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LECTURE SERIES

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October 7, 2010 at 4:00pm Willet Green Miller Centre
Auditorium (Main Floor)



Rock mass characterization; a vehicle to translate Geology into the design of Engineering Structures

Abstract The integration of site geology with engineering requirements is the basis of Engineering Geology. Despite the record of case histories and the development of field and laboratory investigation techniques, there continues to be a need to describe site geology in terms appropriate for the analyses of deformation and stability of ground in situ. Two developments hold the potential to improve such description: the characterization of soil and rock, and the wider use of numerical modeling. Methods of characterization can now be tested with the aid of numerical analyses, and the suitability of the predictions they lead to can be tested with site instrumentation.

Hoek and Brown (1980) considered that more detailed rock mass property information would be required, as numerical modelling became more readily available and more widely used in design. They set out to develop a failure criterion and a classification system, the Geological Strength Index (GSI), specifically for the purpose of designing tunnels, slopes or foundations in rocks (Hoek and Marinos 2000). A detailed description of GSI is presented with suggestions for its use and discussion on its limitations.

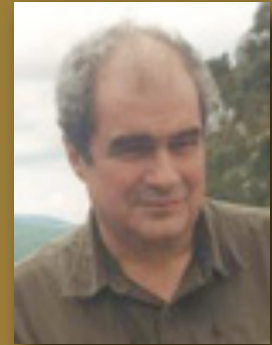


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Dr. Paul Marinos

Dr. Marinos received his Doctorate in Engineering Geology from the University of Grenoble in 1969. Since 1988 he has been Professor of Engineering Geology in the School of Civil Engineering in the National Technical University of Athens and has served as head of the Geotechnical Section of the School for several years. From 2001 to 2004 and from 2006 to 2008 he was the Director of a Graduate Course in Tunneling and Underground Construction. He has received several awards, including the Hans Cloos medal of IAEG, and the Andre Dumont medal of the Geological Society of Belgium. Dr. Marinos has been named the 2010 Jahns Distinguished Lecturer.