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Thin Films and Coatings for Active Corrosion Protection of Metals

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Deadline for manuscript submissions:
closed (31 October 2023)

Message from the Guest Editor

Dear Colleagues,

This Special Issue is dedicated to highlighting the important progress achieved in the development of conversion coatings and oxide films in the corrosion protection of metals. Such protective layers must offer an effective physical barrier; however, defects are inevitable during the lifetime of coated structures, leading to local disruption. Therefore, an active protection based on the self-healing of defects is necessary to attain a long-term effect. We invite scientists to contribute with their new results achieved in the field of investigation of thin films and coatings exhibiting abilities of active corrosion protection (self-healing) of metals.

Topics of interest include but are not limited to:

Conversion coatings prepared by chemical or electrochemical treatment;
Thin films obtained by sol–gel, magnetron sputtering, ALD, PVD, CVD and other techniques;
Comparison of the protective and self-healing abilities of conversion and oxide coatings deposited by different technologies;
Mechanism of corrosion process inhibition and self-healing run.

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Message from the Editorial Board

Now more than ever, research is asked to deliver knowledge and technologies to solve the major challenges faced by our society. The development of new materials and devices for (without the ambition to be exhaustive) energy, health and food technology, together with the need for establishing processes that reduce the impact on critical resources and the environment, is indeed in the spotlight of most contemporary research. Surface science and engineering play a key role in this regard, with an incredible potential in delivering new and deep scientific understanding and technical solutions essential to solve most of the major societal challenges.

Coatings is a well-established, peerreviewed, online journal dedicated to the vibrant field of surface science and engineering. Coatings publishes original research articles that report cutting-edge results and review papers that make the point on the hottest research topics.

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