Fundamentals of multiphase flow in porous media
From the molecular scale to the REV scale
Averaging-thermodynamic approach for development of basic equations

S.M. Hassanizadeh (Utrecht University, The Netherlands)

June 3, 2019
9:00 – 17:30
(incl. breaks)

From molecular to pore or grain scale; derivation of conservation equations for a single phase

Derivation of constitutive equations for solids (e.g., Hooke's law of elasticity) and fluids (e.g., Newton's law of viscosity) using Rational thermodynamic approach

From molecular to core scale; derivation of conservation eqs. for a porous medium (Averaging)

June 4, 2019
9:00 – 15:30
(incl. breaks)

Derivation of constitutive equations for single-phase flow in a porous medium (Rational thermodynamic approach)

Derivation of equations for multiphase flow in a porous medium (Rational thermodynamics)

Advanced theories of two-phase flow in porous media; combining conservation laws and constitutive equations

Location: University of Stuttgart

Monday morning: MultiMediaLab (room U1.003)
                       Pfaffenwaldring 61 (IWS-LH2)

Monday afternoon,
Tuesday: Seminar room 1.103
                Pfaffenwaldring 31 (ITLR)

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