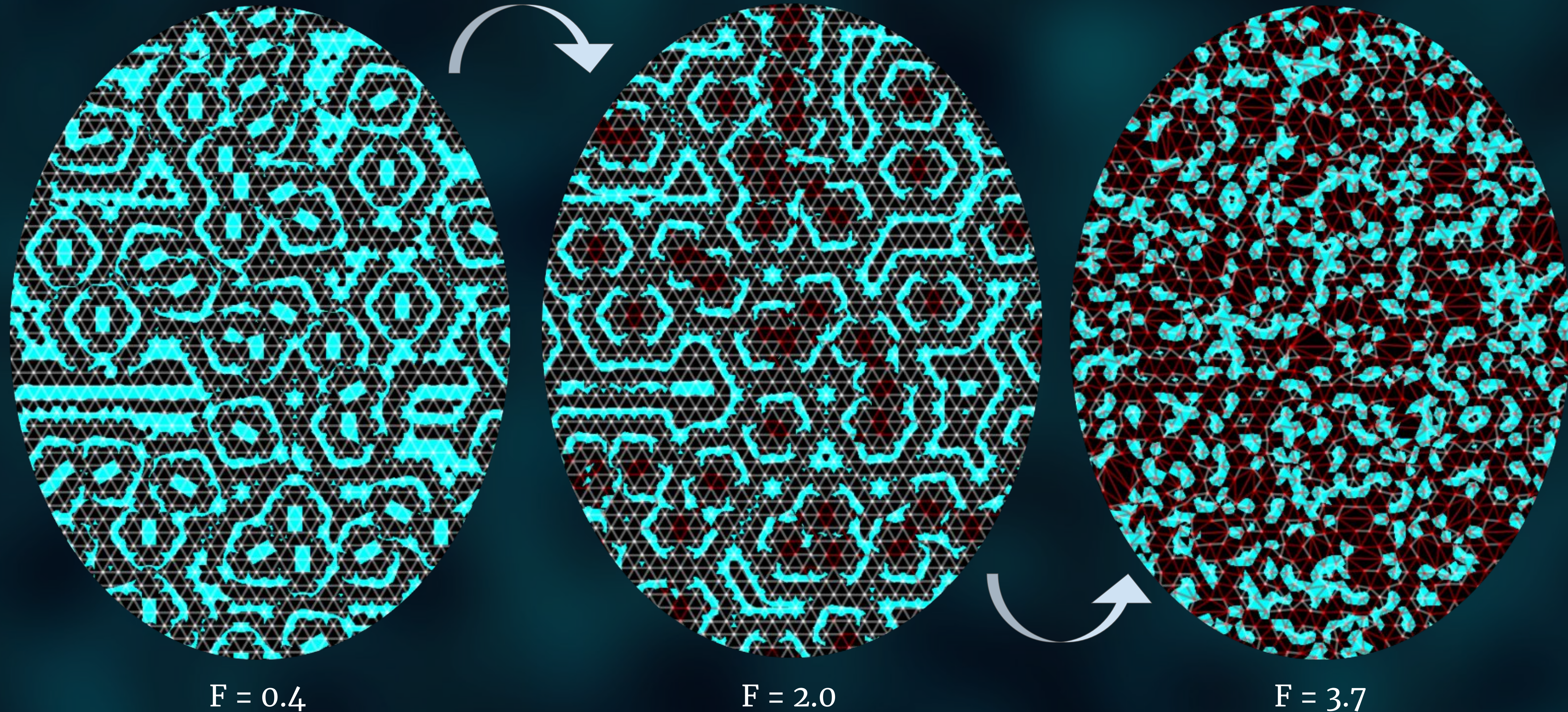


Plastic failure in active solids

Kanaya Malakar and Bulbul Chakraborty (Brandeis University)

Theoretical model of active solids consisting of a triangular network of anharmonic springs and local force dipoles shows interesting elastic properties. This model allows bonds to fail beyond a threshold strain.

Shown here are three snapshots from a simulation taken at different values of local force dipole (legend below figure). With increase in force, as more bonds fail, the boundaries between pressure domains roughen.



Spring network (white lines=existing bonds, orange lines=failed bonds). Pressure (cyan=contractile, black=extensile). Force is normalized by spinodal force.