



Director
Patrizia Trovalusci

Sapienza Università di Roma

PhD Program in Structural and Geotechnical Engineering

May 26, 2022 - 11:00am-2:00pm

May 27, 2022 - 10:00am-1:00pm

Prof. Elio Sacco

Full Professor, Department of Structures for Engineering and Architecture, University of Naples "Federico II"

Prof. Daniela Addessi

Associate Professor, Department of Structural and Geotechnical Engineering, Sapienza University of Rome

Damage Mechanics and Modelling for Materials and Structures

This class introduces the fundamentals of damage mechanics and modelling procedures to describe degrading processes evolving at material and structural level. The main damage model families presented in literature are illustrated, specially focusing on those developed for brittle like materials. Also, the coupling with plasticity formulations is introduced, and isotropic and anisotropic formulations are referred to. Some hints concerning localization problems related to strain softening behavior and pathological mesh dependency of the finite element solutions are given, together with the main regularization techniques. Then, the mechanics of damaging interface is treated, illustrating the modelling approach which accounts for the interface opening in mode I, mode II and mixed mode. Moreover, the unilateral contact is considered, and the possible frictional and interlocking effects are described. Finally, structural problems in presence of degrading processes are shown.

Program: https://phd.uniroma1.it/web/course---damage-mechanics-and-modelling-for-materials-and-structures_ns3615EN_EN.aspx

Registration form:

https://docs.google.com/forms/d/e/1FAIpQLScGBANtWOi0cOZA2PSuPkArBCJIXcpOtMniV18KQUNBNhHkNw/viewform?usp=sf_link



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