

Special Issue

Recent Advances in Mathematical Modeling

Message from the Guest Editor

Phenomena can be regarded as either random or deterministic ones. Deterministic phenomena can be expressed or approached by mathematical models as differential equations or difference equations, etc. or using numerical analysis methods or fuzzy logic methods. We believe that in the topic of engineering modeling, the randomness approach is not the most appropriate. For example, it is not correct to consider the compressive strength of a concrete type as a random variable. We believe that this compressive strength depends on the percentage of water, of cement, of aggregates, etc., to make a certain volume of concrete. Thus, in such cases as the above, we believe that randomness should be replaced by experience in many cases. The purpose of this Special Issue of the journal *Symmetry* is to present some recent developments, as well as possible future directions in mathematical modeling. Special emphasis will be given in engineering modeling using statistical and fuzzy tools. Papers represented by a mathematical model which could be described by a (fuzzy) difference equation or a (fuzzy) differential equation are also welcome.

Guest Editor

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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.

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