

**ANNUNCIO DI SEMINARIO**  
**Giovedì 23 Giugno 2005, ore 15.00, Aula Consiliare Facoltà di Ingegneria**

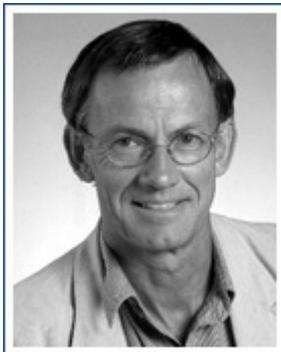
***MYTHS AND FALLACIES IN EARTHQUAKE ENGINEERING,  
REVISITED***

**Nigel Priestley**

The presentation briefly summarises a 1993 paper which critically examined a number of fundamental principles on which seismic design of structures is based and concluded that many were deeply flawed. These principles are reviewed in more detail, in the light of ten years progress in research and design philosophy.

It is shown that the elastic strength and stiffness of reinforced concrete structures are directly proportional, and hence the current practice of allocating strength in proportion to assumed values of stiffness is irrational. Flaws are exposed in 3D modal analysis, particularly related to estimation of higher mode and torsional response. Seismic response of precast structures is shown to be superior to that of reinforced concrete in many cases, despite the low energy absorption, which according to current philosophy should result in inferior response.

Finally, progress in development of a simple and rational seismic design procedure based on displacement rather than force consideration is presented in some detail. Some unexpected conclusions resulting from the application of displacement-based design logic are presented.



Nigel Priestley is Emeritus Professor of Structural Engineering at the University of California at San Diego, and is co-director of the Rose School, Pavia, Italy. His research is focused on the seismic design of concrete and masonry structures, and on seismic design philosophy. He has published more than 650 books, technical papers and reports, mainly related to seismic design, and has received more than 30 international awards for his research. He is a fellow of the ACI, the IPENZ, NZ Society for Earthquake Engineering, NZ Concrete Society, and is an Honorary Fellow of the Royal Society of New Zealand.

**RECENT PUBLICATIONS:**

- Ranzo, G. and Priestley, M.J.N. [2000] "Seismic performance of large RC circular hollow columns", Proc. 12th World Conference on Earthquake Engineering, Auckland, New Zealand, Paper No. 0250.
- Benzoni, G., Priestley, M.J.N. and Seible, F. [2000] "Seismic shear strength of columns with interlocking spiral reinforcement", Proc. 12th World Conference on Earthquake Engineering, Auckland, New Zealand, Paper No. 1562.
- Kowalsky, M.J., Priestley, M.J.N. and Seible, F. [1999] "Shear and flexural behavior of lightweight concrete bridge columns in seismic regions", ACI Structural Journal, Vol. 96, No. 1, pp. 136-148.

**A 120 page monograph ("MYTHS AND FALLACIES IN EARTHQUAKE ENGINEERING, REVISITED", by N. Priestley, published by the Rose School) will be available for selling at a discounted price of Euros 21 (normally it costs Euros 28).**