



9th IUPAC International Conference on Green Chemistry

Athens, Greece 18-22 October 2020

Venue: Zappeion Megaron | www.greeniupac2020.org

Workshop on:

“Biopolymers and Bio-based monomers, polymers and composites”

The utilization of alternative and renewable sources such as biomass, wind, sun and water, is at the forefront of scientific and technological innovation, in response to the Renewable Energy EU Directive which has the target of 20% final energy consumption from renewable sources by 2020. Although, the latter three can produce vast amounts of clean power (electricity) to replace fossil raw materials such as coal and natural gas, only biomass is capable to provide liquid, solid and gaseous fuels. Furthermore, due to its oxygenated nature, both *lipid/oil and lignocellulosic biomass* can be converted to a wide range of *platform chemicals*, not available through petroleum refining or capable to replace the ones derived from petroleum, which can be further transformed into *functional monomers to produce bio-based polymers*, such as *polylactic acid, polybutylene succinate, polyethylene furanoate, and others*.

Furthermore, the *unique structural and surface properties of biomass main components*, i.e. hemicellulose, cellulose, lignin, proteins, etc., with or without downstream modification and functionalization, i.e. cellulose nanofibers, narrow MW fractions of lignin, phenolated or glycidylized lignin, etc., have provided the opportunity for their direct utilization in the production of *bio-based polymer composites*. This approach has multi-dimensional benefits regarding economic and environmental sustainability, especially if waste and residual biomass derived fractions are used to replace a substantial part of the petroleum-based bulk polymers. In many applications, *biopolymers*, such as proteins, insulin, cellulose and starch, polyhydroxyalkanoates, etc., can be directly utilized for the production of plastics or several other high added value materials.

Within the frame of the [9th IUPAC International Conference on Green Chemistry \(9th ICGC\)](#), special attention is given to this important area of Green Chemistry and Engineering, by organizing a dedicated Workshop on “**Biopolymers and Bio-based monomers, polymers and composites**”.

We cordially invite you to submit your abstract(s) via the [9th ICGC website](#), and take the opportunity to interact with experts from academia and industry, and discuss the latest developments in the field.

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