



From Waste to Value-Added Products: Environmental Challenges, Potentialities, and Perspectives for a Circular Economy

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Deadline for manuscript
submissions:

closed (31 December 2021)

Message from the Guest Editors

The global commitment is clear if we look at the Sustainable Development Goals (SDG) as part of the UN Resolution “Agenda 2030”, a broad and interdependent set of goals aimed to achieving a more sustainable future. In particular, waste management is the focus of SDG 12, entitled “Responsible consumption and production”.

Recovery of added-value products from waste offers a wide range of opportunities. Just to list a few:

- Bioactive molecules from food waste, leading to pharmaceuticals, nutraceuticals and cosmetics.
- Base and precious metals from Waste Electrical and Electronic Equipment (WEEE), for a re-placement on the market.
- Fuel and energy from agro-industrial biomasses.
- Wastewater can be recycled for agricultural, industrial processes and other beneficial purpose reducing demand for potable water.
- Fermentation represents an environmentally clean technology for production and extraction of such bioactive compounds, providing high quality and high activity extracts, which can be incorporated in foods.
- Sustainable solar fuels production by photothermocatalytic CO₂





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