Special Issue

New Challenges in Thin Films and Nanotechnologies

Message from the Guest Editors

Application trends in nanotechnology, advanced device architectures, and the evolution of functional materials are driving significant progress in modern science. This poses new challenges in the advancement of thin film deposition techniques, as well as the development of precise characterization methodologies. Areas relevant to this Special Issue include, but are not limited to, the deposition and optimization of thin films for high-performance applications, such as electrochemical sensors and Surface-Enhanced Raman Scattering (SERS). We welcome contributions involving the computational simulation of the sputtering process, real-time monitoring using Optical Emission Spectroscopy (OES), and advanced structural analysis using Synchrotron radiation and high-resolution techniques. Furthermore, the integration of artificial intelligence and machine learning for material property prediction, as well as the development of novel coatings for strategic sectors like energy, biotechnology, and optoelectronics, are also key topics of interest.

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Deadline for manuscript submissions

30 November 2026

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.9
CiteScore 6.1

mdpi.com/si/276201

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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.

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