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Contact Geometry: Reduction, Symmetries and Applications

Guest Editor:

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Deadline for manuscript submissions:
closed (31 March 2024)

Message from the Guest Editor

Dear Colleagues,

This Special Issue is concerned with contact geometry and its role in mechanics. This Special Issue will gather contributions on the continuous and discrete formalism of contact geometry, as well as classical and quantum frameworks.

We are soliciting contributions (research and review articles) covering a broad range of topics on contact geometry and reduction in, dissipation, symmetry, and integration of such contact structures, including (not limited to):

- Design of numerical integrators preserving contact structures;
- New results on related geometric structures, such as cosymplectic structures and their numerical integration;
- Dissipated quantities, symmetries, and reduction in contact structures;
- Dynamics on odd-dimensional manifolds;
- Hamilton—Jacobi theory for time-dependent systems;
- The role of contact structures in quantum backgrounds;
- Dissipation and symmetry in discrete contact structures;
- New applications of contact structures and their related geometries;
- Generalizations of symplectic dynamics to odd-dimensional dynamical systems.

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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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