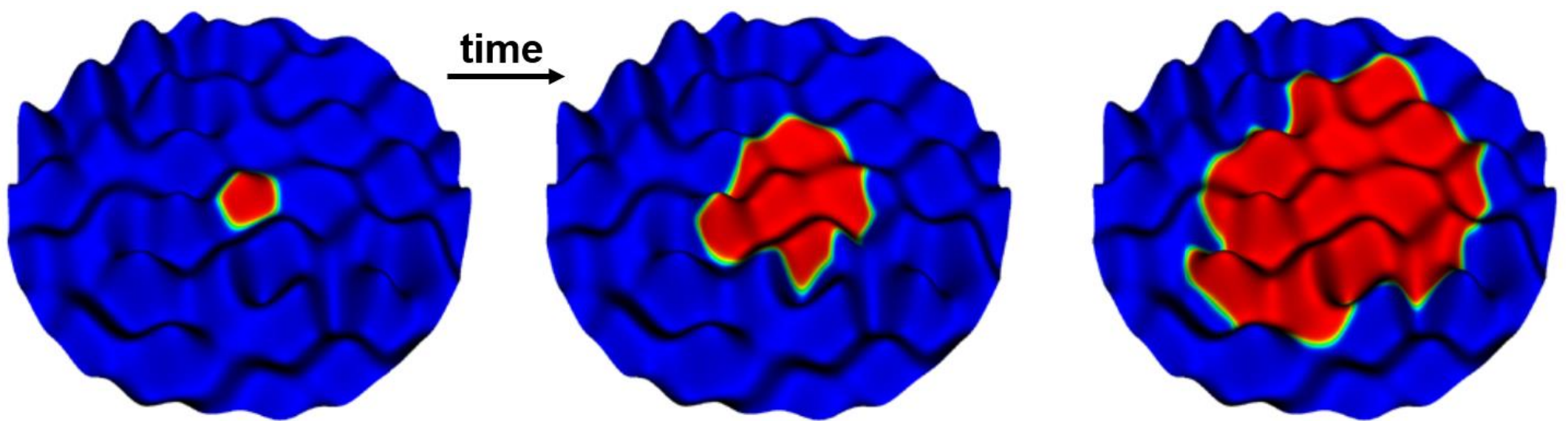


## Phase transitions in curved space

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Ordered 2D phases lying on curved backgrounds are not only commonly found in nature in systems like viral capsids, pollen grains, radiolaria and others, but also they can be obtained in the laboratory in the form of soft curved crystal or liquid crystal phases by using colloidal particles, block copolymers, liquid crystals and other self-assembled systems.

In equilibrium, these phases display regular structures strongly coupled to the underlying geometry. Although experiments and theoretical calculations have contributed to unveil equilibrium configurations and energetics of topological defects in curved space, dynamical processes like crystallization and melting still remain marginally explored.

In this talk, I will present results for the relaxation mechanism of first order phase transitions (nucleation and growth) and second order phase transitions (Kosterlitz-Thouless type) in 2D curved systems.

