

Inverse Problem and Geomechanics Workshop Program

October 1-3 2025

38 rue Saint-Honoré, Fontainebleau

(Room I 108 – Library)

October 1
8:30 am Registration
8:50 am Welcome
9 am-10 am P. Selvadurai (Oral, Keynote) <i>Towards an improved understanding of seismogenesis in the laboratory using integrated monitoring systems</i>
10 am-10:45 am C. Fan (Oral) <i>From thermal pressurization (TP) to dilatant strengthening (DS) during stick-slip ruptures on saturated saw-cut thermally cracked westerly granite</i>
10:45 am-11:15 am Coffee Break
11:15 am-12:00 am F. Arzu (Oral) <i>Static and Quasi-Static Inversion of Fault Slip During Laboratory Earthquakes</i>
12:00 am-12:30 am <i>Poster pitch session 1</i>
12:30 am-2:00 pm Lunch Break
2:00 pm-2:45 pm A. Silver (Oral) <i>Conditions for slip instability on shallow faults</i>
2:45 pm – 3:30 pm J. Hawthorne (Oral) <i>Simplified earthquake physics for physics-based earthquake forecasting</i>
3:30 pm-4:00 pm Break
4:00 pm-6:00 pm Poster session H. M. Wang: <i>Linking micro-crack evolution to seismic velocity variations of dehydrated antigorite</i> M. Dakik: <i>Electro-Fragmentation of Rocks: From Laboratory Testing to Numerical Modeling</i> M. Colledge: <i>Characterization of Acoustic Emissions in a Granular Medium under Periodic Loading</i> S. Ma: <i>Wedge Inelasticity and Fully Coupled Models of Dynamic Rupture, Ocean Acoustic Waves, and Tsunami in the Japan Trench: The 2011 Tohoku-Oki Earthquake</i> N. Wynants: <i>The temperature of reinjected fluids impacts induced seismicity during geothermal exploitation</i> P. Sarma: <i>Fault gouge failure induced by fluid injection: Hysteresis, delay and shear-strengthening</i> F.X. Passelegue: <i>Direct Estimation of Earthquake Source Properties from a Single CCTV Camera</i> H.F. Lin: <i>Fault roughness affects the migration speed of injection-induced seismicity</i> R. Habibi: <i>Numerical modeling of the role of frictional variability in induced seismicity: from foreshock to mainshock</i>

S. Egorov: <i>Perturbation approaches in brittle fracture: applications to frictionless heterogeneous and frictional homogeneous shear cracks</i> I. Ben-Khaled: <i>Inferring permeability enhancement during fluid-induced fault slip reactivation in the laboratory</i> K.Khezri: <i>Numerical investigation of coupled thermo-hydro-mechanical subsurface processes: importance of thermal effects and pressure diffusivity on pots-injection seismic events</i> A. Jacquey : <i>Can cyclic injection protocols mitigate the risk of fluid-induced seismicity?</i> C. Giorgetti: <i>Slip Localization versus Instability Nucleation Feedback Loop: A Laboratory Perspective form Gouge Deformation Experiments</i>
October 2
9 am-10 am P. Bhattacharya (Oral, Keynote) <i>Inverse theory as a tool for discovering physical processes in fault friction</i>
10 am-10:45 am H. Chauris (Oral) <i>Introduction to inverse problems or how to infer parameters from observations</i>
10:45 am-11:15 am Coffee Break
11:15 am-12:00 am M. Almquist (Oral) <i>Gradient-based dynamic earthquake source inversions using adjoints</i>
12:00 am-12:30 am <i>Poster pitch session 2</i>
12:30 am-2:00 pm Lunch Break
2:00 pm-2:45 pm F. Ciardo (Oral, online) <i>A divide-and-conquer strategy for fast, full elastodynamic simulations of earthquake and aseismic slip on complex fault networks</i>
2:45 pm – 3:30 pm Y. Zhou (Oral) <i>Exploring the physical controls on tidal modulation of slow earthquakes using numerical analysis</i>
3:30 pm-4:00 pm Break
4:00 pm-6:00 pm Poster session <i>Same as October 1</i>
8:00 pm Social dinner
October 3
9 am-10 am I. Stefanou (Oral, Keynote, online) <i>Advances on earthquake controllability, prevention of induced seismicity and maximization of production</i>
10 am-10:45 am F. Mosconi (Oral) <i>Investigating dynamic features of self-arresting earthquake ruptures: new clues from fluid-induced seismicity</i>
10:45 am-11:15 am Coffee Break
11:15 am-12:00 am G. Gerardi (Oral) <i>Geomechanical modelling of injection-induced seismicity: the case study of the Muara Laboh geothermal plant</i>
12:00 am-1:00 pm Lunch break
1:00 pm-5:00 pm Field trip

