

ALERT doctoral school 2012 – Advanced experimental techniques in geomechanics

Day 1, Thursday, October 4			
08:30 – 08:45	Introduction: content and structure of the school	CV, SH, ER	0.25
08:45 – 09:45	Basics of experimental geomechanics	CV	1.00
09:45 – 10:45	Some key issues in experimental geomechanics research	CS	1.00
10:45 – 11:15	coffee break		
11:15 – 12:15	Full-field methods in geomechanics	CV	1.00
12:45	Lunch		
14:30 – 16:00	X-rays – radiography, tomography, diffraction	CV	1.50
16:00 – 16:30	coffee break		
16:30 – 18:30	Full-field displacement/strain measurements and Digital Image Correlation – principles and methods	SH	2.00
20:00	dinner		

Day 2, Friday, October 5			
08:30 – 09:30	Full-field displacement/strain measurements and Digital Image Correlation – from 2D to 3D	SH	1.00
09:30 – 10:30	Image analysis	SH	1.00
10:30 – 11:00	coffee break		
11:00 – 12:15	Waves 1: Elastic and electromagnetic waves	CS	1.25
12:45	lunch		
14:30 – 15:45	Waves 2: Elastic waves – measurement	CS	1.25
15:45 – 17:00	Waves 3: Electromagnetic waves – measurement	CS	1.25
17:00 – 17:30	coffee break		
17:30 – 18:30	Waves 4: Tomographic measurements	SH	1.00
20:00	dinner		

Day 3, Saturday, October 6			
08:30 – 09:30	Experimental multiphase geomechanics 1: Particle-level phenomena and particle-fluid interactions	CS	1.00
09:30 – 10:30	Experimental multiphase geomechanics 2: Coupled processes (THM, chemo, bio and electrical)	ER	1.00
10:30 – 11:00	coffee break		
11:00 – 12:15	Experimental multiphase geomechanics 3: Physical model tests to replicate large-scale conditions. Instrumentation for coupled processes	ER	1.25
12:45	lunch		
14:30 – 16:30	Experimental multiphase geomechanics 4: Multiphase phenomena (non wetting / wetting interfaces). Techniques for multi-scale observations. From micro to phenomenological scale	ER	2.00

Lecturer	Affiliation	Number of lectures	Number of hours
Steve Hall (SH)	Lund University, Sweden	4	5.00
Enrique Romero (ER)	UPC, Barcelona, Spain	3	4.25
Carlos Santamarina (CS)	Georgia Tech, USA	5	5.75
Cino Viggiani (CV)	Laboratoire 3SR, Grenoble, France	3	3.50
		14	18.50