Special Issue

Self-Assembled Monolayers (SAMs) and Their Applications

Message from the Guest Editor

Self-assembled monolayers (SAMs) of surfactants on a substrate refer to a single layer of the molecules, in which headgroups are anchored to the substrate and tails, usually a methylene chain with a terminating group, form an orderly structure via van der Walls forces. SAMs formed on metals or oxides allow one to generate controllable functionalities tailored by the terminating group. One of the key factors for SAM formation lies in interactions among the headgroups of the molecules, the substrate, and the solvent. Understanding SAM formation mechanisms may lead to a shortened processing time, or even omission of post-formation cleaning steps. This will be especially advantageous for industrial-scale applications. Parallel to research on SAM formation mechanisms, applications of SAMs have increased enormously in a wide variety of areas. This Special Issue aims to provide an overview of understanding SAM formation mechanisms and showcase wide applications of SAMs. Keywords: self-assembled monolayers (SAMs) surfactants surface modification materials science applications of SAMs

Guest Editor

Prof. Dr. Heng-Yong Nie

Adjunct Research Professor, Department of Physics and Astronomy, Western University (University of Western Ontario), London, ON N6A 3K7, Canada

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Applied Sciences
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
applsci@mdpi.com

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo
Dipartimento di Fisica, Politecnico di Milano, Piazza L. da Vinci 32, 20133 Milano, Italy

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