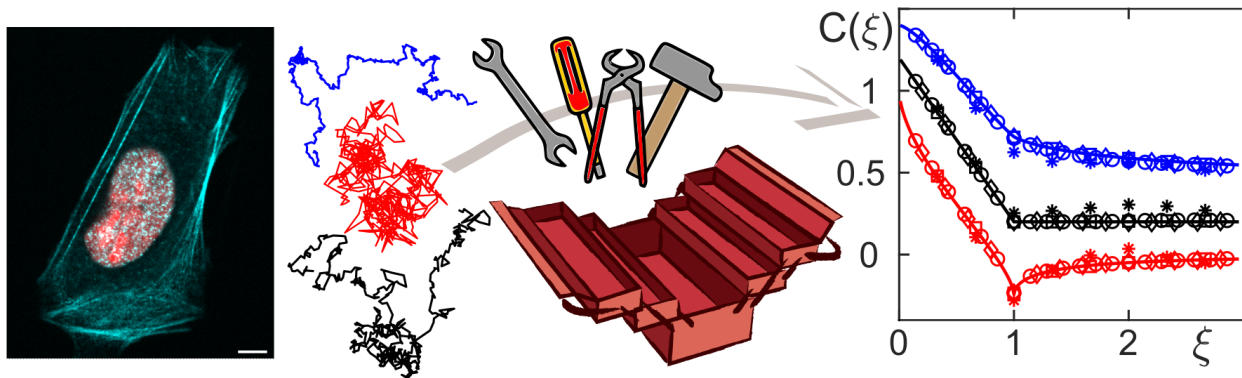


PHYSIKALISCHES KOLLOQUIUM

AM 24. NOVEMBER 2025 UM 16 UHR C.T.
IM GROßEN HÖRSAAL



ANOMALOUS TRANSPORT AND SELF-ORGANIZATION IN LIVING FLUIDS

MATTHIAS WEISS
UNIVERSITÄT BAYREUTH

Biological fluids, such as the cytoplasm and the nucleoplasm of mammalian cells, are crowded with a plethora of interacting macromolecules. Moreover, many processes in complex biofluids are actively driven by ATP hydrolysis, which equips crowded living fluids with genuine non-equilibrium properties. Using different model systems, we have explored causes and consequences of (active) fluctuation-driven transport and the self-organization of compartments in living fluids. Altogether, our results suggest that (anomalous) fluctuation-driven transport and self-organized space compartmentalization in living fluids are well captured by few but robust physico-chemical principles.