In the first part of my talk, building on spontaneously flowing liquids assembled form colloidal rollers, I will show that (french) active colloids collectively protest and resist when one tries to waive their privilege to freely choose their direction of motion: I will demonstrate that the flows emerging from flocking transitions are intrinsically bistable and can proceed against external pressure gradients. I will theoretically explain this collective stubbornness showing that orientational elasticity and confinement conspire to protect the direction of spontaneous active flows. In the sedan part of my talk, I will show how to construct a hydrodynamic description of another class of active material assembled from constituent 6 order of magnitude larger that active colloids: pedestrian crowds. I will show how to infer crowd hydrodynamics from their spontaneous fluctuations response to external perturbations.

Wednesday, April 17th, 2018 at 2:15 pm

MPIDS, Prandtl lecture hall,
Am Faßberg 17, Göttingen