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# Electron Diffraction and Structural Imaging

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## Message from the Guest Editors

Over the last decade, electron diffraction (ED) and structural imaging has received renewed interest from the scientific community due to the advances in TEM instrumentation (Cs correctors, direct detection cameras, 4D STEM) and the introduction of new techniques, such as beam precession and ptychography. Actually, structural analysis of various classes of materials (energy materials, zeolites, minerals, organic compounds, pharmaceuticals, proteins) has become possible at nm-scale resolution.

ED in TEM is used for structure determination of materials (down to 50 nm in size) and to obtain phase and orientation mapping, strain mapping, determination of electric fields and study of amorphous materials. The development of in-situ sample holders (gas and heating, liquid etc.) has allowed the study of materials in real time under natural conditions.

In this Special Issue entitled “Electron Diffraction and Structural Imaging”, we welcome contributions covering any aspect of ED, structural imaging and other related in-situ techniques which make use of consolidated or advanced TEM techniques with potential applications for wide range of materials.

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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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