UNIVERSITÀ DI PAVIA

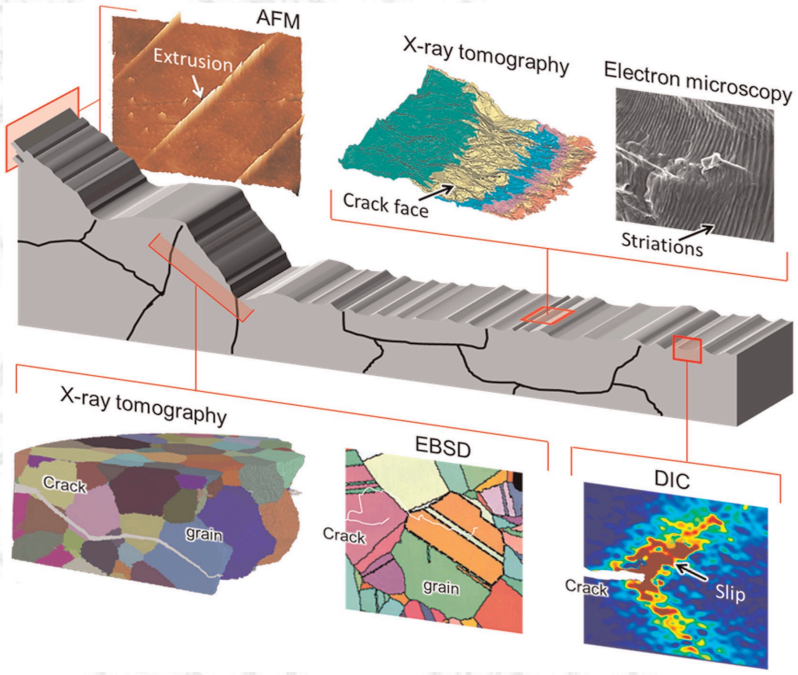
Università degli Studi di Pavia
Computational Mechanics & Advanced Materials Group - DICAr

COMPMECH
Computational Mechanics & Advanced Materials

SEMINAR

Local Approaches in Fatigue

Fatigue is the most ubiquitous mode of fracture, especially in structural metallic materials accounting for more than 80% of all in service failures in structural components. However, despite this importance and impact, paradoxically it is the least understood form of fracture mechanistically and the least modelled from a mechanic perspective. As clearly recently stated, fatigue criteria depending upon arbitrary and simplistic assumptions have been developed up to now but, despite numerous investigations over a half a century, only phenomenological and no completely reliable mechanistic models have been established especially in the presence of complex loading scenarios and complex geometrical features. Local approaches can play a fundamental role in this regard and can change the game in the fatigue assessment and design. The aim of the talk is to give an overview of these interesting aspects discussing the recent trends in fatigue design also considering new manufacturing processes allowing to increase the geometrical and functional complexity of man made structures/components. Open challenges will be pointed out as well.



Prof. Filippo Berto
Norwegian University of Science and Technology

March 17th, 4:00pm (sharp)
Zoom link: https://us02web.zoom.us/my/alereali