

# PRELIMINARY PROGRAM

SEPTEMBER 17, 2002

## 09.00 Opening Session

09.00 – 09.30 Welcome addresses

09.30 – 10.30 Key – note lecture:

Seismic response of irregular buildings: implications for performance based design

Prof. Luis Esteva, *President of International Association of Earthquake Engineering*

## 10.30 Coffee Break

## 11.00 Session 1 - Asymmetric one-storey buildings

11.00	Castillo R., Paulay T. and Carr A.	Some features of the design of asymmetric one-mass systems exhibiting ductile behaviour	University of Christchurch, New Zealand
11.15	De Stefano M. and Pintucchi B.	Inelastic response of plan asymmetric building structures accounting for interaction phenomena in vertical resisting elements	University of Florence, Italy
11.30	De Stefano M. and Pintucchi B.	Behaviour of asymmetric structures under multi-component earthquake excitations	University of Florence, Italy
11.45	Peruš I. and Fajfar P.	Inelastic seismic response of asymmetric single-storey structures	University of Ljubljana, Slovenia
12.00	Trombetti T., Gasparini G., Silvestri S.	A new simplified approach to the analysis of torsional problems in eccentric systems: the “alpha” method	University of Bologna, Italy
12.15	Trombetti T., Gasparini G., Silvestri S.	Verifications of the predictive capabilities of the “alpha” method through shaking table tests and field data analyses	University of Bologna, Italy
12.30	Zárate G. and Ayala A. G.	Formulation of a single storey structural model equivalent to a multi-storey asymmetric building of use in torsion studies	Instituto de Ingeniería; Cd.Universitaria; México

## 13.00 Lunch

## 14.30 Session 2 – Asymmetric multi-storey buildings

14.30	De Stefano M. <sup>1</sup> , Marino E. <sup>2</sup> and Rossi	The role of overstrength on the seismic behaviour of multi-storey regularly asymmetric buildings	<sup>1</sup> University of Florence, Italy <sup>2</sup> University of Catania, Italy
14.45	Fajfar P. <sup>1</sup> , Marušić D. <sup>1</sup> , Magliulo G. <sup>2</sup>	The extension of the N2 method to asymmetric buildings	<sup>1</sup> University of Ljubljana, Slovenia <sup>2</sup> University of Naples Federico II, Italy

15.00	García O. <sup>1</sup> , Ayala A.G. <sup>2</sup> and Chípól A. <sup>1</sup>	Influence of the spatial variation of the stiffness centre on the level of asymmetry in buildings	<sup>1</sup> Facultad de Ingeniería, Cd. Universitaria; México <sup>2</sup> Instituto de Ingeniería, Cd. Universitaria; México
15.15	Kilar V. and Fajfar P.	Seismic analysis of eccentric R/C buildings by the N2 method	University of Ljubljana, Slovenia
15.30	Marino E. and Rossi P.P.	Analytical formulation of the optimum torsion axis	University of Catania, Italy
15.45	Nazarov Yu.P. <sup>1</sup> and Semenov V.A. <sup>2</sup>	Some issues in analysis of spatial structures with respect to seismic load	<sup>1</sup> TsNIISK 6, Moscow, Russia <sup>2</sup> EuroSoft Ltd Architect, Moscow, Russia
16.00	Özmen G.	Torsional irregularity in symmetric structures	Istanbul Technical University, Turkey
16.15	Özmen G.	A parametric study of multi-story structures with excessive torsional irregularity	Istanbul Technical University, Turkey

### 16.30 Coffee Break

### 17.00 Session 2 – Asymmetric multi-storey buildings

17.00	Stathopoulos K. and Anagnostopoulos S.	Inelastic earthquake response of non-symmetric multistory buildings	University of Patras, Greece
17.15	Tavera E. and Ayala A. G.	Simplified method for the non-linear seismic performance evaluation of asymmetric buildings	Instituto de Ingeniería, Cd. Universitaria; México
17.30	Torres L. and Ayala A. G.	A new procedure for the performance based seismic design of asymmetric buildings	Instituto de Ingeniería, Cd. Universitaria; México
17.45	Tso W.K. and Myslimaj B.	A Yield Displacement Distribution-Based Approach to Strength Assignments in Asymmetric Structures	McMaster University, Canada
18.00	Zamfirescu D. and Postelnicu T.	Some features of nonlinear torsional response of irregular buildings	Technical University of Civil Engineering Bucharest, Rumania

