



## Axisymmetry in Mechanical Engineering

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### Message from the Guest Editor

Dear Colleagues,

Symmetry is an important concept in physics and engineering: What can be done with a system or an equation without changing it? Some might consider it aesthetically pleasing, while for others it is just an immensely useful property: one of the greatest “technologies” in human history is rolling, and anything that is supposed to roll has to have some kind of rotational symmetry. Symmetry simplifies calculations, both analytically and numerically. Accordingly, axisymmetric (or *supposedly* axisymmetric) systems are ubiquitous in engineering.

On the other hand, what is maybe even more interesting than symmetric systems are *almost* symmetric systems: Why is the symmetry broken or why is it still approximately retained?

The aim of the present Special Issue is thus to emphasize the phenomena of symmetry in mechanical engineering.





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## Editor-in-Chief

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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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