

Session: Panel discussion with Dutch R&D organisations
Panel member: Jacco van Haveren
Wageningen UR Food & Biobased Research (NL)

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Curriculum:

Dr. Jacco van Haveren has been with Wageningen University & Research centre (Wageningen UR) for over twenty years in several positions.

He is currently Programme Manager Biobased Chemicals and Fuels at Wageningen UR Food and Biobased Research. He is responsible for setting up both fundamental and applied research programmes, in close interaction with industry, in the field of biobased chemicals & polymer chemistry with a focus on exploring the possibilities to use renewable chemicals in polymer applications. He is the scientific coordinator of the Dutch national programme on Biobased Performance Materials. He is furthermore one of the Management team members of the CATCHBIO programme. He is co-author of more than 20 patent applications and over 40 scientific publications.

Abstract:

Over 25 years Wageningen UR Food and Biobased Research is performing applied research in the domain of biobased materials and chemicals. Currently the research on biobased performance materials is focused on the development of renewable materials such as bioplastics (thermoplastics and thermosets), natural fibre based materials (such as composites), coatings and adhesives. Innovative processing technologies are pursued to improve the properties of existing biobased plastics like starch based bioplastics, PHA, PLA, PBS and improving the properties of blends comprising biobased polymers. Such technologies can make the polymers more suitable for a wider range of new applications, e.g. new injection moulding grades enabling use in rigid food packaging.

A second research line is to produce new biobased polymers with potential unprecedented properties. Research here focusses on developing high performance biobased plastics via polycondensation chemistry, like polyesters, polyamides or polyurethanes. This is for example being done by development and incorporation of (often) rigid building blocks e.g. isohexides, biobased aromatics or furan derivatives. New polymers are being synthesised, characterised and processed. Potential applications of such products are in fields like packaging, electronics, automotive or construction. Novel polymers formed by radical polymerisation or a combination of polycondensation and radical chemistry are also being explored; here applications are often in the paints and coatings and related areas. Mild chemo- or bio-catalytic modification of polysaccharides is rapidly growing field of interest with many potential applications. Next to durable products, this also includes applications where biodegradability is a key property.
