

## Special Issue

# Smart Functional Nanomaterials: From Synthesis to Digital Water Solutions

### Message from the Guest Editor

The next frontier in water technology lies at the intersection of tailored material synthesis and digital innovation. Functional nanomaterials, engineered for specific properties like adsorption, catalysis, or magnetic response, form the essential building blocks. When these materials are designed with built-in "intelligence" or integrated into digital frameworks, they unlock unprecedented capabilities for precise, efficient, and autonomous water purification and monitoring. This Special Issue focuses on the synergistic development of functional nanomaterials and digital technologies to address complex water challenges. We seek contributions that cover the rational design and synthesis of advanced nanomaterials (e.g., engineered zeolites, composite nanostructures, magnetic or plasmonic materials) and their implementation in smart systems. We welcome original research and reviews that highlight this multidisciplinary approach, connecting core materials science with environmental engineering and digital innovation.

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### Guest Editor

Dr. Álvaro De Jesús Ruíz-Baltazar

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### Deadline for manuscript submissions

10 September 2026



## Applied Sciences

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## About the Journal

### Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal *Applied Sciences* has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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### Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo  
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