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## On Cahn-Hilliard models with dynamic boundary conditions and their underlying elliptic problems with bulk-surface coupling

The Cahn-Hilliard equation is the most common model to describe phase separation processes in a mixture of two materials. For a better description of short-ranged interactions of the materials with the wall of the container, various dynamic boundary conditions have been proposed and analyzed in recent times. Especially models whose dynamic boundary condition also exhibits a Cahn-Hilliard type structure have become very popular, and we will have a look at some of them. Although the models we consider differ only in their bulk-surface coupling conditions for the chemical potentials, they exhibit very different physical properties, especially regarding mass conservation and dissipation of the free energy. In particular, also processes such as adsorption or desorption of material by the boundary can be described. Before we discuss some analytical methods that are used to prove well-posedness, we need to develop an understanding of the underlying elliptic problems with bulk-surface coupling.

Ort: Zoom video conference          Zeit: Mittwoch, 09.06.2021 um 14:15 Uhr

**You are cordially invited to this lecture. Request the Zoom link from
anja.schloemerkemper@mathematik.uni-wuerzburg.de**

gez. Anja Schlömerkemper