



New Advanced Functional-Material-Based Photocatalysts

Guest Editors:

Dr. Siming Wu

Department of Materials Science
WW4-LKO, University of Erlangen-
Nuremberg, Martensstraße 7,
91058 Erlangen, Germany

Dr. Yi Lu

Institut für Anorganische Chemie
und Strukturchemie, Heinrich-
Heine-Universität Düsseldorf,
Universitätsstraße 1, 40225
Düsseldorf, Germany

Dr. Claudia Graiff

Department of Chemistry, Life
Sciences and Environmental
Sustainability, University of
Parma, 43124 Parma, Italy

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Message from the Guest Editors

Addressing the global challenges posed by the rapid increase in energy consumption and the environmental impact of conventional energy sources calls for innovative solutions. One highly promising avenue lies in the development of new advanced functional-material-based photocatalysts for harnessing solar energy and converting it into valuable chemical fuels such as methanol, methane, and hydrogen, utilizing sunlight, water, and CO₂ as primary resources. These advanced materials, characterized by their precisely engineered properties, are pivotal in catalyzing solar energy conversion processes and enabling the photodegradation of organic pollutants. This Special Issue is dedicated to providing a comprehensive overview of the latest breakthroughs in the realm of solar energy conversion and environmental remediation through the photodegradation of organic pollutants. The focus is on showcasing recent progress, with particular emphasis on the exceptional physicochemical properties of these cutting-edge nanomaterials and the underlying mechanisms that hold the potential to greatly enhance their efficiency in these critical applications.





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Editor-in-Chief

Prof. Dr. Alessandra Toncelli

Department of Physics, University
of Pisa, 56126 Pisa, Italy

Message from the Editor-in-Chief

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Crystals Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

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