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## Mathematical Aspects of Stable Vesicles

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### Abstract

Vesicles play a vital role in many metabolic processes or also in drug delivery (liposomes). One of the various properties they have to enjoy for proper functioning is the stability in shape, more precisely in volume and surface area. In this talk, we will describe a rigorous mathematical description of such vesicles, explain how surface area and enclosed volume enter the game, present the mathematical findings and discuss the resulting implications for biology. This is joint work with Andrea Mondino from Oxford University and Tristan Rivière from ETH Zurich.