

# **The hitchhiker's guide to membranes: from self-assembly of lipid bilayers to the formation of large biomolecular complexes**

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In two introductory lectures, I will attempt to overview some basic concepts and topics of (bio) membrane physics. These include:

1. Self-assembly of amphiphilic molecules.
2. Membrane elasticity.
3. Molecular simulations of lipids and membranes.
4. Physics of more complex structures - supported membranes and larger biomolecular assemblies.

The lectures are for students with background in physical sciences, but require no previous knowledge of membrane physics. Some of the topics will be discussed in more details by other speakers in the school.