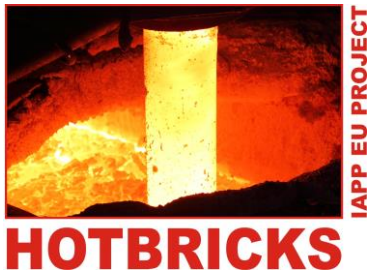




UNIVERSITÀ DEGLI STUDI
DI TRENTO

Dipartimento di Ingegneria Civile,
Ambientale e Meccanica



Mechanics of refractory
materials at high-temperature
for advanced industrial
technologies
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AVVISO DI CORSO

Si comunica che **lunedì 16 (14:00-18:00) e martedì 17 (9:00-13:00) dicembre 2013**
si terrà presso l'aula **H1** (via Mesiano 77) il seguente corso

Automatic differentiation and computer methods in nonlinear solid mechanics

Prof. Stanislaw Stupkiewicz

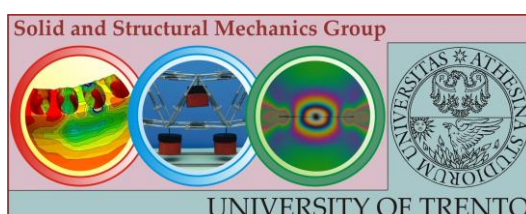
*Visiting Professor at University of Trento, Italy
Department of Mechanics of Materials, IPPT, Warsaw, Poland*

The lectures will present an introduction to the automatic differentiation (AD) technique in the context of computer methods in nonlinear solid mechanics. The introduction to AD will include the basic concepts of AD, the difference between AD and symbolic differentiation, AD exceptions, and AD implementations with the focus on the AceGen system. An introduction to nonlinear computational mechanics will next be presented covering the finite element discretization, Newton method, incremental equations of elastoplasticity, and sensitivity analysis. It will be shown how the AD technique can be used for an efficient and robust computer implementation of the related computer algorithms.

Joint course with Intercer2 project

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)



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