

experiments on nonequilibrium systems

Other keywords: nonlinear systems, soft matter

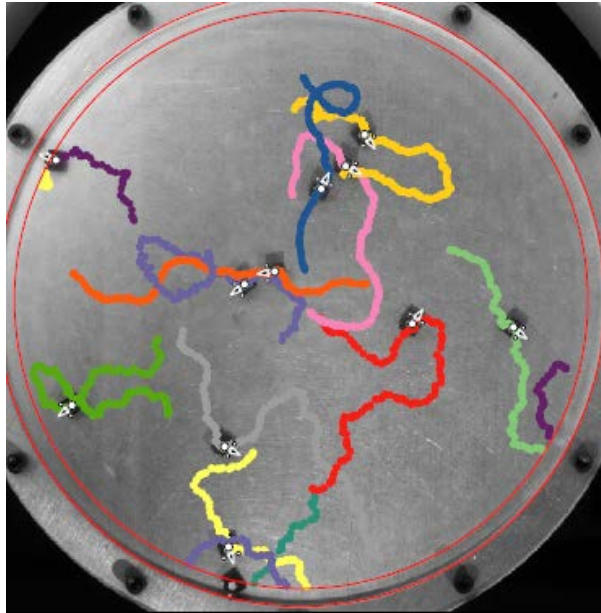
Mostly non-thermal systems

Single person, table-top experiments

Examples follow, with current grads, undergrads and postdoc listed

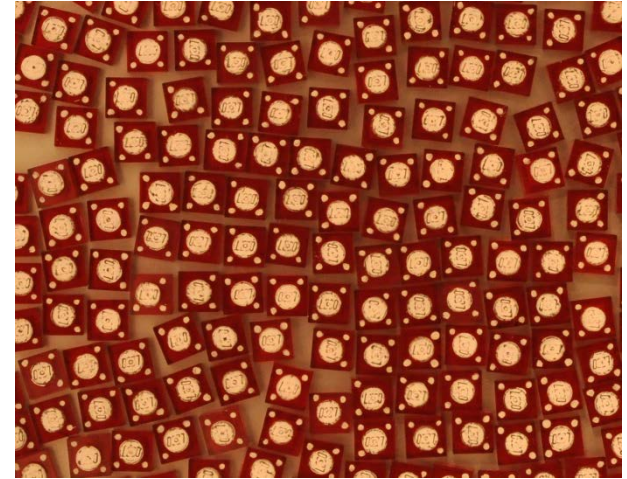
Narayanan Menon, menon@physics.umass.edu

granular materials: active particles

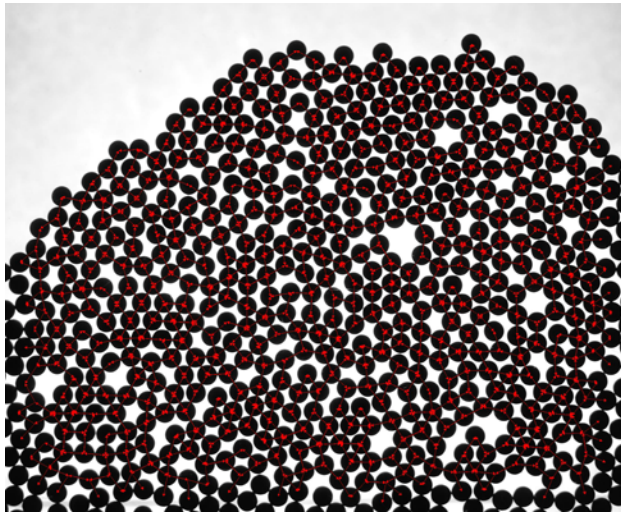


Vibrated particles show flocking, swarming and other “active” phenomena

Lee Walsh, Zhejun Shen



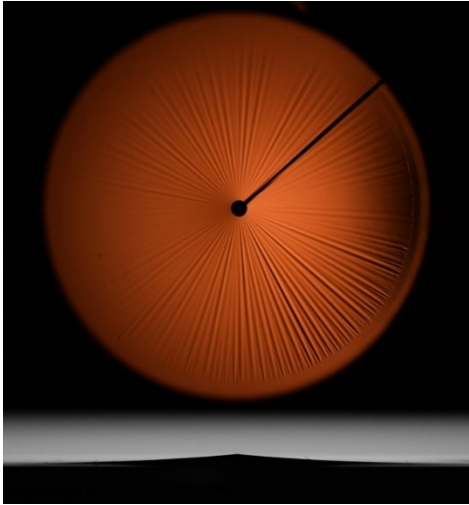
granular materials: packings



What are the limits on sphere packings? Packings of other shapes?

