

**Kick-off Workshop for the NFR-Aurora project**

**'Gradient Flow Modelling of Multi-phase Flow in Deformable Porous Media'**

**University of Bergen, May 2, 2022**

**Part 1 (Room: Sigma), 10:00 - 11:45**

10-10:15 Welcome and Coffee

10:15 - 11:00 Clément Cancès (Lille) - Incompressible two-phase porous media flows as a gradient flow

11:00 - 11:30 Veljko Lipovac (Bergen) - Molar Formulations for Compositional Flow in Porous Media with Phase Change - General Model and Numerical Approach using AD

11:30 - 12:00 Maxime Jonval (Lille) - Robust and fast solvers for the computation of chemical equilibria

**Part 2 (Room: Delta), 13:00 - 16:00**

13:00 - 13:45 Konstantin Brenner (Nice) - Two-Phase Flow in Fractured Rocks: Modeling and Numerical Difficulties

13:45 - 14:15 Omar Duran (Bergen) - A reduced base modeling for reservoir geomechanics

14:15 - 14:30 Break

14:30 - 15:00 Erlend Storvik (Bergen) - Development of a robust solution strategy for the Cahn-Larché equations by exploiting its inherent minimization structure

15:00 - 15:30 Jakub Both (Bergen) - Towards a gradient flow formulation of unsaturated flow in deformable porous media