



# "Informal Bio-Soft-Matter Seminar"

## "Co-solute effects on single molecule adhesion mechanics"

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### Abstract

“An AFM based method is used to investigate the interaction of single polymers with interfaces in aqueous solution. The measured steady state forces allow for a direct extraction of surface binding free energies.<sup>1,2</sup> These adhesion forces and free energies follow a Hofmeister Series<sup>2</sup> and show a surprising regulation between water-structure and dispersion forces<sup>3</sup>. We give a short overview over surface effects like roughness, hydrophobicity, surface potential and surface contamination on the adhesion of single polymers. The main part will be to discuss recent experiments on the impact of co-solutes (e.g. ions, fluorophores, ligands or drugs) and covalently bound adhesion modifiers (e.g. fluorophores, peptides, proteins).”

1) Seitz, M., Friedsam, C., Jöstl, W., Hugel, T., Gaub, H., ChemPhysChem 4 (2003)

2) Geisler, M., Pirzer, T., Ackerschott, C. et al., Langmuir 24 (2008).

3) Horinek, D., Serr, A., Geisler, M. et al., PNAS 105 (2008)

**Donnerstag, den 30.04.2009**

**14:00 Uhr**

**Raum PH 3344**

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