

Adsorbing proteins, sticking bacteria and climbing geckos: Van der Waals-forces revisited

Intermolecular forces embrace all forms of matter and are also present in our every-day life as they e.g. determine the strength of a glue. In my talk I will describe our way to access these forces by studying thin liquid films in the nanometer range. The examples demonstrate that long-ranged van der Waals-forces have to be taken into account, which is especially important for composite substrates. The lessons learned can then be applied to more complex situations like the adsorption of proteins to surfaces like dental implant materials or the adhesion of bacteria or of geckos.