

6<sup>th</sup> Asia Pacific Congress on

# CHEMICAL AND BIOCHEMICAL ENGINEERING

September 17-18, 2018 Hong Kong

## Progress of research and industrialization of biodegradable polyesters

**Jun Xu**

Tsinghua University, China

Biodegradable polymers have attracted intense attention in the past decades due to its biodegradation in soil after disposal, among them Poly (Butylene Succinate) (PBS) and its copolymers are a family of biodegradable polymers with excellent biodegradability, thermal processability and balanced mechanical properties. In the past years, we have worked on synthesis, processing, characterization and industrialization of PBS and its copolymers. This talk focuses on molecular design of the biodegradable polymers to tailor the mechanical properties and biodegradation rate. Based on the knowledge learned from crystallization, we have developed a highly efficient macromolecular nucleating agent to accelerate crystallization of PBS. In addition, industrialization and application of PBS and its copolymers will be presented. The application of the biodegradable polymers for films and 3D printing (fused deposition modeling) will be highlighted.

jun-xu@tsinghua.edu.cn