

Session: Converting and Processing  
Presentation by: Ulla Trommsdorff and Emmanuel Rapendy  
Sulzer Chemtech Ltd (CH)

Title: **Biopolymers: from the bench to industrial scale**

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Curriculum:

1987: completed studies as material engineer at the Swiss Federal Institute of Technology in Zürich (ETHZ).

1994: completed dissertation at the Polymer Institute of ETHZ on computer modelling of the structure of amorphous starch.

Since then, Ulla Trommsdorff worked in several Swiss companies, always in R&D departments. Special interest in: interactions of plastics with food (Bühler Uzwil) and with the human body (Sulzer Medica – Zimmer), as well as in bioplastics (ETHZ, SwissGEL AG and Sulzer Chemtech LTD.). Since 2012 with Sulzer Chemtech Ltd.

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Curriculum:

Emmanuel holds a MSc in Chemistry and Chemical Engineering from Ecole Supérieure de Chimie Organique et Minérale (2003) and a Master in Finance from IEA Paris – Sorbonne (2010). He started his carrier at Total as an application chemist in the US, and hold various positions in consulting managing business development projects for large petrochemical groups and technology start-ups. In 2013, Emmanuel joined Sulzer Chemtech, and is now responsible for the Polymer Business within Sulzer Chemtech, which includes biopolymers, EPS and polymer foams, reaction and degassing unit, as other polymer production applications.

Abstract:

Sulzer was founded in 1834 in Switzerland, and is specialized in separation, reaction and mixing technologies, as well as pumps and maintenance for rotating equipment in the oil and gas, petrochemicals, energy, water industries. Sulzer provides not only key process

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equipment, but also complete systems which include engineering, process know-how and application expertise.

Influenced negatively by the recent low oil prices, investments projects in biopolymers have been challenged but also supported by favorable global policies and visionary end-users. In this context, it is critical for process owners to keep on developing innovative and competitive biopolymers production solutions.

Over a decade ago, supporting the development of biopolymers in durable applications, Sulzer has developed a high-performance purification technology for lactide based on crystallization, which paved the way to further development in polymerization and processing of polylactic acid polymers, making them suitable for both durable applications and biodegradable products.

Between 2007 and today, the newly developed polymerization technology went from the bench scale to 10 kta and more. This led in 2015 to the start-up of a 10 kta PLA plant in China.

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