Special Issue

Solid-State Processing of Materials

Message from the Guest Editor

Solid-phase processing to make coatings, engineer surfaces, and additively manufacture bulk materials has garnered increasing attention for the production of next-generation transformative materials. This Special Issue is intended to cover a broad scope of fundamental and applied topics related to solid phase processing, including processing science, deformation mechanisms, microstructural evolution, as well as mechanical and functional properties. In particular, the topics of interest include, but are not limited to:

- Process–microstructure–property relationships in solid-state processes
- Solid-state additive approaches: from coatings to bulk materials;
- Cold spray, kinetic deposition, aerosol deposition;
- Surface and bulk severe plastic deformation processes;
- Friction stir processing/welding, shear-assisted processing and extrusion, friction extrusion;
- Thermomechanical modeling of solid-phase processing;
- Deformation mechanisms and microstructural evolution during solid-phase processing;
- Modeling of severe deformation across length scales;
- Mechanical and tribological properties of solid phase processed materials.

Guest Editor

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Deadline for manuscript submissions

closed (31 August 2021)

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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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