

Metabolic Engineering of *Yarrowia Lipolytica* for the Simultaneous Production of Succinic Acid (SA) and Polyhydroxyalkanoates (PHAs)

Authors : Qingsheng Qi, Cuijuan Gao, Carol Sze Ki Lin

Abstract : Food waste can be defined as a by-product of food processing by industries and consumers, which has not been recycled or used for other purposes. Stringent waste regulations worldwide are pushing local companies and sectors towards higher sustainability standards. The development of novel strategies for food waste re-use is economically and environmentally sound, as it solves a waste management issue and represents an inexpensive nutrient source for biotechnological processes. For example, *Yarrowia lipolytica* is a yeast which can utilize hydrophobic substrates, such as fatty acids, lipids, and alkanes and simple carbon sources, such as glucose and glycerol, which can all be found in food waste. This broad substrate range makes *Y. lipolytica* a promising candidate for the degradation and valorisation of food waste, and for the production of organic acids, such as citric and α -ketoglutaric acids. Current research conducted in our group demonstrated that *Y. lipolytica* was shown to be able to produce succinic acid. In this talk, we will focus on the application of genetically modified yeast *Y. lipolytica* for fermentative succinic acid production with an aim to increase productivity and yield.

Keywords : food waste, succinic acid, *Yarrowia lipolytica*, bioplastic

Conference Title : ICABE 2015 : International Conference on Applied Biology and Ecology

Conference Location : Melbourne, Australia

Conference Dates : December 13-14, 2015