

Special Issue

Research Progress and Future Prospects of Thermal Protection Coatings

Message from the Guest Editor

Thermal protection coatings play a pivotal role in various industries, particularly in the aerospace, automotive, and energy sectors, where managing high temperatures is critical for enhancing performance and durability. This Special Issue aims to consolidate and highlight the latest advancements in the field of thermal protection coatings, exploring both fundamental research and practical applications. Recent developments in materials science have led to the emergence of innovative coating technologies that offer superior thermal resistance, reduced thermal conductivity, and enhanced mechanical properties. Researchers are increasingly focusing on advanced materials such as ceramics, metallic alloys, and composites, which provide improved performance under extreme conditions. Integrating nanotechnology has also opened new avenues for enhancing the efficiency and effectiveness of thermal barrier coatings, leading to significant improvements in thermal insulation and longevity.

Guest Editor

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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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