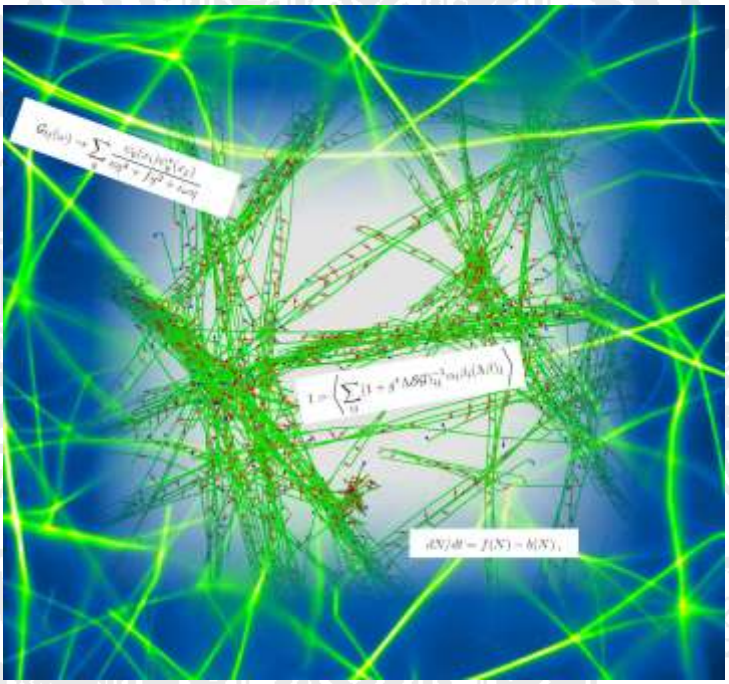
Fakultät für Mathematik und Physik
Albert-Ludwigs-Universität Freiburg
Physikalisches Institut

SONDERKOLLOQUIUM

AM 27. MÄRZ 2017 UM 09:00 UHR
IM SEMINARRAUM, GUSTAV-MIE-HAUS



Out-of-equilibrium response of complex fluids, Soft and biological matter to mechanical perturbation

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In the talk I will give a few examples from our research concerning the complex dynamical response of soft and biological materials to mechanical perturbation. The systems we study are, in general, far from thermal equilibrium.

Phenomena will range from the emergence of flow instabilities (shear-banding, rheo-chaos) in complex fluids, over the visco-elasto-plastic behavior of biological cells and their sub-cellular components, to the fluid-to-solid jamming transition in a-thermal granular particles.

The goal is to define suitable model systems where the relevant physical mechanisms can be identified and understood. To this end we use different simulation tools going hand in hand with analytical modeling and, whenever possible, experimental verification.