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Making Sense of the Polymorphous Shapes of Giant Liposomes YAN YU, Dept of Materials Science and Engineering, Univ of Illinois-Urbana Champaign, STEPHEN ANTHONY, Dept of Chemistry, Univ of Illinois-Urbana Champaign, JULIE VROMAN, SUNG CHUL BAE, Dept of Materials Science and Engineering, Univ of Illinois-Urbana Champaign, STEVE GRANICK, Dept of Materials Science and Engineering, Physics, Chemistry and Chemical Engineering, Univ of Illinois-Urbana Champaign — Lipid vesicles, especially giant unilamellar vesicles (GUVs) are often used as simplified models for biological membranes, but their polymorphous panoply of shapes and shape changes is notorious to those who work with them. This affords opportunities to study why phospholipid membranes so often fail to minimize their surface area to adopt spherical shapes. Instabilities can be triggered by the tension caused by optical tweezers, osmotic perturbations, or polymer anchorage. This talk will describe the evolution of GUVs from spherical to pearl-like and to tube-like shapes, and back again reversibly.

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