

SPEAKER



NAME

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BIOGRAPHY

Michael A. R. Meier studied chemistry in Regensburg (Germany) and received his Ph.D. from the Eindhoven University of Technology (The Netherlands) in 2006. After further stays in Emden and Potsdam, he was appointed as full professor at the Karlsruhe Institute of Technology (KIT) in 2010. He has received several awards and is associate editor of ACS Sustainable Chemistry & Engineering. His research interests include the sustainable use and derivatization of renewable resources for polymer chemistry as well as the design of novel highly defined macromolecular architectures.

LECTURE

New cellulose chemistry from a sustainability perspective: renewability is not enough

In order to develop truly 'green' polymeric materials, using renewable resources is insufficient. The renewable feedstocks rather have to be used in a sustainable fashion by combining as many of the principles of green chemistry as possible and by applying quantitative methods of sustainability evaluation.

Within this contribution, the focus will be on new approaches for the synthesis of polymeric materials from carbohydrates. Sustainable functionalization strategies of cellulose, including new solubilization and catalysis concepts as well as the use of multicomponent reactions, will be discussed.

Keywords:

cellulose • green chemistry • switchable ionic liquids • derivatization • material properties