Seminar/Talk

Physical insight on cell membrane function from complex mimetics

Georg Pabst
University Graz

Host: Gasper Tkacik

Biological membranes are well-known for their dynamic structural complexity and have attracted significant research efforts to unravel mechanisms underpinning their function. In this framework lipid-only models serve as valuable platforms for studying the functional role of membrane lipids under chemically well-defined conditions. Of recent we have focused on complex lipid mixtures displaying domains of variable size, or transmembrane asymmetry, applying small-angle X-ray and neutron scattering experiments in combination with diverse complementary techniques to interrogate their nanoscopic structural and elastic properties. I will highlight some of our recent results, including lipid packing in domains of different size and composition, passive lipid flip-flop, and interleaflet coupling in asymmetric lipid bilayers. I will detail how such data can be used to predict protein partitioning and function in a given lipid environment and discuss experimental evidence for a tight correlation of membrane elasticity to synergistic activity of antimicrobial peptides.

Thursday, March 1, 2018 03:00pm - 04:15pm
Seminar Room, Lab Building East

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