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# Electronic Phenomena of Transition Metal Oxides Volume II

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## Message from the Guest Editors

Dear Colleagues,

Reducing the energy consumption of electronic devices while increasing their functionality remains a major task for research and development. Since new materials are needed for this purpose, the study of electronic- and crystallographic-structure and lattice dynamics, as well as machine learning of single- and multi-ternary transition metal oxides, is becoming increasingly important. In this context, on the one hand, the analysis of redox processes and the interplay of electronic and ionic conductivity, point defects, and extended defects must be investigated to understand the complexity of the chemistry and electrochemistry of transition metal oxides. On the other hand, the nature of the screening phenomena in the presence of ordering parameters should be investigated at the atomic level.

This Special Issue provides a platform for sharing recent results on the electronic properties of transition metal oxides on the nanoscale using advanced experimental methods in combination with theoretical analyses.

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## Editor-in-Chief

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## Message from the Editor-in-Chief

Welcome to *Crystals*, the journal dedicated to the fascinating world of crystallographic research! Crystals are more than mere decorative elements; they hold the key to understanding the fundamental structure of matter. Our mission is to explore the crucial significance of this research across various fields. From medicine to technology, chemistry to geology, crystals play a vital role. Their structure provides insights into new advanced materials, innovative drugs, and groundbreaking technologies. Through *Crystals*, we delve into the microscopic world to discover solutions that will shape the future. Join us on a journey through the *Crystals*, where science merges with beauty and innovation.

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