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Concentrated Solar Power Plant Absorber Coatings

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Deadline for manuscript submissions:
closed (31 March 2022)

Message from the Guest Editors

Dear Colleagues,

Tower-technology-based concentrated solar power (CSP) promises to deliver electricity prices below 7.3 ¢ per kW h based on thermal energy storage and future renewable-energy harvesting technology. However, the energy price depends very much on the energy-transformation efficiency, where absorber coatings play a crucial role. This Special Issue of Coatings is intended to provide a forum for original research articles as well as critical reviews on current advances in the field of absorber coatings for CSP technologies.

Areas of interest include but are not limited to:

High solar absorptivity absorber coatigs for central tower technologies;
Understanding the degradation mechanisms of coatings reflected through optical properties, thermal conductivity, thermal load, etc.;
Latest development of test methods considering optical, mechanical, and thermal properties and the ability to test and predict properties by computer modeling or simulation after diferent loads equivalent to service environment;
Multilayered coatings, ceramic materials, diffusion, and protection layers.

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Message from the Editorial Board

Now more than ever, research is called for to produce technologies and improve knowledge 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 at the center of most contemporary research. Surface science and engineering play a key role in this regard. Refining surfaces and their modifications provides new materials, architectures and processes with a huge potential to aid most societal challenges. *Coatings* is a well-established, peer-reviewed, online journal that focuses on the dissemination of publications in the field of surface science and engineering. *Coatings* publishes original research articles that report cutting-edge results and review papers on the hottest topics.

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