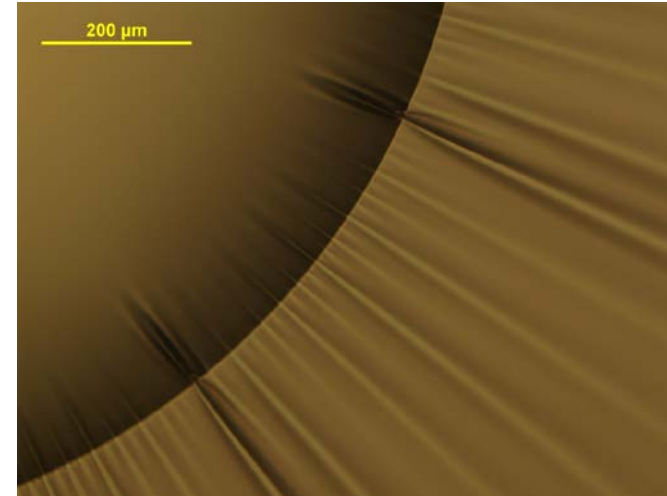
Greg Farrell

Flexible sheets: pattern formation



What are the basic shape excitations taken on by thin sheets? When do wrinkles, folds and crumples form?

Jouyoung Chang

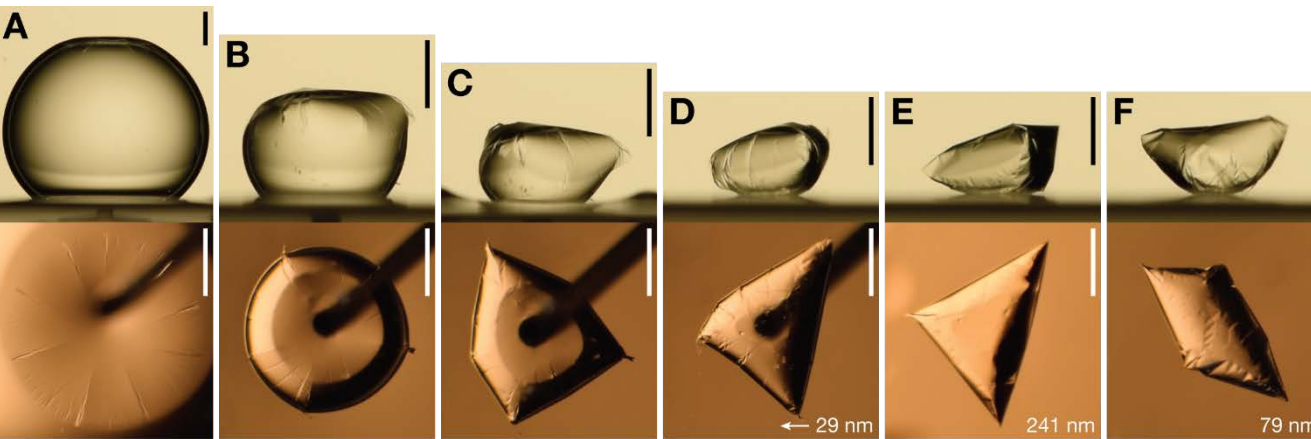


Flexible sheets: crumpling

Why is a crumpled object so rigid?
Are there underlying architectures?

