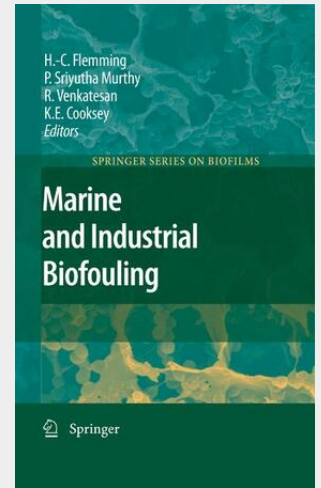


Marine and Industrial Biofouling

Biofouling is a costly problem, and it is encountered in a wide spectrum of technical systems, ranging from the shipping industry, power industry, water purification, automobile industry, paint and pharmaceuticals, to the microelectronics and food industries. Micro- and macroorganisms attach to surfaces and accumulate there, forming biofilms that cause interferences – a fundamentally natural process. Usually, a medical paradigm is applied: kill biofilms and the problem is solved. This leads to excessive biocide use. However, the success of this strategy is very limited; furthermore it leads to equipment damage and environmental pollution. Simply trying to kill the fouling organisms is clearly not seen as a successful strategy while cleaning is put forward as much more important. In this book, strategies to prevent adhesion, to mitigate the extent and effects of biofouling, and to detect and remove fouling layers are presented. Holistic approaches to the fouling process are elaborated, taking into account options such as nutrient limitation, repellent and easy-to-clean surfaces for fouling layer limitation, and replacing biocides with more environmentally friendly methods – in other words: learning how to live with fouling biofilms without suffering the damage they can do.

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