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Effective Field Theories - Chiral Perturbation Theory and Non-relativistic QFT

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Deadline for manuscript submissions:
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Message from the Guest Editors

Effective field theories (EFTs) allow one to study underlying dynamics through effective Lagrangians. They are constructed as the most general expansion consistent with fundamental symmetries to analyze a specific range of energies from a power counting based on the scale separation. One of the most notable examples is Chiral Perturbation Theory (ChPT), the EFT of QCD at low energies, that provides a framework for non-perturbative calculations of strong interactions. ChPT is based on the spontaneous and explicit chiral symmetry breaking and it offers an extraordinary tool to obtain precise determination of some of the most relevant low-energy QCD parameters. Another important example, sitting in the opposite limit, is that of Heavy Quark Spin Symmetry (HQSS) which allows one to access, through an EFT, to the interactions in heavier sectors of the hadron spectrum.

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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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