# Special Issue

# Gravitational Physics, Black Holes and Space–Time Symmetry

### Message from the Guest Editors

The aims of this Special Issue on the Gravitational Physics and Black Hole solutions are to present and highlight the most recent research developments in this topic and the possible spacetime symmetries. This Special Issue will target the gravitational interaction solutions implying the Black Hole (BH), Neutron Stars (NSs), White Dwarf (WD) or any other astrophysical objects. The favored approaches and frameworks are the General Relativity and F(R)-type theories, but also alternative approaches in gravity such as teleparallel gravities and geometries (F(T)-type, New General Relativity, F(Q)-type and other extensions), quantum gravity, string and superstring, to name only a few. We will also focus on space–time structures and symmetries concerning the gravitational and/or astrophysical solutions. Any contribution concerning astrophysical and gravitational physics will be welcome, especially those implying spacetime symmetries, including Riemann and/or teleparallel geometry. We also extend the scope to the mathematics of General Relativity and gravity approaches useful for the topics of this Special Issue.

### Guest Editors

**Dr. Yassine Sekhmani**

Département de Physique, Equipe des Sciences de la Matière et du Rayonnement, ESMaR, Faculté des Sciences, Université Mohammed V de Rabat, Rabat 10000, Morocco

**Dr. Alexandre Landry**

Department of Mathematics and Statistics, Dalhousie University, Halifax, NS B3H 3J5, Canada

### Deadline for manuscript submissions

28 November 2025

# Symmetry

mdpi.com/journal/symmetry

# 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.

### Editor-in-Chief

Prof. Dr. Sergei Odintsov
1. ICREA, 08010 Barcelona, Spain
2. Institute of Space Sciences (IEEC-CSIC), C. Can Magrans s/n, 08193 Barcelona, Spain

### Author Benefits

**Open Access:**
free for readers, with article processing charges (APC) paid by authors or their institutions.

**High Visibility:**
indexed within SCIE (Web of Science), Scopus, CAPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

**Journal Rank:**
JCR - Q2 (Multidisciplinary Sciences) / CiteScore - Q1 (General Mathematics )