



CMCC Mechanochemistry Discussions

Online Seminar Series

Fundamentals of Lignocellulosic Biomass Mechanical Deconstruction and Application to Mechanochemistry

Livestreaming at
10:00 AM (CT)

THURS., October 19, 2023

on the CMCC YouTube Channel:

<https://www.youtube.com/channel/UC7eCYPKbGTKpgO7W2bNABxg>



Dr. Claire Mayer-Laigle
French National Institute for
Agriculture, Food, and
Environment (INRAE)
<https://www.inrae.fr/en>

ABSTRACT:

Plant biomass, a vast but underutilized resource, houses functional elements within a complex and resilient lignocellulosic structure. Fractionating it to below cell size induces profound physical and chemical conversions that can be harnessed as valuable building blocks for advanced energy vectors, smart materials, and cosmetics/biomedical applications. This presentation will address the fundamentals of mechanical deconstruction from a physical standpoint, with an emphasis on the modes of energy transmission (type, intensity, and duration) and their impact on the physicochemical properties of the powders. Subsequently, we will demonstrate how these mechanisms can be exploited to design tailored particles. As an illustration, we'll discuss the grafting of active molecules onto hemp by-products through mechano-synthesis to design environmental sensors.



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