It is a pleasure for me to introduce this special issue featuring selected papers from the *5th Nordic Wood Biorefinery Conference in Stockholm*, Sweden, March 25-27, 2014.

There is a steady worldwide trend towards developing bio-based alternatives for fuels, materials and chemicals, replacing fossil-based production. Wood-based biorefineries are probably the most realistic ways to realise this on a large scale. There is a huge existing infrastructure in pulp mills that handle enormous amounts of biomass and are the ideal basis for a biorefinery. Refining of by-products can be integrated with the pulp production regarding energy, wastewater treatment etc.

The present issue of *Cellulose Chemistry and Technology* contains papers based on a selection of papers presented at NWBC 2014. The fifth edition of the Nordic Wood Biorefinery Conference (NWBC) gathered 240 delegates from 26 countries to Stockholm in March 2014.

Since the first NWBC conference in 2008, the research and development within wood-based biorefining has flourished and many companies world-wide are directing towards the emerging opportunities. The travel from traditional pulp and paper production into new biobased markets is carried by numerous co-operations between industry, research institutes and universities. The co-operation between the actors in the biorefinery product development chain is reflected in the composition of the NWBC 2014 delegates: 81 from industry, 68 from institutes, 68 from universities and 23 “other”.

The presentations treated new and emerging biorefinery products, as well as inventions regarding biorefinery processes. Although only a fraction of the100 oral and poster presentations are published here, they give glimpses of the fast development in the research on wood biorefinery challenges. The selected papers embrace the recovery lignin or xylan from conventional cooking black liquors, refining of – these and other – biorefinery intermediates into chemical products, alternative methods for dissolution and separation of the wood components, and methods to produce emerging new special cellulose products, e.g. cellulose nanofibrils and nanocrystals.

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