

# Special Issue

## Dynamics at Nanoscale: Linear and Nonlinear Studies

### Message from the Guest Editors

The realm of nanoscience continues to unveil remarkable phenomena, and this Special Issue aims to explore the intricacies of the dynamics of symmetric and nonlinear phenomena at the nanoscale, encompassing both linear and nonlinear studies. From fundamental principles to applied perspectives, we invite contributions that delve into the dynamic behaviours of materials and systems at the nanoscale. Topics of interest include, but are not limited to the following:

- Linear Dynamics at The Nanoscale:
  - Vibrational modes and phonon interactions;
  - Mechanical properties of nanomaterials;
  - Dynamics of nanoparticles and nanocomposites.
- Nonlinear Studies at the Nanoscale:
  - Nonlinear optical phenomena;
  - Ultrafast dynamics in nanomaterials;
  - Nanoscale chaos and bifurcation analysis.
- Interdisciplinary Approaches:
  - Nanoscale dynamics in biological systems;
  - Coupling of electronic and mechanical dynamics;
  - Applications in nanoelectronics and nanophotonics.

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### Guest Editors

Prof. Dr. Thierry Verbiest

Prof. Dr. Branko Kolaric

Dr. Sébastien R. Mouchet

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### Deadline for manuscript submissions

closed (28 February 2025)



## Symmetry

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## About the Journal

### Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

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### Editor-in-Chief

Prof. Dr. Sergei Odintsov

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