EarthFlows Meeting 2018

Complexity in Geophysical Flows

14-15 June 2018, *Oslo Science Park*

Thursday 14th of June

09.45- 09.50	*Luiza Angheluta/Bjørn Jamtveit (EF/NJORD)* Welcome
09.50- 10.30	Bjorn Birnir (Univ. of California, USA) *Numerical Analysis and Fractal Interpolation of Fluvial Landscapes*
10.30- 10.45	Coffe break

Turbulence in multiphase flows

Chair: Audun Skaugen

10.45- 11.15	*Atle Jensen (EF, UiO)* Microscale breaking of waves
11.15- 11.45	*Jason Hearst (NTNU, Norway)* Tailoring lab-scale turbulent shear flows to investigate internal interfaces
11.45- 12.15	*Joachim Mathiesen (NBI, Denmark)* Transition to turbulence in pipe flows (TBA)
12.15- 13.45	*Lunch*

Reactive flow and transport in complex systems

Chair: Marcel Moura

13.45- 14.25	*John Wheeler (Univ of Liverpool, UK)* Fluid flow in reactive deformable systems
14.25- 14.55	*Tanguy Le Borgne (Univ. of Rennes 1, France)* Controlling of fluid mixing on biogeochemical reactions from turbulent to porous media flows
14.55- 15.25	*Yves Meheust (Univ. of Rennes 1, France)* Pore scale mixing and reactivity in porous media: experimental investigations
15.25- 15.45	*Coffee Break*

Fracture and reactive flows

Chair: Kristina Dunkel

15.45- 16.15	Bjørn Jamtveit (EF,UiO) Flow induced metamorphism and stress
16.15- 17.45	Anja Røyne (Njord, EF) Slow fracture/ ice (TBA)

17.45- 18.15	*Xiaojiao Zheng (EF, UiO)* Fracturing of peridotite induced by the hydration of periclase
19.00-	*Dinner*

Friday 15th of June

Friction in complex materials
Chair: Kristian Olsen

09.40- 10.20	*Einat Aharonov (Inst of Earth Sciences, Israel)* A physics-based rock-friction constitutive law: steady-state friction
10.20- 10.50	*Anders Malthe-Sørenssen (EF, UiO)* Molecular scale studies of contact mechanics, friction and healing
10.50- 11.10	*Coffee break*

Crystal plasticity
Chair: Claire Aupart

11.10- 11.50	*Mikko Alava (Univ of Aalto, Finland)* Crackling noise and jamming transition in crystal plasticity (TBA)
11.50- 12.20	*Audun Skaugen (Njord, UiO)* Elasticity and plasticity in the phase field crystal model
12.20- 14.00	*Lunch*

Tipping-point phenomena
Chair: Arianne Ragan

14.00- 14.30	*Francois Renard (Njord, UiO)* The road to faulting in rocks: from damage to failure
14.30- 15.00	*Kjetil Thøgersen (EF)* Glacier surges as frictional tipping points
15.00- 15.30	*Adrien Gilbert (UiO)* Stable and unstable glacier flows: role of friction law and feedback mechanisms at the basal interface
18.00-	*Summer party*