Abstract: I will discuss a variational model for heterogeneous thin films (membranes) including so-called Cosserat vectors (directors). As it turns out, although the corresponding finite-scale model is a perfectly local integral functional, nonlocal effects can be shown to appear in the homogenized thin film limit in some cases. On the other hand, this phenomenon can be ruled out for sufficiently fine heterogeneities.

This is joint work with Carolin Kreisbeck (Utrecht).