.
- Lecture 2: Seismic Performance of Precast Concrete Buildings.
- Lecture 3: Conceptual Design-Tutorial (Cast-insitu vs Precast)
- Lecture 4: Design example on Seismic Performance-Tutorial.

Day 5: Production Consideration of Precast Elements.

- Lecture 1: Conceptual Design-Tutorial (Cast-insitu vs Precast)
- Lecture 2: Planning Aspects of Precast Building.
- Lecture 3: Quality Assurance Aspects & Testing.

Day 6: Precast Plant Visit.

Lecture 1: Demonstration of Precast Element Production and Machinery.

Day 7: Planning and Quality Control Aspects.

- Lecture 1: Case Studies in Large-Scale Precast Construction
- Lecture 2: Recent Innovation in Seismic Consideration of Precast Buildings
- Lecture 3:Loads Analysis on Stability Components: Wind, Seismic, and Restrain Load Case
- **Lecture 4: Tutorial Sessions**

Day 8: Case Studies in Large-scale Precast Construction.

Lecture 1 : Typical Stability Elements, Arrangements of Stability Elements, Horizontal Load Distribution through Shear Walls

Lecture 2: Design of Precast Building Overview

Lecture 3: Structural Engineering Lab Visit & Demonstration of Precast Element Testing

Back-up Lecture

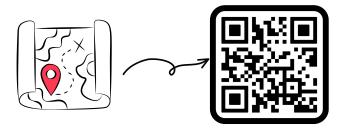
Special Components of precast Buildings: corbels, deep beams, structural walls

WHO CAN ATTEND

- Executives, engineers, and researchers from the precast industries, other manufacturing and service industries, and government organizations, including R&D laboratories.
- Students at all levels (BTech/MSc/MTech/PhD/PostDoc.) or faculty from reputed academic and technical institutions.

VENUE

Department of Civil Engineering Indian Institute of Technology Hyderabad Kandi, Sangareddy, Telangana - 502284



REGISTRATION FEE

IITH Student - Rs. 1,000
Other Institute Student - Rs. 1,500
Faculty / Scientist - Rs. 10,000
Industry Participants - Rs. 20,000
* 18% GST will be charged on the above fee except for student from IIT Hyderabad.

ACCOMODATION

For outstation students a limited accommodation is available on the campus. Payment shall be made directly to the Hostel office (Not included in registration fee)

For Registration Scan the QR Code



Or Use Below Link

https://forms.gle/k9DAso8tFy sDBXnV6

Contact

Veerendar Chetharajupalli Research Scholar, IIT Hyderabad E-Mail - castcon@ce.iith.ac.in Mobile- +91-9603930361

GIAN Course- Analysis and Design of Precast Building Systems

Day		Date		Morning				Lunch Break Afternoon			on .	Total Hours
	· ,	Dute						15.00.			Total Hours	
			9:00 - 10:00	10:00 -10.30	10:30 - 11:00		11:00 - 12:30	12:30-13:30	13:30 - 15:00	15:15	15:15-16:45	
Mon	DAY-1	15-12-2025	Registration	Inaguaration	Tea Break	Basi	cs of Prestressed Concrete (A.S)	Lunch Break	Introduction to Precast Concrete for Buildings with reference to ICI Handbook (A.S)	Tea Break	Overview of Different Precast Concrete Building Systems (A.S)	4.5
Day		Date		10.00 - 11.12		11:15- 11:45	11:45 - 13:00	13:00-14:00	14:00 - 15:15	15:15- 15:30	15:30-16:45	
Tue	DAY-2	16-1	12-2025	Total Precast Prelimina (S.	ast, Prestressed		Analysis and Design of Precast Structures (S.S)	Lunch	Concrete material properties for precast design (S.P)	Tea	Manufacturing of Elements and Erection Considerations in Precast Building (S.A)	5.5
Wed	DAY-3	17-1	12-2025	Design of Preca Concrete Co			Design and Detailing of Connections I (S.S)		Design and Detailing of Connections II (S.S)		Plant and Machinery Considerations for Producing Precast Element (S.R)	5.5
Thu	DAY-4	18-1	12-2025	Materials and design aspects of 3D printing in precast construction (K.V.L.S)		Tea Break Overview of Seismic and Wind Design Considerations (A.S)	Break	Seismic Performance Precast Concrete Buildings (S.S)	Break	Conceptual Design-Tutorial (Cast-insitu vs Precast) (S.S)	5.5	
Fri	DAY-5	19-1	12-2025	Conceptual De (Cast-insitu (S.)	vs Precast)		Conceptual Design-Tutorial (Cast-insitu vs Precast) (S.S)		Applications of UHPC in precast construction (S.J)		Quality Assurance Aspects & Testing (S.P)	5.5
Sat	DAY-6	20-1	12-2025	Case Studies in Large-Scale Precast Construction (A.B)				Plant Visit-	PRECA Solutions Pvt.Ltd	6		
Sun		21-1	12-2025			Sunday (Holiday)						
Mon	DAY-7	22-1	12-2025	Typical Stability Elements, Arrangements of Stability Elements, Horizontal Lond		T	Loads Analysis on Stability Components: Wind, Seismic, and Restrain Load Case (S.S)	Lunch Break	Recent advancements in precast connections -Case studies (D.A)	Tea Break	Precast technology in tall buildings (A.P)	5.5
Tue	DAY-8	23-1	12-2025			Tea Break	Design of Precast Building Overview (S.S)		Structural Engineering Lab Visit & Demonstration of Precast Element Testing (V.C)			5.5
									Total Hours	43.5		
		D	and Cai Caid	(C C)	Duo £ 41		eaching Faculties	Dualragh (C.D.)	DestVVI Colonia (V	VI C	Gian Local Coordinator	
		P	rof. Sri Sritharar	1 (3.3)	Prof. Amian	Kumar Sei	ngupta (A.S) Prof. Suriya	Prakash (S.P)	Prof.KVL Subramaniam (K.	v.L.S)	Dr. Anil Agarwal (A.A.)	1

	Teaching Assistant			
Er. Sathiyaseelan (S.A)	Er.Shridhar Rao (S.R)	Dr.Aparup (DA)	Er.Ajit Bhate (A.B)	Veerendar Chetharajupalli (V.C)
Er.Anianeva Prasad (A.P)	Dr.Sathis Jain (S.J)			