



UNIVERSITÀ DEGLI STUDI DI NAPOLI FEDERICO II

DIPARTIMENTO DI STRUTTURE PER L'INGEGNERIA E L'ARCHITETTURA

Dottorato in Ingegneria Strutturale, Geotecnica e Rischio Sismico

SEMINARIO – OFFERTA FORMATIVA 2026

Titolo del seminario	Seismic response of ground and ground-structure systems: insights from earthquake records, large scale testing, and computational simulation
Docente	Prof. Ahmed ELGAMAL University of California, San Diego
Descrizione sintetica	Recorded earthquake motions provide key insights into the seismic response of ground and ground-structure systems. Complemented by experimental data, the underlying salient mechanisms are further elucidated. In this presentation, a number of such seismically-induced ground deformation mechanisms will be presented. In liquefaction scenarios, stratified-ground soil permeability variations will be shown to play a major role. Calibrated by these seismic response insights, 3-dimensional computational frameworks are developed to explore the associated Soil-Structure-Interaction (SSI) mechanisms. Using these frameworks, large multi-span highway-bridge ground-foundation-structure configurations are modeled, to highlight the importance and significance of system response, to explore mitigation strategies and techniques, and to conduct sustainability and resilience assessments.
Data	24 June 2026
Numero di ore totali	1,5
CFU proposti	
Modalità di erogazione	presenza