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THE POTENTIAL FOR DEVELOPING NEW MATERIALS FOR A SUSTAINABLE BIOECONOMY

Abstract:

There is a great potential for using bio-based feedstocks and waste to develop new materials for a wide range of applications, in industries sectors such as chemical, automobile, electronic and others. This responds to a great demand for substituting petroleum-based resources for renewable ones. Besides contributing to the carbon sequestration, these new materials can also lead to products that are environmentally more friendly, such as biodegradable plastics, which are essential for a sustainable bioeconomy approach. In this presentation, it will be shown several techniques for developing new materials from renewable sources, including continuous casting and solution blow spinning. Their applications in bio-plastics, edible films, bionanocomposites, sensors, biosensors, tissue engineering, regenerative medicine and controlled release systems for fertilizers, pesticides and pharmaceuticals will be also discussed.

Keywords:

Bioeconomy, green chemistry, bio-based products, renewable resources, sustainability, new materials

JEL Classification: Q00, Q16, Q01