Pore dynamics in a liquid membrane[1] ALEXANDER NEPOM-
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matics, Northwestern University — It is known that vesicles formed from lipid bilayer
membranes are used for transportation of a toxic drug to a target, where the drug
is released by pore creation. The pores in a membrane show a rather nontrivial
dynamics, which thus far has been studied by means of simplified models. In the
present talk, we describe the pore dynamics in a stretched membrane, which is con-
sidered as a two-dimensional viscous or viscoelastic liquid medium surrounded by a
three-dimensional ambient viscous liquid. In the case of a viscoelastic membrane,
a Lagrangian approach, which allows to account for large displacements, is applied.
A closed equation for the pore radius is derived and investigated.

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