

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:*

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## Focus and Scope

Over many years Signe Kjelstrup has been pioneering the foundation and the application of non-equilibrium thermodynamics. Regarding the fundamentals she contributed to the verification of local equilibrium, the development of mesoscopic thermodynamics to describe active transport and the extension of non-equilibrium thermodynamics to transport into and through surfaces. The theory has over the years actively been verified by applying it to electrochemical cells, membrane systems as well as for distillation columns by entropy production minimization. Effort has also been made to the use of non-equilibrium molecular dynamics to study these systems on a molecular level. The validity of the Onsager relations in homogeneous phases as well as for surfaces was verified in this manner.

In recent years the application of the methods of non-equilibrium thermodynamics to porous media has been the focus of Signe Kjelstrup's work. Using that multi-phase flow through porous media is Euler homogeneous, it has been possible to obtain expressions for the entropy production on the macro level. The resulting dynamic description has been studied. An important recent achievement is the definition of two pressures in a nanoporous medium. Much important work is still to be done.

The workshop will review the highlights of the work done in the PoreLab Center of Excellence.

## Program

The workshop starts in the morning of Thursday August 29, 2019 and closes in the afternoon of Friday August 30, 2019. The two days program will consist of approximately 14 lectures followed by discussions. Poster contributions are appreciated and encouraged.

## Registration

There are no registration costs for the workshop. Please notify us if you intend to participate so that we know how much coffee and lunches need to be ordered.

Sponsors:



Further information:|

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