

SPEAKER



NAME

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BIOGRAPHY

Samir Kopacic holds a BSc. in technical chemistry (2012), MSc in chemical engineering (2015) and has accomplished a Ph.D. in chemical and process engineering (2019) from Graz University of Technology. Samir was employed, during and after his master studies, in paper industry as an Applied Science Technologist for Food Contact Materials (2014-2015). Since 2016, he has been working at Graz University of Technology as a Project Researcher (Ph.D. studies) and after his promotion as a Post-Doctoral Researcher in the field of chemical, paper and packaging technology at the Institute of Paper- Pulp and Fibre Technology. In recent years Samir was predominately involved in applied research and projects ("FLIPPR0", "BARRIEREPAPIER" and "FLIPPR2") funded by the industry. His main research activities are related to the utilization of renewable natural materials such as technical lignins, chitosan, alginate, technical proteins and MFC/NFC for surface treatment of fiber-based porous materials.

LECTURE

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Biobased barriers for packaging papers

Biobased materials such as alginate, casein, soya protein, gluten, MFC and chitosan have a potential to substitute synthetic barriers used for coating of paper-based packaging materials. These bio-based materials, applied on packaging paper could provide interesting functionalities while still maintaining the environmentally friendly characteristics of the paper. Different types of paper were coated using renewable materials and comprehensive barrier measurements showed multifunctional barrier properties of biomaterials. Gas permeability of the coated samples was 0 mL·min⁻¹. Grease resistance was improved, while it was possible to reduce water vapor transmission rate, the migration of mineral oils, and the permeation of organic volatile compounds for both paper substrates when compared with uncoated substrates. In summary, industrially produced paperboard was upgraded by coating it with the naturally biodegradable biopolymers, thus achieving extraordinary barrier performance for various applications within the paper and packaging industry.

KEYWORDS:

Coatings
Biopolymers
Packaging papers
Barriers
Bio-based
Recyclable
Renewable materials