



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 **venerdì 15 luglio 2016 a partire dalle ore 15.00**
si terrà presso l'aula **R2** (via Mesiano 77) il seguente seminario

Phase-field study of size effects in martensitic microstructures

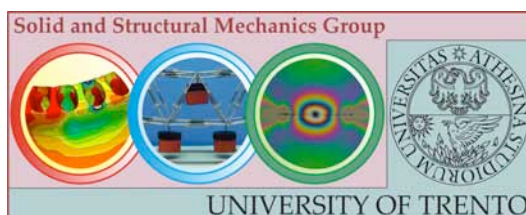
Prof. Stanisław Stupkiewicz

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Formation and evolution of martensitic microstructures is accompanied by nucleation and propagation of interfaces. The related size-dependent interfacial energy contributions are known to govern the size effects. In particular, characteristic dimensions of the microstructure result from the competition between the interfacial energy and the elastic strain energy. We study the related size effects using a recently developed finite-strain phase-field model. The phase-field method is based on the concept of diffuse interfaces, and it is a powerful tool for modelling of evolution of microstructures of unknown pattern. The corresponding predictions are compared to those resulting from sharp-interface modelling in which the pattern of the microstructure is assumed in advance, and its parameters are determined by minimizing the total energy that includes interfacial energy contributions. Results obtained for the CuAlNi shape memory alloy using the two very distinct approaches show satisfactory agreement.

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)



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