ETH zürich

ICB seminar series 2024/25
chairman: Prof. Dr. Kjell Jorner

FROM MECHANICAL TO CHEMICAL RECYCLING OF PLASTICS - HOW DOES A COMPLIMENTARY SYSTEM WORK?

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ETH Hönggerberg, tba

Abstract: Whereas society is in agreement that plastic waste should be as much and as high-quality as possible, there is much less agreement on the "how". While mechanical recycling continues to dominate in industrial practice, many different new technologies have emerged, each of them often claiming to be a silver bullet. While cajoling for investors' and policy makers' favour alike, technology owners introduce a variety of attractive terminologies like "advanced" or "molecular" recycling. What is less clear, is the realistic role such technologies could play in a complimentary cascade of plastics recycling.

In this lecture, we will first make a clear-cut overview of what belongs to which terminology according to European legislation and what are in fact meaningless buzzwords. We will then continue with a complimentary recycling cascade, which proposes different recycling technologies per incoming polymer type and what this could mean in effective displacement of virgin fuels.

Bio: Kim Ragaert is full professor at Maastricht University, where she is the Chair of Circular Plastics within the Department Circular Chemical Engineering (CCE). She leads a 25-staff research group on Brightlands Chemelot Campus focused on mechanical recycling of plastics and making the overall circular plastics system work. A respected authority in her field, Kim was the 2020 European Plastics Recycling Ambassador and a 2024 Royal Finalist of the Prins Friso Engineer of the Year award. She helps move the plastics industry towards circularity via her work as an Impact Committee member on ReOcean Investment Fund and scientifically supporting major reports like the well-known 2022 ReShaping Plastics report. Kim is a founding member of Brightlands Circular Space.

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