



Strengthening, Corrosion and Protection of Superalloys and Ultrahigh Temperature Ceramics

Guest Editor:

Dr. Yingyi Zhang

School of Metallurgical
Engineering, Anhui University of
Technology, Maanshan, China

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Message from the Guest Editor

Dear Colleagues,

The corrosion of superalloys and ultrahigh-temperature ceramics remains a major technological and economical challenge as the service life and stability of metal and ceramic components are often affected by environmental corrosion. During high-temperature services, superalloys and ultrahigh-temperature ceramics are exposed to extremely harsh high-temperature environments and must endure mechanical and thermal loads, high-temperature oxidation, erosion, corrosion, etc. Therefore, the characterization, understanding and strengthening and corrosion protection of superalloys and ultrahigh-temperature ceramics are critical. Original research articles and reviews are welcome. Research areas may include (but are not limited to) the following:

- Corrosion protection;
- Corrosion mechanisms;
- Corrosion resistance;
- High-temperature oxidation;
- High-temperature corrosion;
- Mechanical corrosion;
- Friction wear corrosion;
- Chemical corrosion;
- Surface and coating technology;
- Surface modification and covering treatment;
- Mechanisms and methods of corrosion control.





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ul. Wszechnicy Piastowskiej 3, 61-
614 Poznań, Poland

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.

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Coatings Editorial Office
MDPI, Grosspeteranlage 5
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