



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 **martedì 11 settembre 2018 a partire dalle ore 11.00**  
si terrà presso l'aula **R2** (via Mesiano 77) il seguente seminario

### **Advanced Composite Materials: manufacturing quality products efficiently**

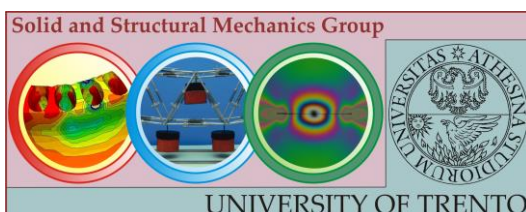
**Prof. Piaras Kelly**

*Department of Engineering Science, The University of Auckland,  
New Zealand*

Advanced composite materials are now used in a wide range of industries, including aerospace, marine, construction, transport and recreational sport. Their high strength and stiffness (relative to density) and excellent corrosion-resistance properties make them preferable to conventional materials in many applications. The ever-increasing pressure on producing quality parts effectively and efficiently has led to many innovations over the years in manufacturing technologies and associated computational modelling and simulation of these processes. This talk discusses recent research carried out at the Centre for Advanced Composite Materials (CACM) on the manufacture of such materials. This includes the development of material models for the simulation of textile and fabric compaction, models of the viscous flow of thermosetting resins through the reinforcement materials, and product curing. A complete simulation process chain has been developed, incorporating image analysis and mechanics modelling, for the prediction of material permeability, as used for process prediction. Also discussed are the challenges faced with automated mass production and means of detecting problems and defects before final manufacturing occurs.

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, D. Misseroni)



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