

NANOSTRUCTURED SURFACES FOR IMPROVED FUNCTIONAL PROPERTIES

As technologies advance, the durability limits of materials are being tested and the development of advanced surfaces meeting new challenges is required. Existing processing approaches are being adopted, and new processes are constantly emerging to generate novel surfaces. The past few decades have witnessed significant research attention on nanostructured materials and their applications in various fields, including surface engineering. Nanostructured materials have demonstrated significantly improved functional properties, including corrosion and wear resistance. New applications are being sought for the nanostructured surfaces. Various technologies for the preparation of nanostructured surfaces exhibiting desired properties have been developed. Characterization, evaluation of properties at multiple scales, and understanding the unique behavior of nanostructured surfaces have also attracted significant research attention.

This symposium aims to capture the advances in the following aspects of nanostructured surfaces:

- Novel processes and techniques for the development of nanostructured coatings
- Nanostructured metallic, organic, and ceramic coatings
- Nanostructured high-entropy alloy coatings
- Multi-layered and nanostructured composite coatings
- Corrosion-resistant, anti-friction, wear and galling resistant, thermal barrier, and hydrophobic nanostructured coatings
- Nanostructured coatings for biomedical applications
- Nanostructured surfaces for clean energy generation
- Multi-scale characterization and understanding the structure-property correlations

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