

Matthew Turner (Warwick University):

Particles and pumps; mobility and morphology

Abstract:

Membrane proteins are ubiquitous in biology where they play many mechanical and regulatory roles, including induce curvatures in membranes. I will review our recent work on understanding the mobility of these proteins and what information this gives on membrane protein structural rigidity. I will then present our work on membranes that contain proteins that pump ions and regulate the permeation of water. We argue that these may play a crucial role in controlling the morphology of certain organelles. I will explain why certain membrane instabilities in Biology are rather far from the well known, classical classes.