Special Issue

Emerging Flavonoid-Based Systems in Sustainable and Green Catalysis

Message from the Guest Editors

Flavonoids are naturally occurring polyphenolic compounds widely distributed in fruits, vegetables, and medicinal plants, known for their antioxidant and diverse bioactive properties. In recent years, increasing attention has been given to their versatile chemical behaviour and their potential role in the development of functional materials for catalysis and related applications. Due to their rich structural diversity and coordination ability, flavonoid-based systems and their derivatives can contribute to the design of novel catalytic platforms with tunable properties. These may be applied in a variety of transformations, including oxidation–reduction processes, and environmentally relevant reactions aligned with green chemistry principles. Further optimization through structural modification or incorporation into composite systems can enhance their stability, activity, and applicability. This Special Issue aims to provide a broad forum for research on flavonoid-based systems and bio-inspired catalytic materials, including synthesis, characterization, mechanistic studies, and catalytic applications. It seeks to highlight recent advances in sustainable catalysis.

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Deadline for manuscript submissions

28 February 2027

Catalysts

an Open Access Journal by MDPI

Impact Factor 4.5
CiteScore 8.3

mdpi.com/si/283852

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