

WEDNESDAY Feb. 9, 2022 | 12 NOON

Ange Nzihou

Institut Mines Telecom (IMT) Albi and
CNRS, France, Dept. of Chemical
Engineering

Fulbright Visiting Professor, Princeton
University

Contact: ange.nzihou@princeton.edu

HOST

Prof. Claire White, Dept. of Civil and
Environmental Engineering and the Andlinger
Center for Energy and the Environment

Insights on Nanostructured Bio-Carbon Materials and their Sustainable Production

ABSTRACT: We have developed a sustainable approach to produce energy and advanced carbon materials from bio-based resources. On the energy production side, the research we carry out has led to advancements in the production of hydrogen and synthetic gas from biomass and biowaste. From those feedstocks, we have also explored an environmentally friendly approach to synthesize biographene. In this presentation, I will cover the challenges facing graphitization of biomass polymers such as cellulose, a poorly graphitizable material, and how we have successfully obtained a graphite-like structure with multi-layers of graphene sheets using an iron catalyst. Experiment and simulation have been used to uncover atomic arrangements and the nanostructure of the carbon produced from the graphitization of cellulose at various temperatures and iron concentrations. *Continued at [materials.Princeton.edu/events](https://materials.princeton.edu/events).*

www.materials.princeton.edu

PRINCETON INSTITUTE FOR THE SCIENCE AND TECHNOLOGY OF MATERIALS
PRINCETON CENTER FOR COMPLEX MATERIALS