

INTRODUCTION

A course on **Seismic Soil Structure Interaction Analysis in Time Domain** is planned to be conducted at IIT Madras during 26th – 30th March 2007 under the aegis of National Programme on Earthquake Engineering Education (NPEEE).

In the aftermath of the Bhuj earthquake in 2001, the NPEEE was initiated with the support of the Ministry of Human Resource Development (MHRD) to develop better teaching capability in the area of Earthquake Engineering. As a part of this strategy, several short term courses are planned to be conducted at all the resource institutions. Details of NPEEE may be found at <http://www.nicee.org/npeee>.

Earthquake engineering design of civil and nuclear engineering structures concerns, in general, several levels of strong motion earthquakes, each one with its specific design requirements. The dynamic soil-structure interaction (DSSI) attracts great interest in the design of bridges and nuclear power industry. There are a few methods, which can be adopted to approximate and simulate the SSI system and different solutions have been achieved with different levels of accuracy.

In recent years, several novel numerical methods have been developed, including the scaled boundary finite-element method and some hybrid methods. All of these methods can be classified into two main

categories: the direct method and the substructure method. The course **3SIATD 2007** is specially designed for Teachers of Engineering Colleges who are involved or likely to be involved in teaching of the subject at the Undergraduate and Postgraduate levels. A test will be conducted at the end of the course to evaluate the value addition of the training.

OBJECTIVES

1. To give basic concepts of dynamic soil structure interaction analysis.
2. To illustrate the usage of finite element techniques in seismic soil structure interaction analysis of buildings, bridges and nuclear structures.

COURSE CONTENTS

1. Dynamic Finite Element Analysis
2. Explicit and Implicit Time-marching Schemes
3. Soil-Foundation-Structure-Interaction – A Concept and Review
4. Dynamic Soil-Structure Interaction
5. DSSI Analysis of Buildings and Bridges
6. Uncertainties in DSSI Analysis
7. Stochastic Ground Response Analysis
8. DSSI Analysis of Nuclear Structures
9. Usage of FLUSH and SAP 2000NL.

REGISTRATION FORM (3SIATD 2007)

1. Name:
2. Designation:
3. Mailing address:

Telephone:
Fax:
E-mail:
4. Educational qualifications:
5. Experience:
6. Motivation for attending the course and future plans
7. Name of the Sponsoring Organisation/College/University
8. Boarding and Lodging required: Y/N
9. Signature and date:

Note:

- In addition to this form, candidates should fill the NPEEE application form for teachers to participate in the training programme and get the recommendation of the Head of their Institution on the same.

RESOURCE FACULTY

The following faculty who have considerable expertise in the area of finite element and soil-structure interaction analyses will be involved in the theory and tutorial sessions.

Dr. G. R. Dodagoudar
Dr. B. Nageswara Rao
Prof. A. Meher Prasad
Prof. Devdas Menon
Prof. A. Boominathan

IMPORTANT DETAILS

- Only permanent full-time faculty of AICTE recognized engineering colleges are eligible to apply. **Only 30 seats are available.**
- Cancellation after registration is highly discouraged and application will be given low preference during selection for future courses.
- Candidates are eligible for III AC train fare from the nearest station on production of a copy of the ticket. Non-A/C double room accommodation will be provided on a shared basis during the course period.
- Last date for Registration **25th Feb. 2007.**

CORRESPONDENCE

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National Programme on Earthquake Engineering Education (NPEEE)

Short Term Course on

Seismic Soil Structure Interaction Analysis in Time Domain

26th – 30th March 2007

Coordinators

Dr G R Dodagoudar
Dr A Meher Prasad



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