



## Advances in Multi-Target Physical Vapor Deposition Techniques

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### Message from the Guest Editor

Dear Colleagues,

Two targets, or sometimes more, are used as MT, allowing one to control the film composition by changing the intensity ratio among energy fluxes onto different targets. In MT PLD, a popular method is that where one laser beam irradiates multiple targets alternatively, based on solid-phase reaction on the substrate. Meanwhile, some trials have been made on simultaneous laser irradiation to multiple targets, in which the mixing is supposed to occur in the gas phase. Even if the deposition equipment is designed to hold only a single target, mixing of multiple materials is possible by adopting mosaic targets, which can be categorized into MT deposition techniques.

The scope of this Special Issue will serve as a forum for papers on the following concepts:

- Growth of single films with composition controlled with MT PVD;
- Composition-graded materials and combinatorial libraries prepared with MT PVD;
- Self-assembled nanocomposites prepared with MT PVD;
- Comparison of films grown with MT and single-target PVD;
- Comparison of films grown with alternative and simultaneous MT PVD;
- Novel mechanisms and strategies for high-quality and/or cost-effective MT PVD.





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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.

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