

## How surface nano-topography modulate bacterial attachment

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### Abstract

Over the last decade, nanotechnologies and nanoscale materials are rapidly gaining central role in commercial applications, spanning electronic, renewable energy, cosmetics, automotive and medical products, which, in turn, prompted intense experimental and theoretical investigations towards understanding physical, chemical and biological aspects of cell–surface interactions. Yet, our knowledge of these phenomena is mostly limited to macro- and micro- length scales. Taking advantage from recent nanomodification technologies enabling surface fabrication on the atomic scale, we may be able to define a set of boundaries, minimal dimensions at which a surface features can modulate attachment of micro-organisms.