

EEE Research Seminar

Date: February 16, 2021 at 10:30 A.M.

LOCATION: via Zoom

<https://purdue-edu.zoom.us/j/94593169374?pwd=a1RXXRHovS2dBSmdpK3BlaHMxKoxIdz09>

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BASF SE

Chemical recycling: Technologies, environmental impact, future role in the Circular Economy

In recent years, Chemical recycling technologies have been developed as one possible solution for a more circular economy on plastics. Several advantages can be achieved, e.g. virgin grade technical properties and the use of plastic waste which would otherwise be incinerated or would go to landfill. However, there are also some voices who are asking for more data on the environmental impact on chemical recycling technologies, as well as its impact on an overall circularity strategy for plastics.

The talk will focus on the recent technological developments especially in Europe, discuss methodological aspects on Life Cycle Assessments as well as the results and will also give an outlook on a future overall recycling landscape.

Bio

Within his professional life Andreas held several positions in the context with sustainability in the last 25 years. Starting with a technical research position on the proper combustion of biomass, he worked in the following position as an environmental engineer in waste incineration. He co-introduced at BASF the eco-efficiency analysis, a lifecycle assessment tool with which products and processes can be evaluated and improved according to their environmental and economic performance. In the beginning of the 2000's he co-developed the socio eco-efficiency analysis (SEEBalance) to evaluate products according to all three sustainability dimensions. Based on these experiences he was responsible for a working group developing new business models based on sustainability. In that position he co-developed the innovative mass balance approach with which nearly every chemical product manufactured in an integrated site can be allocated to renewable raw materials.

He worked together in sustainability consulting projects with companies from all customer industries of chemical industry (e.g. automotive, construction, consumer goods, electronics, food and feed, furniture) and in all regions. He organized and conducted several external sustainability workshops for customers, e.g. REACH workshop in India, or eco-efficiency seminar for the North African textile industry). In his actual position he co-developed and implemented the Sustainable Solution Steering at BASF to analyze and steer complex portfolios based on the sustainability market needs as well as business opportunity finding in the whole value chain

In the last five years he was responsible for the global Circular Economy approach of BASF, developed a positioning as well as the way forward. Within that role he co-developed the innovative ChemCycling approach to recycle plastic waste towards virgin like chemicals and plastics. He is an expert on recycling technologies and is leading a co-project at the Ellen MacArthur foundation on mass balance. Within the Alliance to End Plastic Waste, he is representing BASF in the project steering group.

Andreas was responsible for more than 50 publications in different international media (e.g., Int. J. of Sustainable Development) and received several internal and external awards related to sustainability and gave hundreds of external presentations.