

Special Issue

Advances in Thermal Barrier Coatings (TBCs): Materials, Fabrication, Corrosion and Applications

Message from the Guest Editors

We would like to invite you to submit your research to this Special Issue, "Advances in Thermal Barrier Coatings (TBCs): Materials, Fabrication, Corrosion and Applications". As one of the key technologies for aero-engines, thermal barrier coatings (TBCs) have been applied to hot-section components of combustors, high-pressure turbine (HPT) blades, and HPT nozzles for decades. TBCs enable the aero-engines to operate at higher temperatures; therefore, efficiency can be improved, emissions can be reduced, and thrust can be increased. On the other hand, the higher operating temperature leads to some unavoidable limitations in TBC use, including accelerated sintering, phase transformation, and corrosion resulting from environmental deposits (CMAS) and molten salt. These cause the premature failure of TBCs. In the interest of improving the performance of TBCs and elongating their lifetime, we face a practical requirement for alternative TBC materials to be developed, with progress required in TBC fabrication science and technologies, TBC design strategies, corrosion protective methods and failure mechanisms.

Guest Editors

Dr. Lei Guo

Dr. Jian He

Dr. Min Xie

Deadline for manuscript submissions

closed (31 July 2023)



Coatings

an Open Access Journal
by MDPI

Impact Factor 2.8
CiteScore 5.4



mdpi.com/si/142611

Coatings
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
coatings@mdpi.com

[mdpi.com/journal/
coatings](https://mdpi.com/journal/coatings)





Coatings

an Open Access Journal
by MDPI

Impact Factor 2.8
CiteScore 5.4



[mdpi.com/journal/
coatings](https://mdpi.com/journal/coatings)



About the Journal

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.

Editors-in-Chief

Prof. Dr. Wei Pan

State Key Laboratory of New Ceramics and Fine Processing, School of Materials Science & Engineering, Tsinghua University, Beijing 100084, China

Dr. Emerson Coy

NanoBioMedical Centre, Adam Mickiewicz University in Poznań, ul. Wszechnicy Piastowskiej 3, 61-614 Poznań, Poland

Author Benefits

Open Access

— free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), Inspec, Ei Compendex, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Physics, Applied) / CiteScore - Q2 (Surfaces, Coatings and Films)