

**PHYSIKALISCHES KOLLOQUIUM
EINLADUNG**

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speaks

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about

Superfast anomalous diffusion at interfaces

Micrometer-sized particles trapped at fluid interfaces may serve as model systems for different physical phenomena.

The coupling of restricted particle motion in 2D and 3D hydrodynamic flow in the fluid phases leads to genuinely anomalous (collective) diffusion with infinite mean-square displacement.

Such fast diffusion should be a common phenomenon in the dynamics of systems with Marangoni flow. Also, the speedup of diffusion is well visible when the particles interact via interface deformations (capillary interactions).

These effective capillary interactions are of two-dimensional, gravitational type ("cosmology in a petri-dish") but with a tunable cutoff and structure formation involving many particles crucially depends on this cutoff.

All interested persons are cordially invited.

Gez. Prof. Dr. Alexander Hartmann