



Martin-Luther-Universität Halle-Wittenberg
Naturwissenschaftliche Fakultät II
Chemie und Physik
IWE HALOmEm & SFB TRR 102



POLYMER- UND SOFT-MATTER-SEMINAR

am Dienstag, dem 05.06.2012, 17.15 Uhr

VDP 1.27 Seminarraum Chemie, Von-Danckelmann-Platz 4,
06120 Halle

Es spricht:

Prof. Tobias Baumgart

Department of Chemistry
University of Pennsylvania
Philadelphia, PA, USA

“Lipid and protein interactions modulated by membrane curvature”

Abstract:

Biophysics of lipid and protein interactions

Biological membranes consist of a lipid double layer containing proteins and other macromolecules. Such membranes surround biological cells and the organelles that cells contain. Biomembranes often show lateral structure and complex shapes. Importantly, membrane shape and local composition have been found to couple in important functional aspects involved in cell signaling, membrane component sorting and membrane trafficking. The mechanisms of such phenomena currently are not well understood.

Here we investigate the interrelation of membrane curvature generation, curvature sorting, and membrane binding of various peripheral membrane proteins. We use giant unilamellar vesicles in combination with various fluorescence and mechanical manipulation methods to study aspects of the biophysical mechanisms underlying the function of these proteins. We also introduce a solid supported membrane platform that offers a robust approach to curvature mediated sorting experiments.

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