



OTTO VON GUERICKE
UNIVERSITÄT
MAGDEBURG

FAKULTÄT FÜR
NATURWISSENSCHAFTEN

Seminar über Nichtlinearität und Unordnung in komplexen Systemen

Am Montag, dem **01. Juli 2019**, um 16:15 Uhr im **Gebäude 16, Raum 154** findet der Gastvortrag von

Herrn Olivier Vincent, PhD

(Institute of Light and Matter (iLM), Lyon, France)

statt.

“Pulling on water: negative pressure flows and cavitation dynamics”

Abstract:

It is not a well-known fact that most liquids can exist at an absolute negative pressure (tension); in this peculiar state, they are metastable and relax by cavitation, i.e. the nucleation of vapor bubbles. Water can easily reach -200 bars of pressure without cavitation, and has been brought down to below -1000 bars in some experiments. While negative pressures may seem rare and extreme, they are in fact quite common and water under tension can be found all around us in nature.

In this presentation, I will first review negative pressures and ways to obtain them. Then I will discuss several experiments with water tension, including nanoscale flows driven by negative pressure, and cavitation dynamics in multiscale systems, where coupling between stochastic nucleation and transport give rise to unexpected spatio-temporal patterns.

Alle Interessierten sind herzlich eingeladen!

Magdeburg, den 25. Juni 2019

gez. Prof. Dr. Claus-Dieter Ohl