Structure formation in 2D: from surfaces to membranes

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Structure formation in 2D can be important for applications and its analysis is attractive due to the ability to visualize the structural and kinetic effects. In this talk two different types of systems are discussed.
(1) Multi-component membranes can form so called liquid ordered and liquid disordered regimes (sometimes called raft formation) with different structural and dynamical equilibrium properties. We present results of computer simulations, using atomistic and coarse grained force fields. By modifying the properties of the force fields one can explore the requirements for this structure formation.
(2) In contrast, when studying the structure formation of molecules after vacuum deposition on a substrate, the final structure may result from non-equilibrium kinetic effects. The results are compared with recent experiments, displaying a similar behavior.