Special Issue

Multilayer and Functional Graded Coatings

Message from the Guest Editor

Multilayer coatings consist of sublayers with alternative variation in chemical concentrations or crystalline structures. The multilayer-structure is beneficial for improving oxidation resistance, enhancing mechanical properties, reducing internal stress, inhibiting crack propagation, and improving fracture toughness. For example, a columnar crystalline structure formed in a monolithic coating is interrupted due to the distinct characteristics between the sublayers. With the introduced interfaces, multilayer hard coatings have displayed hardness enhancements due to dislocation blocking between interfaces, lattice mismatch, and Hall–Petch effects. Multilayer coatings comprise various assemblies, such as metal/metal, metal/nitride, nitride/nitride, and oxide/metal. This Special Issue on "Multilayer and Functional Graded Coatings" is open to all original research and critical review articles in the relevant topics.

Guest Editor

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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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