A Math Guide to Porous Media

**Lecturers:** Florin Radu (University of Bergen), Christian Rohde (University of Stuttgart) and Bernd Flemisch (University of Stuttgart)

Tue morning, 26.11.2013: Christian Rohde
Modeling and Analysis: Derivation of Two-Phase Flow Equations, Fractional Flow Formulation, Investigation of Hyperbolic PDEs

Tue afternoon: Bernd Flemisch
Analysis and Discretization: Parabolic and Elliptic PDEs, Weak Formulation, Galerkin

Wed morning, 27.11.2013: Christian Rohde
Discretizations for Hyperbolic Conservation Laws: FV and DG

Wed afternoon: Florin Radu
Modeling and Analysis: Richards Equation

Thu morning, 29.11.2013: Bernd Flemisch
Discretizations for Elliptic PDEs: Mixed FE, Mimetic FD, MPFA

Thu afternoon: Florin Radu
Solvers for Nonlinear and Linear Systems

**Approximate daily format:**
2 morning blocks 9:00-10:30 and 11:00-12:30
2 afternoon blocks 14:00-15:30 and 16:00-17:30

**Special lecture:**
Wed, 27.11.2013 at 15:00 h
Florin Radu: Simulation of reactive solute transport in porous media by convergent mass conservative schemes

**Location:** Department of Mathematics, Pfaffenwaldring 57, room 7.122: