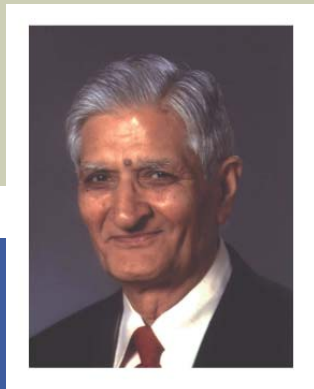


EVENING LECTURE: A JOINT PRESENTATION FROM THE
WELLINGTON AND CHRISTCHURCH BRANCHES OF NZGS AND NZSEE

PERFORMANCE BASED ASEISMIC DESIGN OF RIGID RETAINING WALLS



> **Professor Shamsheer Prakash, P.E., Ph.D.**
> **Professor Emeritus, Department of Civil Engineering
Missouri University of Science and Technology**

Retaining walls have failed either by sliding away from the backfill or due to combined action of sliding and rocking displacements, during earthquakes. Performance based design of the retaining walls in seismic areas must account for these displacements, in addition to the usual factors of safety against failure in bearing, sliding and overturning. A realistic model for estimating dynamic displacement, which accounts for the combined action of sliding and rocking and takes into consideration, non-linear stiffness of soil and geometric and material damping and coupling effects is now available (2009). This model has been used to calculate the displacement for several combinations of backfill and foundation soil conditions. Based on this study, typical design charts for preliminary Performance Based Design have been proposed.

ABOUT THE SPEAKER

Professor Shamsheer Prakash introduced "Soil Dynamics" in India in 1962 where he set up the first "Soil Dynamics" lab at the then University of Roorkee, (now Indian Institute of Technology, Roorkee, India). He introduced the concept of "Displacement Based Design of Rigid Retaining Walls under Seismic Conditions" in 1973 at Roorkee, and later joined the faculty of the University of Missouri-Rolla (UMR) in 1978, continued his research on those topics, and is now a recognized leader on the subject. Dr. Prakash was recently recognized as a Distinguished Alumnus of the Indian Institute of Technology, Roorkee, in December 2008 and has been cited for his significant contributions to geotechnical earthquake engineering, prediction and performance in geotechnical engineering and is a recognized yoga guru.

CHRISTCHURCH:

Date: Thursday 12th November 2009

Time: 5.30 pm Drinks and nibbles
6.00 - 7.00pm Presentation followed by
questions and discussion

Location: Drinks and nibbles in the ground floor Staff
Common Room. Presentation in E6 lecture room,
School of Engineering University of Canterbury.

Contacts: Misko Cubrinovski, NZGS,
Tel 03 364 2251

WELLINGTON:

Date: Wednesday 18th November 2009

Time: 5.30 pm Drinks and nibbles
6.00 - 7.00pm Presentation followed by
questions and discussion

Location: Room LT1, Faculty of Architecture and
Design, Victoria University of Wellington, 139 Vivian
Street, Wellington

Contacts: P Brabhakaran: NZSEE, Tel 471 7842 and
David Stewart: NZGS, Wellington Branch Co-ordinator,
Tel 04 471 7155