

# ***From Materials to Structures: Various Engineering Perspectives***

**A workshop between the University of Cambridge and LabEx MMCD,  
supported by LabEx MMCD**

**20-21 September 2018  
IFSTTAR, room B017-B020**

<b>Thursday 20 September</b>		
14h30-14h40	Opening	
14h40-15h10	Malcolm BOLTON (Univ. Cambridge, Dpt. Eng.)	Some failures in dense sand with and without shear band softening
15h10-15h40	Ioannis STEFANOOU (École des Ponts ParisTech, Navier)	Going beyond failure in geomechanics: From bifurcation theory to strain localization and earthquake control
15h40-16h10	Jean-Noël ROUX (IFSTTAR, Navier)	Basic concepts of granular mechanics revisited via grain-level numerical approaches
16h10-16h30	Break	
16h30-17h	Garth WELLS (Univ. Cambridge, Dpt. Eng.)	Multilevel methods for random vibration problems
17h-17h30	Jérémy BLEYER (École des Ponts ParisTech, Navier)	Modeling brittle failure with variational phase-field approaches: application to dynamic fracture and anisotropic materials
17h30-18h30	Visit of the laboratories	

<b>Friday 21 September</b>		
9h-9h30	Matthieu VANDAMME (École des Ponts ParisTech, Navier)	A model based on local microscopic relaxations to explain basic creep of concrete
9h30-10h	Giovanna BISCONTIN (Univ. Cambridge, Dpt. Eng.)	TBA
10h-10h30	Anh Minh TANG (École des Ponts ParisTech, Navier)	Effect of temperature cycle on mechanical properties of methane hydrate-bearing sand sediment
10h30-11h	Break	
11h-11h30	O. BAVEREL / R. MESNIL (École des Ponts ParisTech, Navier)	Construction aware structural design
11h30-12h	John ORR (Univ. Cambridge, Dpt. Eng.)	Minimising energy in construction