

Special Issue

Advanced Application of Photoelectrocatalysis for Energy Conversion

Message from the Guest Editors

Electrochemistry and photocatalysis are core disciplines underpinning key technology areas such as energy conversion and environmental applications. Combining these approaches can lead to fascinating synergetic effects in which nanoparticulated photoactive materials deployed as electrodes can provide more efficient interfacial carrier transfer and system performance than suspended colloidal materials. These observations have led to the redesign of material photoelectrodes and systems to combine light harvesting properties, electrode polarization, and catalytic sites to enhance the catalytic response of novel materials towards several redox reactions. Furthermore, photoelectrochemical systems for directly converting solar energy to fuels are already transitioning from fundamental research to prototype systems. This Special Issue highlights the importance of photoelectrochemistry as a strategic tool in developing novel photo-activated materials, interfaces, devices, and functional systems focused on energy conversion. We welcome the submission of high-quality works focusing on the latest novel advances in photoelectrocatalytic applications for energy conversion.

Guest Editors

Dr. Juan Manuel Mora-Hernández

Departamento de Ecomateriales y Energía, Universidad Autónoma de Nuevo León, San Nicolás de los Garza 66451, Mexico

Dr. Jesús Adrián Díaz-Real

Parque Tecnológico, Centro de Investigación y Desarrollo Tecnológico en Electroquímica (CIDETEQU), Querétaro 76703, Mexico

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

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Editor-in-Chief

Prof. Dr. Giancarlo Cravotto

Department of Drug Science and Technology, University of Turin, Via P. Giuria 9, 10125 Turin, Italy

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