

## GEOMOD - Short course on Constitutive Laws: from Observation to Implementation in Models

(4-5 September 2014)

### THURSDAY SEP 4

#### MORNING SESSION: Onno Oncken & Matthias Rosenau & Fabio Corbi

09:00 – 10:00 Observing deformation kinematics and localization: Observations from the field, geophysical imaging and geodetic monitoring (Oncken)

10:00 – 10:15 Coffee

10:15 – 11:00 Rheology of rock analogues 1: Elastoplasticity and its application in seismotectonic simulation (Rosenau)

11:00 – 11:15 Coffee

11:15 – 12:00 Rheology of rock analogues 2: Viscoelasticity and its application in seismotectonic simulation (Corbi)

12:00 – 13:00 Visit to the GFZ analog lab

13:00 – 14:00 *Lunch*

#### AFTERNOON SESSION: Georg Dresen & Erik Rybacki

14:00 – 15:15 Rheology of the lower crust : Reconciling laboratory data and field observations

15:15 – 15:30 Coffee

15:15 – 16:45 Visit to the GFZ rock mechanics lab

16:45 – 17:00 Coffee

17:00 – 18:00 Rock fracture processes and stick slip sliding –What do we learn from analyzing nano-femto seismicity?

### FRIDAY SEP 5

#### MORNING SESSION: Stephan Sobolev & Sascha Brune

09:00 – 10:00 Rheology and geodynamic modeling: key controls in plate tectonics and beyond (Sobolev)

10:00 – 10:15 Coffee

10:15 – 11:30 Rock rheology in numerical models: PC exercises and application to rift dynamics (Brune)

11:30 – 11:45 Coffee

11:45 – 12:30 Rheology and cross-scale modeling: towards understanding of great earthquakes (Sobolev)

12:30 – 13:00 Discussion (Sobolev and Brune)

13:00 – 14:00 *Lunch*