Formation, impacts and removal of biofilms from surfaces of interest

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Biofilms are microbial consortium adhered to biotic and abiotic surfaces with the help of selfproduced extracellular polymeric substances. This micro *niche* is highly significant from ecological, industrial and medicinal perspectives. Biofilms cause corrosion of industrial surfaces and impair heat transfer efficiency of condenser tubes of power plants. When formed on our teeth, it is called as *plaque*. It can damage teeth and act as a rich source of bacteria that can lead to potential infections. Bacteria in biofilms are known to be highly tolerant to antibiotics and therefore extra efforts are required for their removal. Biofilms cost billions of dollars every year in energy losses, equipment damage, product contamination and infections. Not all biofilms are bad. Some are beneficial and can be used to help fix serious problems *e.g.* surface water contamination from oil spills. Biofilms offer huge potential for cleaning-up of hazardous waste sites, filtering municipal and industrial wastewater and forming bio-barriers to protect soil and groundwater from contamination. In this presentation, I will briefly describe the importance of biofilms as well as various methods used to prevent their formation and for their removal from various surfaces.