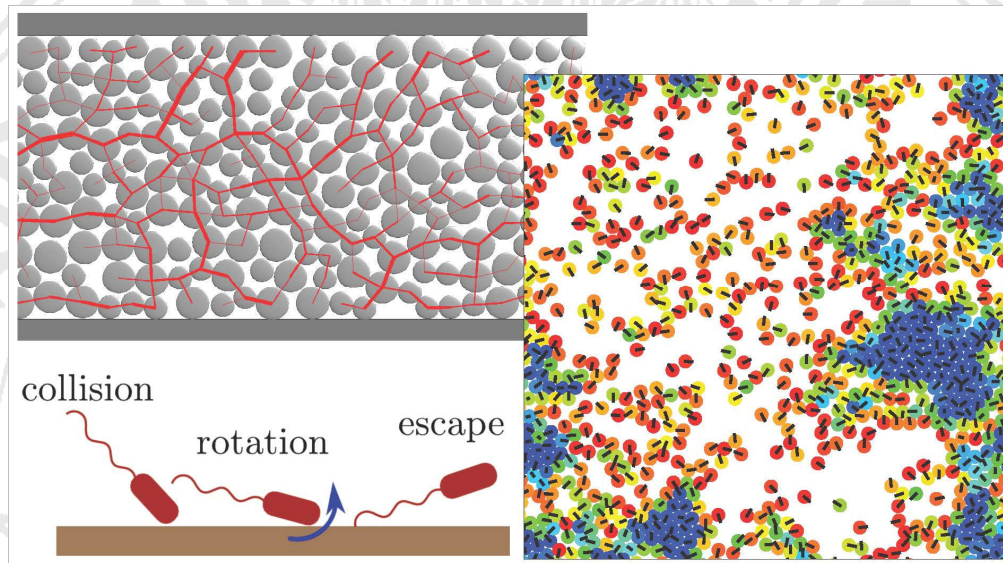




# SONDERKOLLOQUIUM

AM 15. SEPTEMBER 2015 UM 9:30 UHR

IM HÖRSAAL II IM PHYSIKHOCHHAUS



## SOFT MATTER AND ACTIVE MOTION IN NONEQUILIBRIUM

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Soft materials and biological systems are ideal for investigating fundamental properties of the nonequilibrium but also to work on fascinating topics more related to applications. The talk reviews some of our work in the highly topical fields of microfluidics, (bio)fluid dynamics, and active matter. We study soft matter under flow such as dense colloidal suspensions and also inertial microfluidics. Furthermore, the active motion of artificial and biological microswimmers like the African trypanosome, the causative agent of the sleeping sickness, challenges a basic understanding of the complex swimming mechanisms and their computational modeling. The nonequilibrium of active motion reveals itself in generic features but also in novel emergent collective behavior, which we study with an emphasis on hydrodynamic and phoretic interactions.