

# Abstract

## How Not to Throw Away the Proverbial Baby

The use of coarse grained models is widespread in physics (e.g. the random walk description of a polymer chain or de Gennes's reptation model), the goal being to capture the essential physics leaving out irrelevant details. However very seldom can one deduce a mesoscopic model from a microscopic one. I will show how a careful derivation of an interfacial model from a bulk model uncovers very subtle effects which nevertheless explain a 15 year old problem in the theory of wetting transitions at three dimensions. In short, I will show why the standard models of wetting were throwing away the baby with the bath water (occasionally).