COSMOS Annual Meeting and Technical Session Topic:

Selection and Scaling of Ground Motions for Site Response Analysis and Geotechnical Evaluations.

The COSMOS Technical Session has successfully presented issues surrounding time series selection and modification for buildings in 2005, 2006, and 2007, following the more general issues addressed in 2004. While buildings are a prominent application for the use of time series, during analysis a number of different applications arise that are of interest to the engineering community and whose methods and conclusions can help inform the analyses of a variety of time series selection applications. This year's COSMOS Technical Session addresses the selection and scaling of ground motion for site response analysis and geotechnical evaluations. Our plan is to have a presentation on the selection and scaling of ground motion time histories in performing site-specific response analysis and how it links to structural design and analysis in building code applications. We also will provide a presentation on the selection and scaling of ground motions used in soil structure interaction dynamic analysis of port facilities. The examples will be followed up in the afternoon with purely geotechnical applications: an example of an innovative solution to the problems of traditional time series selection, and current research on improving the methods of time series selection and modification for geotechnical evaluations. The presentations will include a large number of geotechnical applications, such as dams, levees, and underwater tunnel facilities, as well as site response for structures. As has become traditional, after the evaluations have been presented, the presenters will also serve on a panel that will discuss their observations regarding the evaluations and any suggestions for selection and scaling procedures. As in past programs, we expect this year's technical session to be informative, relevant and entertaining.