



UNIVERSITÀ DEGLI STUDI
DI TRENTO

Dipartimento di Ingegneria Civile,
Ambientale e Meccanica



Instabilities and nonlocal
multiscale modelling of
materials

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AVVISO DI SEMINARIO

Si comunica che **mercoledì 17 maggio 2017 a partire dalle ore 11.00**
si terrà presso l'aula **R2** (via Mesiano 77) il seguente seminario

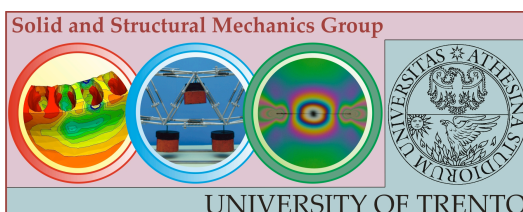
Resolution of 20th Century Conundrum in Elastic Stability Prof. Isaac Elishakoff *Florida Atlantic University*

According to the known adage "in theory there is no difference between theory and practice; in practice is." Indeed, in shell buckling the theoretical buckling load was derived nearly simultaneously by an Englishman Southwell, Ukrainian Timoshenko, and German Lorenz in the first decade of the 20th century. However, theory and practice differed very much as was shown nearly immediately and especially by Flügge already in 1930s. In 1945 Warner Tjardus Koiter gave a qualitative explanation of the difference attributable to small imperfections that lead to the fact that the shells lose their stability at a fraction (often, one -tenth!) of the theoretical load. Since then numerous authors from venerable places dealt with this issue recognizing the need to incorporate stochasticity concept. We describe failed attempts to resolve the conundrum. We present resolution (actually, three alternative ways!) and its adaptation by NASA, ESA and DFWR.

Prof. Elishakoff is author/editor of 30 books and over 470 papers in leading journals. Recently he was awarded the ASME Worcester Reed Warner Medal for permanent contributions to the literature.

Tutti gli interessati sono invitati a partecipare.

Il seminario è organizzato dal gruppo di Scienza delle Costruzioni
(D. Bigoni, L. Deseri, N. Pugno, A. Piccolroaz, F. Dal Corso, M.F. Pantano, R. Springhetti, D. Misseroni)



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