

EARTHFLOWS 2016

Interface Dynamics during Geophysical Flows

The 2nd EarthFlows seminar, 16-17 June 2016

Location: Lille Fysisk Aud, Physics Building, UiO

Thursday 16th of June

0915-0920 *Bjørn Jamtveit (PGP) Welcome*

0920-1000 *The EarthFlows lecture*

John Wettlaufer (Yale University)

**THE STATISTICAL MECHANICS OF ARCTIC SEA ICE — ROUGHNESS EVOLUTION
AS A PROBLEM IN BROWNIAN MOTION**

1000-1015 Coffee break and Discussion

Turbulence and transitional flow

Chair: Eirik Flekkøy

1015-1045 *Luiza Angheluta (EF/PGP) Quantum versus classical turbulence in two dimensional flows*

1045-1115 *Joe Lacasce (EF/IG) Cause I'm the wanderer: deducing turbulent spectra from particles*

1115-1145 *Kent Andre Mardal (EF/MI) Experimental investigation of transitional effects at low Reynolds number in blood vessels - X-ray, microphones and simulations*

1145-1215 *Anier Hernandez (NBI, Copenhagen) On the effects of wall irregularities in transitional flows*

1215-1345 Lunch

Wetting, flow and friction

Chair: Luiza Angheluta

1345-1415 *Frieder Mugele (Univ of Twente) Wettability of oil-water-mineral systems: from microscopic ion adsorption to macroscopic wettability alteration*

- 1415-1445 *Andreas Carlson (EF/MI)* Formation and propagation of an elastohydrodynamic spreading front
- 1445-1515 *Anders Malthe-Sørenssen (EF, PGP)* Atomic modeling of fluid flow and contact mechanics in water wet silicates
- 1515-1530 Coffee break

Modelling complex flows in porous systems

Chair: Knut Jørgen Måløy

- 1530-1600 *Alex Hansen (NTNU)* A Gibbs-Duhem equation for immiscible two-phase flow in porous media
- 1600-1630 *Joachim Mathiesen (NBI, Copenhagen)* Simulations of multiphase flow beyond the pore-scale
- 1630-1700 *Tanguy Le Borgne (Rennes)* Dynamics of fluid mixing interfaces in porous media
- 1700-1715 Break

Chair: Marcin Dabrowski

- 1715-1745 *Alex Jarosch (Univ Iceland)* Heat transfer and phase change in a turbulent flow bounded by the fluid solid phase
- 1745-1815 *Kjetil Thøgersen (EF/PGP)* Propant flows in narrow channels
- 2000 Dinner at Solsiden Restaurant (www.solsiden.no)

Friday 17th of June

Fluid Earth – Solid Earth interfaces

Chair: Andrew Putnis

- 0915-0945 *Tom Raimondo (Univ of South Australia)* Fluid-controlled rheological responses during intraplate orogeny
- 0945-1015 *Bjørn Jamtveit, Kristina Dunkel, Håkon Austrheim (EF, PGP)* Fluid induced metamorphism of stressed rocks
- 1015-1030 Coffee

Chair: Dani Schmid

- 1030-1115 *Francois Renard (EF, PGP)* Rock transformations control shallow creep at plate boundaries
- 1115-1145 *Kristina Dunkel, Håkon Austrheim, Benoit Cordonnier, Bjørn Jamtveit (EF, PGP)* Dehydration embrittlement
- 1145-1215 *Andreas Kääb, Thomas Vikhamar Schuler, Adrien Gilbert (EF, IG)* GlacierFlows: processes at the glacier base and their significance for ice movement
- 1215-1400 Lunch

Chair: Karen Mair

- 1415-1500 *Chloé Michaut (Inst Physique de Globe, Paris)* Elastic-plated gravity currents in Geoscience
- 1500-1530 *Valérie Cayol (Saint-Étienne)* Tracking intrusions from deformations with applications to Piton de la Fournaise and Nyiragongo
- 1530-1600 *Olivier Galland, Frank Guldstrand, Håvard Bertelsen (EF, PGP)* Dynamics of magma-induced surface deformation
- 1600-1615 Break

Chair: Bjørn Jamtveit

- 1615-1645 *Andrew Putnis (Curtin University)* Porosity development during mineral replacement processes
- 1645-1715 *Alenxandru Botan (Dept of Phys, UiO)* Transport mechanisms during replacement processes
- 1800 Summer party