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Corrosion Effects and Smart Coatings of Corrosion Protection

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Message from the Guest Editor

Materials capable of adapting their properties dynamically to an external stimulus are referred to as stimuli responsive or smart materials. Hence, a smart coating is a coating which detects and responds to changes in its environment in a functional and predictable manner. Many so called smart coatings that do not respond to changes in a dynamic and reversible manner may actually be classified as very high-performance and novel coatings. Smart coatings can be designed and prepared in many ways. There may be thousands of systems that could potentially be used to fabricate smart coatings, and it is crucial to find a system that can efficiently respond to stimuli to realize industrial application. Towards this goal, we set up a Special Issue on smart coatings to encourage researchers and provide them with a platform to publish their novel studies, in addition to enhancing smart coatings for application in corrosion protection, early detection, dangerous alarming and in situ repair. The topic broadly includes (but is not limited to) the following kinds of smart coating:

- Stimuli responsive
- Antimicrobial
- Antifouling
- Conductive
- Self-healing
- Super hydrophobic systems.

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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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