NANYANG TECHNOLOGICAL UNIVERSITY SINGAPORE

School of Materials Science and Engineering

Seminar Topic:
Biomass-Derived Materials for Functional Applications

Associate Professor Lu Xuehong

Abstract

Fossil oils are a limited resource, not only for energy production, but also for the production of materials. On the other hand, what really provokes research in biomass-derived materials is the development of novel, sustainable and high value-added materials from abundant, low cost and underutilized molecules available in nature. Lignin is an abundant natural macromolecular material, coming second only to cellulose, and it is usually disposed as a waste in paper manufacturing industry. Lignin possesses many types of functional groups in its hyperbranched macromolecular structure, providing rich opportunities for synthesis/fabrication of novel functional materials from lignin. In this talk, I will introduce recent work of our group in the field of lignin-derived functional/multifunctional materials for various applications, such as electromagnetic interference sheilding, air filtration and energy storage. I will first discuss materials design considerations and key challenges for the targeted applications, and then introduce our approaches to lignin-based functional materials and the progress we made in this field.

Biography

Dr Lu Xuehong is an Associate Professor in the School of Materials Science and Engineering at Nanyang Technological University, Singapore. She obtained her Bachelor's and Master degrees from Tsinghua University, China, and her PhD degree from University of Cambridge in 1995. She joined NTU as an Assistant Professor in June 1999.

Her research is focused on polymer nanocomposites and composites as structural materials, as well as organic-inorganic hybrid materials, polymer- and cabon-based nanocomposites for functional applications, including electrochromism, energy storage and air filtration.

Thursday, 25 June 2020 ǁ Time: 2:00 pm - 3:00 pm ǁ
Live streaming link: https://au.bbcollab.com/guest/7a367d0cd2134084b4ee79873d447adf
Hosted by: Associate Professor Ng Kee Woei

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