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# Bio-nano hybrid surfaces

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## Abstract

Nanostructuring and, in some cases, adsorption of biomolecules are often the starting points to make functional surfaces for, as examples, i) material integration in the human body or ii) biofilm construction on any type of material in a natural environment ; some biomolecules, in particular peptides, are indeed frequently utilized to control the reactivity or passivation of solid materials. It is thus crucial both to understand the interaction of biomolecules with solid surfaces and, deduce ways of immobilizing them, in a controlled geometry. Mostly based on a surface science approach, sometimes enriched by calculations, this presentation will focus on basic investigations of the adsorption of short peptides on metal, nanostructured, surfaces. We will see how the mode of adsorption and geometry of a peptide may direct the growth of single or multilayers, and how adsorption of peptide enantiomers can imprint chirality and induce enantioselective recognition, or yield anti-adhesive surfaces.

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