Special Issue

Symmetry/Asymmetry in Goodness-of-Fit Testing and Statistical Inference Using Non-Parametric Approaches

Message from the Guest Editors

Non-parametric methods provide powerful tools for statistical inference, particularly when classical assumptions are violated. Of late, the use of non-parametric techniques such as the empirical likelihood (EL) methodology has led to the development of goodness-of-fit (GoF) tests for various symmetric and asymetric distributions that are superior under several alternatives. Advancing theoretical methodology is therefore crucial for further investigating the strengths and challenges of non-parametric methods in GoF testing. For instance, EL moment-based normality tests may lack power against some symmetric alternatives. We invite research on how symmetry and asymmetry guide the development of GoF tests, robust estimators, and inference procedures, advancing non-parametric methods in modern statistics. Applications related to biostatistics, epidemiology, and health sciences are encouraged.

Guest Editors

Dr. Chioneso Show Marange

Department of Computational Sciences, Statistics Discipline, Faculty of Science and Agriculture, University of Fort Hare, East London, South Africa

Prof. Dr. Yichuan Zhao

Department of Mathematics and Statistics, Georgia State University, Atlanta, GA 30303, USA

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Symmetry
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
symmetry@mdpi.com

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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

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

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