### 20.30 Social Dinner

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**09.30 Session 3 – Irregular buildings in elevation**

09.30	Gherzi A., Marino E., Rossi P.P.	Effects of in elevation irregularity on the elastic seismic response of in-plan asymmetric buildings	University of Catania, Italy
09.45	Magliulo G., Ramasco R. and Realfonzo R.	A critical review of the Eurocode 8 provisions for R/C vertically irregular frames	University of Naples Federico II, Italy
10.00	Vaseva E.	An assessment of the behaviour factors of reinforced concrete irregular frames	Bulgarian Academy of Sciences, Bulgaria

**10.30 Session 4 – Tests and Experimental Techniques**

10.30	Karadogan F., Yuksel E. and Mourtagé W.	A parametric work on an alternative strengthening technique	Istanbul Technical University, Turkey
10.45	Kusumastuti D. and Reinhorn A.M.	Development of benchmark test model for irregular structures	State University of New York (SUNY) at Buffalo, USA
11.00	Negro P. and Mola E.	Pseudodynamic testing of a multistorey torsionally unbalanced structure: preliminary calculations	Joint Research Centre, Ispra, Italy
11.15	Sofronie R. A. <sup>1</sup> , Bergamo G. <sup>2</sup> , Stoica D. <sup>3</sup> , Toanchina M. <sup>4</sup>	Masonry irregular buildings reinforced with polymer grids	<sup>1</sup> UNESCO Ecoland, Bucharest, Rumania <sup>2</sup> ISMES, Bergamo, Italy <sup>3</sup> TUCE, Bucharest, Rumania <sup>4</sup> E, Bucharest, Rumania

**11.30 Coffee Break**

**12.00 Session 5 - Code specifications for irregular buildings**

12.00	De Stefano M. <sup>1</sup> , Gherzi A. <sup>2</sup> , Marino E. <sup>2</sup> , Rossi P.P. <sup>2</sup>	Comments on Eurocode 8 torsional provisions	<sup>1</sup> University of Florence, Italy <sup>2</sup> Università of Catania, Italy
12.15	Dimova S.L. and Tzenov L.L.	Seismic design of irregular structures in view of Eurocode 8	Bulgarian Academy of Sciences, Bulgaria
12.30	García O. <sup>1</sup> , Ayala A.G. <sup>2</sup> , Chípól A. <sup>1</sup> , Ortega J. <sup>1</sup> , Ortíz A. <sup>1</sup> and Juárez A. <sup>1</sup>	Torsional effects in multi-storey buildings designed in accordance with the mexican seismic code	<sup>1</sup> Facultad de Ingeniería, Cd. Universitaria; México <sup>2</sup> Instituto de Ingeniería, Cd. Universitaria; México
12.45	Heidebrecht A.C.	Changes in Requirements for Irregular Structures in the Seismic Provisions of the National Building Code of Canada	McMaster University, Canada

**13.00 Lunch**

### 14.30 Session 6 - Special cases of irregularity

14.30	Gülay F.Gg, Sen B., P. Teymür Tuğa	An Investigation on Behavior of Slabs with Large Openings under Earthquake Loading	Istanbul Technical University, Turkey
14.45	D'Ambrisi A., De Stefano M. and Tanganelli M.	Torsional behaviour of a medieval masonry tower under moderate seismic excitations	University of Florence, Italy
15.00	Rutenberg A. <sup>1</sup> and Leibovich E. <sup>2</sup>	The Irregular Post-yield Behaviour of Regular Multistorey Wall Structures	<sup>1</sup> Technion-Israel Institute of Technology, Haifa, Israel <sup>2</sup> Consulting Engineer, Netanya, Israel
15.15	Zembaty Z. <sup>1</sup> and Rutenberg A. <sup>2</sup>	Response spectra with non-homogeneous, site amplification effects	<sup>1</sup> Technical University of Opole, Poland <sup>2</sup> Technion – Israel Institute of Technology, Haifa, Israel

### 15.30 Panel Session on 'Research needs in the field of seismic behaviour of irregular structures'

### 16.30 Coffee Break

### 17.00 Conclusions