

## Special Issue

# Functional Materials and Coatings for High-Performance Supercapacitors

### Message from the Guest Editors

Supercapacitor performance depends on how active chemistries are deposited, structured, and packaged as coatings on current collectors. This Special Issue focuses on translating material selection, film architecture, interfacial design, and processability into application-relevant metrics such as capacitance, ESR, adhesion, and durability. We welcome studies linking thickness-dependent ion/electron transport, pore architecture, collector-coating contact, and packaging to device-level outcomes in efficiency, stability, and safety. Coating materials include carbon derivatives, MXenes, transition-metal compounds, LDHs, conducting polymers, and MOF/COF-derived films. Deposition covers vacuum (ALD, CVD, sputtering) and solution-based routes (electrodeposition, sol-gel, electrospinning, printing). Topics include interface optimization, corrosion barriers, coatings for flexible/solid-state devices, electrolyte compatibility, in situ/operando characterization, and modeling or data-driven studies on transport, interfacial processes, optimization, and recyclability. We look forward to your contributions.

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### Guest Editors

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### Deadline for manuscript submissions

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## Coatings

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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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### Editors-in-Chief

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