



## Symmetry in Numerical Linear and Multilinear Algebra

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### Message from the Guest Editor

Dear Colleagues,

Symmetry is one of the most pervading concepts in numerical linear and multilinear algebra. Mathematical models of real-world phenomena often exhibit algebraic, geometric or combinatorial symmetries, which are encoded into specially structured matrices and tensors. In fact, an increasing number of physical models and data analysis problems involve the manipulation of numerical arrays of which the elements are addressed by two or more indices and possess invariance properties with respect to permutations or shifting of their indices. Exploiting that structure is of paramount importance not only for theoretical analysis but also in order to devise fast and accurate computational cores for, e.g., direct or iterative solution of linear equations, matrix preconditioning and decomposition, eigenvalue/eigenvector computations, solution of matrix equations, etc.





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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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