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**David Salac\***, 318 Jarvis, Buffalo, NY 14260, and **Afsoun Rahnama Falavarjani**. *Recent Advances in the Modeling of Vesicles*.

Liposome vesicles are a model system for more complicated biological cells and have been proposed for various biotechnologies. These are complicated systems to model, due to the complex interplay between the forces associated with the inextensible membrane, the surrounding fluid, and any external fields. In this talk, recent work on the modeling of vesicles in a variety of scenarios is presented. In particular, the numerical methods developed for the modeling of three-dimensional, multicomponent vesicles will be discussed. In particular, the techniques used to model the evolution of a codimension-1 PDE on a moving interface will be shown. Sample dynamics and possible future avenues will also be presented. (Received January 27, 2019)