



**AIT**  
Asian Institute of Technology

# DESIGN OF TALL BUILDINGS: TRENDS AND ADVANCEMENTS FOR STRUCTURAL PERFORMANCE

## SEMINAR AND WORKSHOP

**Seminar** | 7-9 November 2016 | Bangkok, Thailand **Workshop** | 10-12 November 2016 | AIT, Thailand

### OBJECTIVES

- Provide participants with an insight to the new developments in tall building design, innovative structural systems for better performance.
- In-depth understanding of structural behavior and highlight the value of wind tunnel tests, probabilistic seismic hazard assessment, peer reviews and performance-based design.
- Hands on understanding of modeling and analysis.

### WHY ATTEND

- Five days of comprehensive seminar and customized hands on workshop plus 1-day site tour
- Platform for idea exchange, meeting colleagues, participate in discussions, learn the latest developments and innovations in design of tall buildings
- Learn from several case studies presented by experts
- Choose to attend any one, or all of the event days based on your interest

### WHO SHOULD ATTEND

- Structural Designers, Engineers and Consultants
- CEOs and Managers in building industry
- Real-estate Developers
- Architects
- Master's and Ph.D. Students

### THEMES & TOPICS

#### PART 1 | 7 November

##### SEMINAR FOR DEVELOPERS, ARCHITECTS, STRUCTURAL DESIGNERS

###### New Developments in Tall Building Design

- Progression of structural design approaches (from performance to resilience)
- Structural engineering solutions to architectural challenges
- Smart systems for structural response control
- Performance-based design, Value engineering, Peer review
- Probabilistic seismic hazard assessment, Wind tunnel test
- Foundation design of tall buildings

#### PART 2 | 8-9 November

##### SEMINAR FOR STRUCTURAL ENGINEERS AND PBD CONSULTANTS

###### Understanding Structural Behavior

- Conceptual design (Structural system development)
- Dynamic behavior of tall buildings
- Wind effects on tall buildings and wind tunnel test (explanation of detailed procedure)
- Probabilistic seismic hazard assessment (explanation of detailed procedure)
- Advanced analysis and modeling techniques

###### Performance-based Design

- Performance-based design (explanation of detailed procedure)
- Important considerations in design of primary structural components

#### PART 3: 10-12 November

##### WORKSHOP FOR STRUCTURAL ENGINEERS

###### General Analysis and Design

- Modeling Concept in ETABS 2016
- Review of overall response of tall building from ETABS model
- Wind analysis using wind tunnel test results
- Diaphragm design
- Slab foundation design in SAFE and in ETABS 2016
- Introduction to nonlinear time history analysis using Perform 3D

###### Seismic Analysis for Maximum Considered Earthquake

- Nonlinear modeling and analysis in Perform 3D
- Interpretation of analysis results from NLTHA

###### Site Visit and Technical Tours

- R&D for improving seismic performance in structure Lab
- Testing for wind effects on structures in wind tunnel
- First hand knowledge on design and construction of iconic buildings on buildings sites



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