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Ambient Pressure Chemical Vapor Deposition (AP-CVD): Technology and Applications

Guest Editor:

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Deadline for manuscript submissions:
closed (30 June 2023)

Message from the Guest Editor

Dear Colleagues,

Ambient-pressure chemical vapor deposition (AP-CVD) is a well-established and widespread synthesis method both at research labs and industrial facilities, in which a substrate is exposed to one or more volatile precursors at atmospheric pressure, leading to its reaction or decomposition on the surface to produce a deposit. Typically, a layer several nano- to micrometers-thick is deposited onto wafers or other types of substrates to obtain, for instance, epitaxial films, compound semiconductors, doped and undoped oxides, antireflection coatings, or transparent conductive oxide coatings. Recently, AP-CVD has become popular for the synthesis of 2D materials, such as graphene and transition-metal dichalcogenides. AP-CVD is also used as a surface-finishing process in several fields for tools and turbine blades, among others, to improve lifetime and performance. The Special Issue includes, but is not limited to, the following topics:

- Innovative solutions in AP-CVD equipment;
- Optimization of AP-CVD processes in industrial environments;
- Development of new AP-CVD process at the academic research;
- AP-CVD-based processes for the growth of 2D materials.

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Special Issue

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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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