

Abstract Submitted
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Elastocapillary-mediated interfacial assembly ARTHUR EVANS,
University of Wisconsin–Madison — Particles confined to an interface are present in a large number of industrial applications and ubiquitous in cellular biophysics. Interactions mediated by the interface, such as capillary effects in the presence of surface tension, give rise to rafts and aggregates whose structure is ultimately determined by geometric characteristics of these adsorbed particles. A common strategy for assembling interfacial structures relies on exploiting these interactions by tuning particle anisotropy, either by constructing rigid particles with heterogeneous wetting properties or fabricating particles that have a naturally anisotropic shape. Less explored, however, is the scenario where the interface causes the particles to deform. In this talk I will discuss the implications for interfacial assembly using elastocapillary-mediated interactions. The competition between surface energy and elasticity can wrinkle and buckle adsorbed soft particles, leading to complicated (but programmable) aggregates.

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