

# **FOULING IN HEAT EXCHANGER AND MEMBRANE PROCESSES: DEVELOPMENT AND PREVENTION STRATEGIES ON INDUSTRIAL SCALE**

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## **ABSTRACT**

*In heat exchanger and membrane processes fouling stands for a significant part of the running costs such as e.g. down time for cleaning, consumption of cleaning chemicals, water and energy and contributes also to a shortened equipment life time. It is therefore one of the major challenges in the process industry.*

*The first part of the paper gives a general introduction into fouling in heat exchanger and membrane processes reviewing the different fouling mechanisms and approaches to reduce fouling. Similarities and differences between heat exchanger and membrane processes will be highlighted.*

*The second part of the paper focus on industrial approaches and case studies to reduce fouling in the two processes. For heat exchangers the focus will be on surface coating/modification of heat exchanger plates, while for membranes the focus will be on membrane materials.*

*The final part of the paper gives an outlook on future developments and how research in heat exchanger and membrane fouling can stimulate each other.*