Micro-macro methods for particulate materials
January, 13 –February, 10, 2005

Registration:	Before 10 Jan. 2005 (through e-mailing lecturers)	
Keywords:	Molecular Dynamics, Continuum Theory, Micro-macro relations	
Target-Group:	PhD students, MSc Students	
Lecturers:	Dr. Stefan Luding, (015-2783874,) S.Luding@tnw.tudelft.nl room 0.528, Faculty of Applied Sciences (DelftChemTech)	
	Dr. Akke Suiker, (015-2781629), A.Suiker@lr.tudelft.nl room 1.42, Faculty of Aerospace Engineering	
Place:	zaal B (1st floor), DelftChemTech, Julianalaan 136	
Time:	Thursday	16:00-18:30 (13, 27 Jan. & 03 Feb. 2005) 16:30-18:30 (20 Jan. 2005)

Course Outline

Date	Topics
13-01-2005	Introduction to DEM modelling (SL)
13-01-2005	Micro-macro behaviour of frictional materials during failure (AS)
20-01-2005	Micro-macro transition for simple examples (SL)
20-01-2005	Wave propagation in discrete materials under moving/vibrating loads (AS)
27-01-2005	Micro-mechanical modelling of granular materials: the derivation of higher-order constitutive theories from micro-structural considerations (AS)
27-01-2005	Hypoplastic constitutive modelling (SL)
03-02-2005	The derivation of the non-linear elastic assembly stiffness of granular assemblies from micro-structural considerations (AS)
03-02-2005	Advanced contact models for DEM: Cohesion, Sintering, and others (SL)
10-02-2005	t.b.a.
10-02-2005	t.b.a.
	t.b.a.

Each seminar consists of two presentations of about 45 minutes each, with room for questions and discussion. The final date (10-02-2005) is reserved for voluntary contributions by students (to be announced).