

***UJNR Panel on
Wind and
Seismic Effects***

Panel Update

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CONSTRUCTION OF E-DEFENSE

Based on the lessons learned from the Hanshin-Awaji Earthquake, the National Research Institute for Earth Science and Disaster Prevention (NIED) is constructing a 3-D Full-Scale Earthquake Testing Facility (called E-Defense), to subject structures to strong earthquake motions. The construction of E-Defense began in early 2000, five years after the Hanshin-Awaji Earthquake and it will be completed at the beginning of 2005, ten years after the Earthquake. This full-scale facility is located at Miki-city, near Kobe-city. E-Defense is the largest full scale and high performance testing facility in the world. This unique facility will be available to researchers worldwide. For the international research collaboration and the dissemination of research results (including test data) an E-Defense Network (ED-Net) will be constructed. ED-Net will operate through a high performance Internet to the distributed major earthquake engineering research organizations.

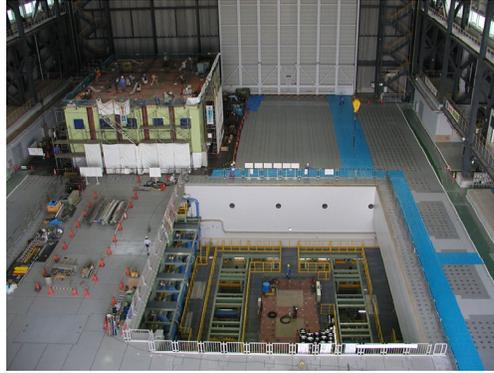
After the facility is completed the Ministry of Education, Culture, Sport, Science and Technology (MEXT), under the Special Project for Mitigation of Earthquake Disaster in Urban Areas, will conduct three experimental research projects; (1) Reinforced Concrete Structures, (2) Soil-Pile-Structure Systems and (3) Conventional Wooden Structures during the 2005 and 2006 fiscal years.

A US-Japan Planning Meeting was held during 5-8 April 2004, Kobe to identify NEES/E-Defense Collaboration and US-Japan collaborative research projects that utilize the unique resources available in both countries, such as E-Defense and NEES facilities.

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Aerial View of the E-Defense Buildings



Internal View of the Experimental Building

US-JAPAN WORKSHOP ON SOIL STRUCTURE INTERACTION

The 3rd US-Japan Workshop on Soil-Structure Interaction was held at the Vallombrosa Center in Menlo Park, California during 29-30 March 2004. This workshop is a series of activities of the Geotechnical Engineering and Ground Motion Task Committee of the US-Japan Panel on Wind and Seismic Effects and is held under the auspices of the US-Japan Natural Resources Program.

Forty-three technical papers were presented including discussions on future collaborations on soil structure interactions. Discussions centered on: 1) Earthquake Observations and analyses, 2) Opportunities for Research through NEES and ANSS, 3) Design Issues and Seismic Performance, 4) Analytical Modeling and Numerical Simulations and Analyses, and 5) Experimental Methods and Analyses. A special session included presentations and discussion of the new US NEES (Network for Earthquake Engineering Simulation) and ANSS (Advanced National Seismic System) opportunities for Soil-Structure Interaction research. A resolution of the workshop includes recommendations for the next workshop to be held in Japan and also formation of a US Committee on Soil Structure Interaction. Mehmet Celebi, Maria Todorovska and Enrique Luco, Professor at UCSD will formulate the US Committee on Soil-Structure Interaction. The papers will be published as a CD-ROM Proceeding.

The workshop was attended by 54 participating researchers: 19 from Japan; 1 Greece; 1 Turkey; 1 Mexico; 1 France; and 31 from the US. The workshop was organized by Mehmet Celebi, US Geologic Survey (USGS); Maria Todorovska, University of Southern California (USC); Izuru Okawa, Building Research Institute (BRI), Japan; and Masanori Iiba, National Institute for Land and Infrastructure Management (NILIM), Japan. NILIM is part of the Ministry of Land, Infrastructure and Transport (MLIT) and BRI is affiliated with MLIT. The workshop was funded by NSF, USGS, BRI, USC and NILIM.

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Group Photograph of the 3rd US-Japan Workshop on Soil-Structure Interaction