Dominique Cambou PhD 2015

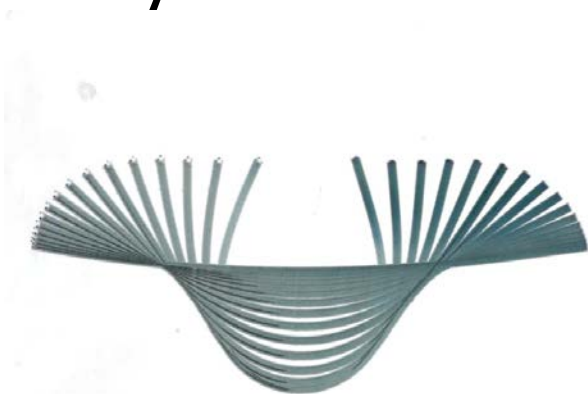
Elastic encapsulation - wrapping



Spontaneous wrapping with sheets – a new kind of surfactant

*Deepak Kumar,
Liam O'Brien*

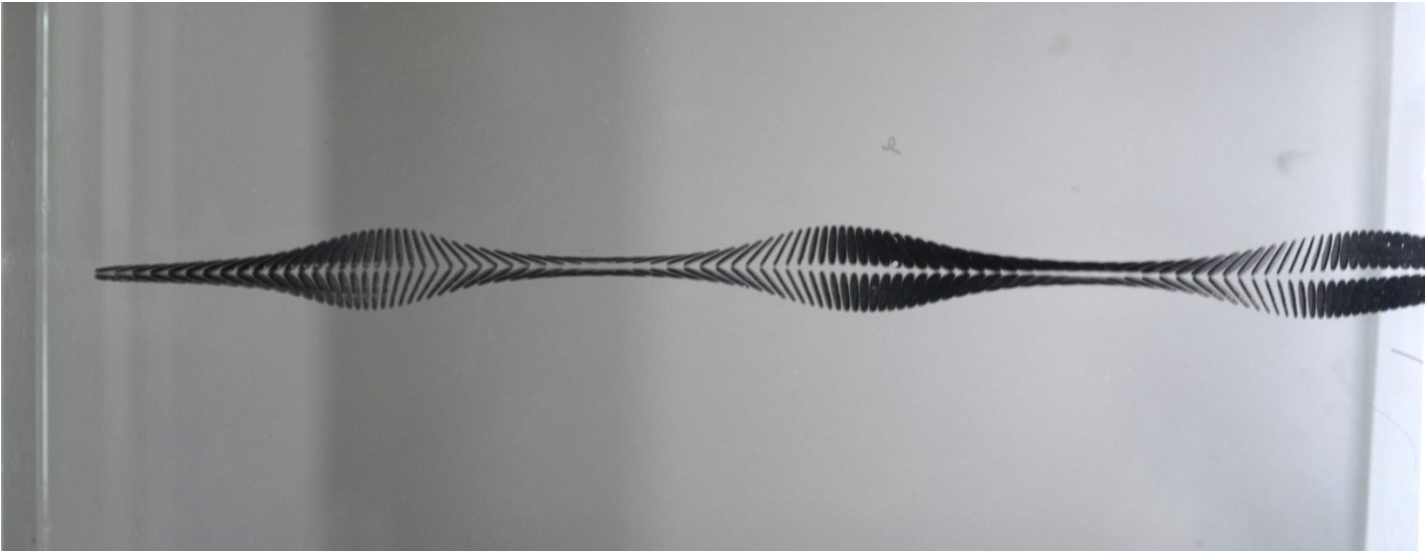
Dynamics of flexible objects



How do flexible objects open up from states of very large deformation?

Gangaprasath

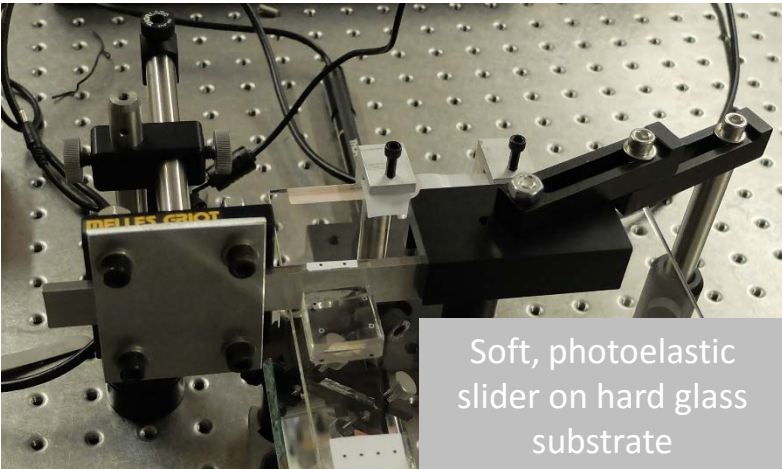
Sedimentation of shaped particles



How do particles with nontrivial shape sediment in Stokes flow, with long-range interactions?

Rahul Chajwa

Friction in deformable systems



Soft, photoelastic
slider on hard glass
substrate

Are there new modes of contact and deformation when deformable objects slip past each other?

Guangfeng Yu