# Special Issue

# Scale Relativity and Fractal Space-Time Theory

## Message from the Guest Editors

The studies of non-linear dynamics and implicitly of chaotic behavior are of major importance to a wide range of domains. One of the main reasons is the impossibility of associating non-linearity with an exact physical model or limiting it to a narrow field of science. Therefore, theoretical studies of non-linear phenomena have encountered serious mathematical difficulties, as they include approximations that lead to linear or quasi-linear models. The development of new theoretical models needs to consider the arisal of deterministic chaos in associations with the emergence with spatial temporal structures are part of the complex systems dynamics. For temporal scales that are large with respect to the inverse of the highest Lyapunov exponent, the deterministic trajectories can be replaced by a collection of potential trajectories and the concept of definite position by that of probability density. This Special Issue aims to attract both theoretical and experimental research on a wide range of domains which are connected through the fractal approach and by respecting the explicit or implicit symmetries of complex system dynamics.

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## Deadline for manuscript submissions

closed (15 September 2021)


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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.

### Editor-in-Chief

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