

Special Issue

Advances in Plasma Coatings

Message from the Guest Editor

The plasma-based surface modification technologies developed in recent years allow us to improve operational characteristics of various parts made of any materials, being it metals, dielectrics or composites. Different technological techniques, such as surface layer hardening and alloying, coating deposition, a combination of both methods, and other solutions use low-pressure gas discharges for the plasma generation. The aim of this Special Issue is to provide a review of the current state of the research and developments in the field of plasma coatings.

Some topics of the Special Issue are as follows:

Broad beam sources of high-energy neutral atoms;
Nitriding of the parts in plasma produced by a broad ion beam;
High-rate deposition of dielectric coatings using magnetron-sputtering systems;
Development of pulsed detonation technology for modification of material properties and high-rate coating deposition;
Influence of the plasma coatings on the stress-strain state and wear of the parts subjected to various heat and force loads;
Original technological equipment and setups for plasma coatings and surface hardening of the parts.

Guest Editor

Prof. Dr. Alexander S. Metel

Department of High-efficiency Processing Technology, Moscow State University of Technology, Vadkovsky per. 3A, 127055 Moscow, Russia

Deadline for manuscript submissions

closed (30 September 2022)



Coatings

an Open Access Journal
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Impact Factor 2.8
CiteScore 5.4



mdpi.com/si/92195

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

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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

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