Phase-Field Modeling of Lipid Vesicles With Pores SAMAN SEIFI, DAVID SALAC, University at Buffalo SUNY — The formation and annihilation of pores in a lipid vesicle membrane is critical to a number of biotechnologies, such as drug delivery. Previous models of vesicle behavior have ignored the influence of topological changes in the vesicle membrane. Here the entire Helfrich model of a vesicle membrane is considered. Topological changes in the vesicle membrane, such as the formation of a pore, are captured through the use of an embedded phase-field model. The numerical method and sample results will be presented.

David Salac
University at Buffalo SUNY

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