POLITECNICO
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DIPARTIMENTO DI CHIMICA,
MATERIALI E INGEGNERIA CHIMICA
GIULIO NATTA

Pyrolysis of Solid Carbon Materials

Coal to Coke; Biomass to Charcoal; MSW to ?

Prof. Marco J. Castaldi
(Department of Chemical Engineering, City College of New York, CUNY, USA)

Introduction, prof. **Matteo Pelucchi** (Politecnico di Milano, DCMIC)

8 June 2023 | 15:00

Room Natta, Bulding 6
Piazza Leonardo da Vinci, 32 Milano

live | online

link will be emailed to registered participants

Registration Form

The Catalytic Charcoal Pyrolysis lecture will cover the fundamentals of charcoal production, specifically looking at the kinetics and reaction sequences. Details on particle size, confinement, and density and their influence on charcoal production will be presented. Different technology systems will be highlight to show different techniques being employed. The optimal design of thermal treatment reactors requires knowledge of mechanisms and transformations occurring during the thermochemical conversion processes. Wood pyrolysis is overall endothermic and is a complex process influenced by several parameters which affect directly the yields and characteristics of the products obtained. Although many experimental and modeling studies focused on explaining the pyrolysis mechanisms to transform feedstock into valuable products, still they have not been entirely understood. Most of these studies are based on TGA/DTA analysis and reveal different temperature profiles happening during the process mainly without correlation with gas species detection or quantification of volatiles released. One of the lesser known aspects of wood pyrolysis concerns the actual energy change happening during the process within the matrix. This has real scale applicability respect to overall energy balance and energy consumption through the process. Recent elucidation of the energy changes related to the pyrolysis of biomass will be covered in detail during this lecture.

More info: www.cmic.polimi.it