Distinguished Lecturer

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increased to the point where they are now a critical tool for characterizing geotechnical sites and determining deformational parameters. Stokoe outlined some of the problems that these measurements are designed to solve, such as predicting ground motions during earthquake shaking, evaluating the degree of cementation in alluvial soils, and evaluating liquefaction resistance.

Regarding the evolution of both field and laboratory test methods, Stokoe explained that field methods, which are usually called "seismic" measurements, have evolved from geophysical exploration and seismology. Laboratory methods originally evolved from soil dynamics; however, newer methods are patterned after field methods. He emphasized that all methods have a strong theoretical foundation, and that the same basic test is performed in both the field and the lab.

Stokoe described specialized field methods that have been developed over the past thirty years, such as crosshole and downhole testing. More recent methods include seismic cone penetration testing (SCPT) and surface wave (SASW) testing. Three field methods were recently performed at the Yucca Mountain building site for handling nuclear wastes.

Over the past 40 years, stress wave measurements of "undisturbed" (intact) specimens, such as torsional resonant columns, have been taken in laboratories. They included linear and nonlinear measurements evaluating stiffness and damping. The past ten years have seen embedded instrumentation in centrifuge experiments that take linear and nonlinear measurements as well as measurements of liquefaction and lateral spreading.

Stokoe predicted an expanding role of stress wave (or seismic) measurements in the future because they have a strong theoretical basis, can be performed in the field and laboratory, and may be noninvasive. The George E. Brown, Jr., Network for Earthquake Engineering Simulation (NEES) will have a major impact. NEES will feature dynamic loading systems and dynamic field sources. Stokoe mentioned the T-Rex and Liquidator facilities at the University of Texas, UCLA's rotating-mass and linear oscillators, the centrifuges at both the University of California-Davis and Rensselaer Polytechnic Institute, and the tsunami wave basin at Oregon State University.

Page 1 of the January 2004 *Newsletter* provides additional biographical information about Professor Stokoe. Groups interested in having him present his lecture may e-mail him at **k.stokoe@mail.utexas.edu**. His lecture will appear in a future issue of *Earthquake Spectra*.

News of the Profession

13WCEE Registration Deadline Soon

The deadline to obtain a discounted registration fee for the 13th World Conference on Earthquake Engineering in Vancouver, British Columbia, Canada, August 1-6, is fast approaching. On or before May 4, the fee for regular attendees is US$750 ($1,000 Canadian). After May 4, it will be US$900 ($1,200 Canadian). The full registration package includes all technical sessions, one copy of the final program, proceedings on CD-ROM, opening ceremony and reception, the international fair, the enchanted rainforest banquet, lunches, and refreshment breaks. For more information, visit **www.13wcee.com**.

Learning from Earthquakes

Dead Sea Earthquake

The following report was sent by EERI member Jalal Al-Dabbeek, director of the Earth Science and Seismic Engineering Center (ESSEC) in Nablus West Bank, Palestinian Authority, Israel.

The Dead Sea earthquake of February 11, 2004 (Mb 5.1), occurred at 08:15 UTC. The epicenter was about 16 km south of Jericho city (31.679 N, 35.585 E) at a focal depth of 21 km. The earthquake was felt in Jericho, Hebron, Nablus, Ramallah, Bethlehem, and Jerusalem, but no loss of life was reported.

Studies of historical earthquakes for the past few thousand years demonstrate that damaging earthquakes have occurred along the Dead Sea transform fault. The most recent destructive earthquakes of the area ruptured the boundary between the Arabian and the Sinai plates in 1927 and 1995.

Reinforced concrete buildings in Palestine suffered slight nonstructural damage (damage grade 1, according to European Macroseismic Scale 1998 "EMS-98"), such as hairline cracks in a few walls, especially over frame members or in walls at the base.

Three old schools suffered moderate to substantial damage: slight to moderate structural damage and moderate nonstructural damage (EMS-98 grade 2 for one school and grades 2-3 for the other schools).

The earthquake affected many old masonry buildings in Palestinian cities. In Nablus city, a few historical buildings were affected with damage between grades 1 and 4. Six old masonry buildings suffered grade 2 damage, two old masonry buildings suffered grade 3 damage, and two buildings (masonry and old masonry buildings) suffered very heavy (grade 4) damage.