

## **Closed-Loop Recycling of Polyethylene-Like Materials**

S. Mecking

Chair of Chemical Materials Science, Department of Chemistry, University of Konstanz

### **Abstract**

An introduction of low densities of functional groups in the main chain can endow polyolefins with desirable additional traits while retaining their mechanical strength and durability. Particularly, recyclability and environmental persistency can be improved upon. An access to such materials can be gained by a number of conceptually different approaches. Catalytic conversions of olefinic substrates and carbonylations are commonly a key step. These can utilize fossil or plant-based feedstocks, like seed or microalgae oils. This talk discusses recent findings on main-chain functionalized polyolefins, with an emphasis on recycling and relevant materials properties.