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Nano-Enhanced Strategies for Biofouling and Biocorrosion Prevention

Guest Editors:

Prof. Dr. Jose M. Palomo

Dr. Gabriel Furtos

Dr. Elisabete Ribeiro Silva

Deadline for manuscript submissions:
closed (30 June 2024)

Message from the Guest Editors

Biofouling and its associated consequences, such as Microbiologically Influenced Corrosion (MIC), are phenomena that are increasingly posing challenges for various societal infrastructures. Research in this field has primarily focused on the following subjects:

- Methodologies for the characterization and early detection of biofouling, such as corrosion analysis through electrochemical or sensor technologies;
- Monitoring methods for analyzing bacterial corrosion, particularly in the context of nanobiofilm;
- Innovative nanomaterials with antifouling properties, including antimicrobial, anti-biofilm, and anti-macrofouling characteristics;
- Emerging green nanotechnologies and approaches for developing protective antifouling coatings;
- Novel nanomaterials for MIC mitigation, including applied and emergent MIC mitigation nanomaterials;
- Evaluation methodologies for assessing the antifouling and anti-MIC performance of nanomaterials.

This Special Issue aligns with the objectives of the COST action CA20130–European MIC Network (Euro-MIC; https://www.euro-mic.org/), which provides valuable support in addressing these challenges.

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Editor-in-Chief

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Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call "nanomaterials". These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal–organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

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