Tom Ranner

Finite element analysis of a Cahn-Hilliard equation on an evolving surface

I will present recent work in which we derive a Cahn-Hilliard type equation on a given evolving surface. Questions of existence and uniqueness are addressed followed by a finite element convergence result assuming regularity of solutions. I will finish with some numerical examples showing how the effects of the evolving surface change the dynamics of a planar Cahn-Hilliard equation.