



## Einladung zum Oberseminar Mathematik in den Naturwissenschaften

Julius-Maximilians-Universität Würzburg  
Lehrstuhl für Mathematik in den Naturwissenschaften

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### **Energetic Variational Approaches in Active Materials: Boundary and Temperature Effects**

Active materials consists of those materials that consume or convert chemical energy to generate mechanical responses. They are the principle characteristics of living organisms. In this talk, we will present a derivation and generalization of the mass action kinetics of chemical reactions using an energetic variational approach. The method enables us to capture the coupling and competition of various mechanisms, including mechanical effects such as diffusion, viscoelasticity, as well as the thermal effects. We will also discuss several related applications under this approach, in particular, those involving dynamic boundary conditions.

This is a joint work with Bob Eisenberg, Pei Liu, Yiwei Wang and Tengfei Zhang.

Ort: Zoom video conference

Zeit: Mittwoch, 21.04.2021 um 14:15 Uhr

**You are cordially invited to this lecture. Request the Zoom link from  
[anja.schloerkemper@mathematik.uni-wuerzburg.de](mailto:anja.schloerkemper@mathematik.uni-wuerzburg.de)**

gez. Anja Schlömerkemper