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AVVISO DI SEMINARIO

Si comunica che **giovedì 07 agosto 2014 a partire dalle ore 11.00**
si terrà presso l'aula **R2** (via Mesiano 77) il seguente seminario

Analytical and numerical methods for fracture problems in classical and Cosserat theories of elasticity

Dr. Elena Atroshchenko

Department of Mechanical Engineering, University of Chile

All real engineering materials contains flaws and defects, which under certain loading conditions may propagate and lead to the failure of a mechanical or structural component. Accurate analytical and numerical models of fracture help to estimate the risk of failure, predict the service life of an engineering object, and obtain an efficient design.

The first part of the seminar will be devoted to the analytical solutions of the problems of planar cracks, particularly derivation of the so-called weight functions, used in the fatigue crack growth analysis to determine the stress intensity factor induced by an applied loading.

The second part of the seminar will be devoted to the numerical methods of fracture modeling with taking into account effects of material microstructure, namely the boundary element method in plane micropolar elasticity, with the use of both, singular and hypersingular boundary integral equations.

The third part of the seminar will be devoted to the discussion of an efficient integration of the CAD geometries and methods of stress analysis, by means of the so-called isogeometric boundary element method, with particular application to the fracture problems, in both, classical and Cosserat elasticity.

Tutti gli interessati sono invitati a partecipare.

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

Solid and Structural Mechanics Group
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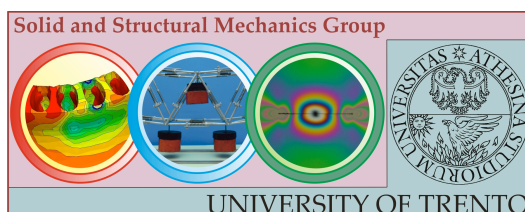
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