

# CIF LECTURE “Sustainable utilization of lignocellulosic biomass for polymeric materials”

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“IT IS OUR GOAL TO DEVELOP NEW SYNTHETIC PROCEDURES THAT ARE ALONG THE LINES WITH THE PRINCIPLES OF GREEN CHEMISTRY. A MAJOR FOCUS OF OUR WORK IS A SUSTAINABLE USE OF RENEWABLE RESOURCES FOR THE (POLYMER) INDUSTRY.”

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In ages of depleting fossil reserves and an increasing emission of greenhouse gases, it is obvious that the utilization of renewable feedstocks is one necessary step towards a sustainable development of our future. In order to develop truly ‘green’ approaches, using renewable resources is insufficient. The available feedstocks rather have to be used in a sustainable fashion by combining as many of the principles of green chemistry as possible and by accessing and comparing the sustainability of chemical transformations. Within this contribution, new approaches for the synthesis of monomers as well as polymers from plant oils, lignin and carbohydrates will be discussed, thereby highlighting developed sustainable (catalytic) modification strategies. The focus of this presentation will be on novel approaches towards the functionalization of cellulose and lignin, including new solubilization and catalysis concepts as well as the use of multicomponent reactions.

About Michael Meier

Michael Meier is full professor at the Karlsruhe Institute of Technology (KIT, Germany) since 2010. He received his diploma degree (M.Sc.) in chemistry in 2002 from the University of Regensburg (Germany) and his PhD under the supervision of Prof. Ulrich S. Schubert from the Eindhoven University of Technology (The Netherlands) in 2006. 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.

Michael Meier tweets @AK\_Meier and further informations are online: [www.meier-michael.com](http://www.meier-michael.com).

Walter Leitner (FRSC) is Director at the Max Planck Institute for Chemical Energy Conversion in Mülheim an der Ruhr and holds the Chair of Technische Chemie und Petrolchemie at RWTH Aachen University. He is also Scientific Director of CAT, the joint Catalytic Center of RWTH Aachen and the company Covestro. His research focusses on a molecular approach to catalysis motivated by the principles of Green Chemistry. From 2004 - 2016, he served first as Scientific Editor and later as Chairman of the Editorial Board of the Journal "Green Chemistry", published by the Royal Society of Chemistry (UK) and since 2018 he is a member of the Editorial Board of "Angewandte Chemie". The research efforts of his team have been recognized with several awards including the Otto Roelen Medal of the German Catalysis Society (2001), the Wöhler Prize of the Gesellschaft Deutscher Chemiker (2009) and the European Sustainable Chemistry Award of EuCheMS in 2014 (together with Prof. Jürgen Klankermayer).

Sebastian Mueller (Chemical Invention Factory, TU Berlin)

Organizer