Summer school

Computational Multiscale Fracture Mechanics

Joint event to the training program of the EU industry academy partnership pathways "INTERCER2 - Modelling and optimal design of ceramic structures with defects and imperfect interfaces" research project.

Schedule

	Jun 25, 2012	Jun 26, 2012	Jun 27, 2012	Jun 28, 2012	Jun 29, 2012
	Monday	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
	Prof. D. Warner	**Prof. D. Warner**	**Prof. D. Warner**	**Prof. S. Bordas**	**Prof. S. Bordas**
10:00 - 12:00	*Motivation and Background*	*The importance of individual dislocations & discrete dislocation modeling*	*Atomistic modeling with quantum mechanics*	*Strong and weak discontinuities in meshfree methods*	*Other Methods*
	Lunch break				
	Prof. D. Warner	**Prof. D. Warner**	**Prof. S. Bordas**	**Prof. S. Bordas**	**Prof. S. Bordas**
14:00 - 16:00	*Modeling crack growth at the microstructural scale*	*Atomistic modeling with interatomic potentials: potential pitfalls*	*Meshfree methods*	*The eXtended finite element method (XFEM)*	*A Posteriori Error Estimation*
16:30 - 17:30		*Special lecture:* **Prof. T. Wierzbicki, MIT** *Lithium-ion batteries as an example of a multi-scale system, Testing, model identification, and validation*	*Special lecture:* **Prof. D. Bigoni, Univesita` di Trento** *The perturbative approach for shear band and material instabilities detection*		