



AVVISO DI SEMINARIO

venerdì 8 luglio 2016, ore 10.00 il

Dr. Emmanouil Rovithis

Institute of Engineering Seismology and Earthquake Engineering, Thessaloniki, Greece

nell'ambito del corso di Dottorato in Fenomeni e Rischi Ambientali (FERIA)
terrà un seminario dal titolo:

“Evidence of dynamic SSI based on theoretical models and full-scale experimental data”

Aula Savarese, Università di Napoli “Parthenope”

Abstract. A significant contribution to the understanding of the soil-foundation-structure (SFSI) mechanism under seismic action is offered by the increasing use of accelerometric networks in urban areas providing full-scale experimental data of earthquake recordings on ground and instrumented structures. Following theoretical solutions and case studies that have been reported on the importance of SFSI in controlling the dynamic characteristics of the structure and the effective seismic motion imposed at the foundation, the issue is extended to the scale of an urban area based on recent research that was performed during the project INDES-MUSA (www.indes-musa.gr). The study refers to a dense, well-documented accelerometric network that has been deployed in the broader urban area of Kalochori, west of Thessaloniki. Records from ground stations within the urban environment, stations mounted on top of representative structures and a free-field station are compared. Novel remote sensing mapping solutions, referring to airborne LiDAR sensors, are then employed towards a LiDAR-aided assessment of SSI effects on the dynamic characteristics and the seismic loading of structures at urban scale under different earthquake scenarios. Upon implementing the above research concept to the identified urban fabric of the Kalochori residential area, spatially distributed ratios of the flexible-base over the fixed-base dynamic characteristics of structures and the corresponding spectral acceleration values are mapped in GIS environment, as a measure of SSI effects over an entire urban area.



About the speaker. Dr. Emmanouil N. Rovithis (1978) is a Researcher in the Institute of Engineering Seismology and Earthquake Engineering (ITSAK) under the auspices of Earthquake Planning and Protection Organization (EPPO) of Greece. His main research fields of interest include seismic wave propagation, soil dynamics, soil-structure interaction, experimental and analytical methods in earthquake engineering and assessment of seismic risk of structures and critical facilities. He has participated in various National- and EU-funded research projects related to seismic risk mitigation such as LESSLOSS, SERIES, SeiVAS, SciNetNatHaz and coordinated as PI the research projects INDES-MUSA and DRESBUS II. He is the author or co-author of more than 50 scientific publications.

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