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# Symmetric and Asymmetric Nuclear Matter

Guest Editor:

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Deadline for manuscript submissions:
**closed (15 March 2022)**

## Message from the Guest Editor

Dear Colleagues,

The study of quantum systems having a very large or infinite number of fermions is of interest in many physical situations. In nuclear physics, the concept of infinite nuclear matter as a homogeneous medium made of interacting nucleons is broadly used, as because of its simplicity and the suppression of complex finite-size effects, it represents an ideal tool to test various nuclear models. This idealised system is nevertheless connected to the physics of the inner part of atomic nuclei and also to the inner regions of compact stars. Understanding nuclear matter in its various phases is thus crucial for the description of the physics of neutron stars. By combining the most recent observations of these objects done in the domain of gravitational waves, electromagnetic radiation, and neutrinos, it is now possible to introduce more stringent constraints on the equation of state and thus on the underlying nuclear models used to calculate it. The aim of this Special Issue is to collect contributions for a discussion on the various theoretical models used to describe both ground state and excited states of such a system at zero and finite temperature...

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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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