

## Mechanik-Seminar

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Referent: **Prof. Dr. Yuri Lapusta**  
IFMA - French Institute of Advanced Mechanics, France  
Datum: Freitag, 13. Dezember 2013  
Uhrzeit: 09:00 Uhr  
Ort: KM-Seminarraum, Geb. 10.23, 3. OG, R 308.1  
Titel: **Study of mechanical behavior of smart components based on hydrogels**

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### Abstract

Many smart engineering applications involve stimuli-responsive hydrogels. These materials are networks of polymers that can imbibe a solution and swell under the action of different stimuli such as pH, light, temperature, magnetic field etc. For example, due to acidic groups tethered to the polymer chains, some hydrogels are sensitive to a change of pH value in the external solution. Such materials are used as functional parts of many smart systems, including microfluidics, optics and others. Note that these gels often operate under the constraint of harder materials or substrates. In this talk, a recently developed modeling of the mechanical behavior of pH-sensitive gels as well as numerical studies of some interesting applications will be presented.

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Alle Interessenten sind herzlich eingeladen.

Prof. Dr.-Ing. Thomas Böhlke