

International Workshop on  
***Non-Equilibrium Thermodynamics  
in Porous Media***

on the occasion of

**Signe Kjelstrup's 70th Birthday**

August 29-30, 2019  
PoreLab, NTNU  
Trondheim, Norway

*Organizing committee:*

Dick Bedeaux (PoreLab, IKJ, NTNU, NO)  
Olav Galteland (PoreLab, IKJ, NTNU, NO)  
Alex Hansen (PoreLab, Physics, NTNU, NO)  
Marie-Laure Olivier (PoreLab, Physics, NTNU, NO)  
Marco Sauermoser (PoreLab, IKJ, NTNU, NO)

**Thursday, August 29, 2019, morning session**

Discussion leader: **Dick Bedeaux** (PoreLab, NTNU)

9:00	Registration / Coffee
9:40	<b>Opening by Alex Hansen</b> (PoreLab, NTNU)
10:00	<b>Hamid H. Khanamiri</b> (PoreLab, NTNU) Free Energy of Immiscible Two-Fluid Flow in Porous Media by Integral Geometry and Thermodynamics
10:40	<b>Jean-Marc Simon</b> (Université de Bourgogne, Dijon, France) Kirkwood-Buff integrals from molecular simulation
11:20	<b>Olav Galteland</b> (PoreLab, NTNU) Molecular dynamics simulations of fluid flow in nano-porous media
12:00	<b>Lunch</b>

### Thursday, August 29, 2019, afternoon session

Discussion leader: **Daan Frenkel** (Cambridge University, UK)

13:00	<b>Miguel Rubi</b> (PoreLab, University of Barcelona, Spain) Out-of-equilibrium self-assembly for the formation of biological and soft-matter structures
13:40	<b>Fredrik K. Eriksen</b> (PoreLab, UiO) Impact of gravity on pore-scale steady state flow patterns
14:20	<b>Vilde Bråten</b> (Dept. of Materials Science and Engineering, NTNU) Physical Validation of Properties of Small Grand Canonical Systems
15:00	<i>Tea</i>
15:30	<b>Srutarshi Pradhan</b> (PoreLab, NTNU) The energy budget of Fiber Bundle Model
18:00	<i>Dinner</i>

### Friday, August 30, 2019, morning session

Discussion leader: **Thijs Vlugt** (Technical University Delft, Netherlands)

9:00	<b>Marcel Moura</b> (PoreLab, UiO) Complexity, collective behavior and intermittency: from bird flocks to porous media flows
9:40	<b>Kim R. Kristiansen</b> (PoreLab, NTNU) Coupled Transport Phenomena Across Porous Membranes
10:20	<i>Coffee</i>
11:00	<b>Eivind Bering</b> (PoreLab, NTNU) Thermodynamics for single-molecule stretching experiments: a molecular dynamics study
11:40	<b>Astrid F. Gunnarshaug</b> (PoreLab, NTNU) Peltier heats of lithium-ion battery electrodes
12:00	<i>Lunch</i>

### Friday, August 30, 2019, afternoon session

Discussion leader: **Fernando Bresme** (Imperial College, London, UK)

13:00	<b>Michael T. Rauter</b> (PoreLab, NTNU) Power and Clean Water from Thermal Energy (PoreWatt)
13:40	<b>Seyed Ali Ghoreishian Amiri</b> (PoreLab, NTNU) A discontinuous approach for modelling distinct ice lenses in frost heave phenomenon
14:20	<b>Magnus A. Gjennestad</b> (PoreLab, NTNU) Thermodynamic stability of droplets and thick films confined in a pore
15:00	<i>Tea</i>
15:30	<b>Marco Sauer Moser</b> (PoreLab, NTNU) Seeking minimum entropy production for flow-field patterns and their geometries in fuel cells
16:10	<i>End</i>