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20th May 9:30 -11:30, *Aula B1.7,*
DICATAM, via Branze 43, Brescia

Elastoplastic modelling of ceramic powders and geological materials

Concepts of plasticity theory will be reviewed for ordinary crystalline materials. New concepts will be introduced to model the inelastic mechanical response of granular materials (such as ceramic powders) and rock-like materials (such as concrete and rock). For these materials, the mechanical behaviour can be described by introducing pressure-dependent yielding, nonassociative flow rule, and coupling between elastic and plastic properties. Examples will be presented of simulations of forming of ceramic powders.

This lecture is part of the training/dissemination activity within the frame of the FP7-IAPP Project "INTERCER2 - Modelling and optimal design of ceramic structures with defects and imperfect interfaces".