



DEPARTMENT OF CIVIL & ENVIRONMENTAL ENGINEERING

CEVE Seminar Series

“Design of Immersed Tunnels in Seismic Regions”

Dr. Christos Vrettos

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Immersed tunnels are increasingly used for crossings of shallow waters. Two projects in Greece in seismic regions are presented. The soil strata encountered are strongly non-homogeneous and of poor quality, so that ground improvement to prevent ground failure is necessary. Analysis of tunnel response is carried out by the seismic deformation method, requiring a reliable estimate of the kinematic quantities as well as of the spring constants accounting for the effects of soil-structure interaction. The lecture addresses some design issues and briefly presents the foundation design.

Biographical Sketch

Dr. Vrettos is Professor and Director of the Division of Soil Mechanics and Foundation Engineering at the Technical University of Kaiserslautern in Germany. He holds a Dr.-Ing degree from the University of Karlsruhe and a habilitation from the Technical University of Berlin. His research interests cover soil dynamics, railroad track dynamics, geotechnical earthquake engineering, numerical methods in geomechanics, deep foundations, unsaturated soils, artificially frozen ground. He spent several years in construction industry and geotechnical consulting. Notable projects include various open pits and high rise buildings in Berlin's center, the seismic stability of uranium tailing dams of Wismut, and the Preveza-Aktion immersed tunnel in Greece. He is member of the DIN Committee on analysis methods in geotechnics and of the TC4 of the ISSMGE.

Friday, September 15th, 2006

2:00 PM

Ryon Lab, Room 201

Refreshments will be served at 1:45 PM