Special Issue

Friction and Friction-Based Techniques

Message from the Guest Editors

Friction-based techniques, including friction stir welding and processing, deformation-driven metallurgy, friction stir additive manufacturing, etc., based on the principle of severe plastic deformation, have shown great potential in exploiting the intrinsic potential of such materials. Greatly refined microstructures and the corresponding homogeneous dispersion of those second phases induced by friction-driven plastic deformation ensure the superior performances of such materials compared to conventional processing techniques. As such, we encourage the submission of relevant studies which reveal the formation mechanisms and explore the applications of these friction-based techniques towards next-generation materials. The topics of interest in this Special Issue include, but are not limited to, the following:

- Novel friction-based techniques;
- The fabrication of novel materials with extraordinary mechanical and wear performances;
- The welding and joining of dissimilar materials based on the principle of severe plastic deformation;
- The design of anti-wear coatings and substrates of friction stir welding tools to realize significantly extended service lives.

Guest Editors

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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.

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