Special Issue

X-ray Technologies for Chemical and Material Applications

Message from the Guest Editors

X-rays are widely utilised in materials research as a basic characterisation tool to determine the atomic coordination or electronic properties of materials. It is possible to monitor dynamic changes in chemical systems or materials (i.e., in situ/operando measurements) using synchrotron facilities (SRs). Recent developments in 3rd/4th-generation SRs and X-ray free electron lasers (XFELs) have brought new opportunities to observe/characterise a tiny part of materials or address heterogeneities inside substances on a small scale (i.e., micrometre or nanometre) by focusing X-rays.

Research utilising advanced X-ray methodologies should be a main topic. However, research related to the development of new X-ray techniques/instruments or state-of-the-art techniques are very welcome. This Special Issue is intended to be a showcase for recent progress on applications of advanced X-ray techniques.

Guest Editors

Dr. Yohei Uemura

FXE Beamline, European XFEL, 22869 Schenefeld, Germany

Dr. Kiyofumi Nitta

Japan Synchrotron Radiation Research Institute, SPring-8, 1-1-1 Kouto, Sayo, Hyogo 679-5198, Japan

Prof. Dr. Hiroki Wadati

Graduate School of Material Science, University of Hyogo, 3-2-1 Kouto, Kamigori-cho, Ako-gun, Hyogo 678-1297, Japan

Deadline for manuscript submissions

closed (15 January 2022)

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/si/61796

Applied Sciences
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
applsci@mdpi.com

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo
Dipartimento di Fisica, Politecnico di Milano, Piazza L. da Vinci 32, 20133 Milano, Italy

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