

# SEMINAR ANNOUNCEMENT

**FRIDAY, 12.05.2017**  
**14:15 h ZEMOS 0.17**

## **Prof. Anders Nilsson**

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### **“The Mystery of Water Revealed from X-ray Studies”**

The anomalous physical properties of water are responsible for sustaining much of life on earth; for example, water displays a higher heat capacity than common liquids and expands upon freezing. Some of these anomalous physical properties become dramatically enhanced upon supercooling below the freezing point. I will present recent x-ray spectroscopy and scattering measurements, using both synchrotron radiation x-ray laser, at temperatures from deep supercooling to boiling. The results shows that the liquid can be described as correlated fluctuations between two types of local hydrogen bonded structures driven by incommensurate requirements for minimizing enthalpy and maximizing entropy. The connection of these results to low- and high-density water, the waters anomalies and the potential liquid-liquid transition and 2<sup>nd</sup> critical point model will be discussed.

**Guests are very welcome!**