

Keynote Speaker-----Prof. Long Yu



Prof. Long Yu, South China University of Technology, Wushan, Guangzhou, China

Biography: Prof. Long Yu currently is Director of Sino-Singapore International Joint Research Institute. He used to work in CSIRO, Australia as Principal Scientist for more than 20 years. Prof. Yu has had more than 140 SCI papers published and citation time is more than 6700. He has been selected as a Fellow of Royal Australian Chemical Institute in 2002, and currently been pointed as Editorial Board of 6 SCI journals. In the last 20 years, Prof Yu has been working on various polymeric materials from renewable resources. He has successfully developed and commercialized many starch-based materials and products, including pure starch-based plastics and medicine capsules.

Speech Title: Biodegradable and Edible Starch-based Composites

Aims: The aim of this work is to develop biodegradable and edible starch-based materials, in particular to reinforce the starch-based materials using biodegradable and edible agents, such as cellulose or starch crystals or self-reinforce techniques.

Methods: Various conventional processing techniques such as extrusion, injection compression molding, and casting, as well as some new techniques such as reactive extrusion, have been adapted for processing starch-based polymers.

Results: The starch-based materials reinforced with natural fibres and cellulose or starch particles have been developed to various environmentally friendly composites. The hydrophilic properties of starch provide the advantage of compatibility with these nature fillers.

Conclusions: Starch crystals, both micro- or nano- size, can be used as reinforce elements to improve the mechanical properties of starch-based materials. As expected, there are good interface between matrix and reinforce agent since chemically they have same structure.

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