

International Conference on

# Sustainable Bioplastics

November 10-11, 2016 Alicante, Spain

## Highly bio-based PLA sheet for high heat and transparent thermoformed containers- A breakthrough

**Michel Labonté**

Solegear Bioplastic Technologies Inc., Canada

Plastic or bioplastic materials used for rigid packaging are ideally transparent. Amorphous PET (aPET), developed over the past 30 years, is now the dominant material used in different markets. More recently, PLA a more sustainable material is sometimes used in the food market applications. Unfortunately, neither the fossil-based aPET nor the PLA can withstand temperature over 70°C, limiting their usage. Among semi-crystalline and opaque biopolymers, only clarified semi-crystalline PP has been the exception for decades. Now after long research, Solegear Bioplastics has developed a highly bio-based material with relatively high transparency (haze level <15%). This sustainable material is now available in large scale and can withstand boiled water (100°C) as well as a short stay in the microwave oven. Best of all, it is almost 100% bio-based or plant-based, introducing novel highly sustainable packaging material for rigid packaging applications for the food market.

mlabonte1211@gmail.com

## Engineering at the nanoscale: A strategy for developing high performance functional materials

**Sabu Thomas**

Mahatma Gandhi University, India

The talk will concentrate on various approaches being used to engineer materials at the nanoscale for various applications in future technologies. In particular, the case of clay, carbon nanostructures (e.g. nanotubes and graphene), metal oxides, bionanomaterials (cellulose, starch and chitin) will be used to highlight the challenges and progress. Several polymer systems will be considered such as rubbers, thermoplastics, thermoetts and their blends for the fabrication of functional polymer nanocomposites. The interfacial activity of nanomaterials in compatibilizing binary polymer blends will also be discussed. Various self-assembled architectures of hybrid nanostructures can be made using relatively simple processes. Some of these structures offer excellent opportunity to probe novel nanoscale behavior and can impart unusual macroscopic end properties. I will talk about various applications of these materials, taking into account their multifunctional properties. Some of the promising applications of clay, metal oxides, nano cellulose, chitin, carbon nanomaterials and their hybrids will be reviewed. Finally the effect of dewetting up on solvent rinsing on nano scale thin films will also be discussed.

sabuchathukulam@yahoo.co.uk