



Ask us about these new projects!

- Non-reciprocal field theories for active matter
Explore the effect of non-reciprocal interfacial forces, analyse phase separation dynamics & travelling patterns (continuum/lattice simulation, spinodal theory)
- Formation of competing phases
What happens in complex mixtures if multiple new phases compete for the same resources? (Lifshitz-Slyozov-Wagner theory, continuum simulation)
- Pushing amorphous materials too far
If you deform a non-crystalline material, when and how does it start to flow? Explore the effects of disorder & viscoelasticity (stochastic simulation of elastoplastic model, mean field theory)
- Crystallization and jamming by active forces
Shear can jam or crystallize a material – can active forces from e.g. self-propulsion do the same? (quasistatic and/or stochastic simulation)
- Linking tracer motion to mechanical response
What does the response of particles guided by optical tweezers tell us about elasticity in heterogeneous materials like the cell? (renewal theory, Master equation for heterogeneous elasticity)