Bioconversion of Food and Beverage Waste to High Value Added Products

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Host: ***A/P Liu Shao Quan***
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All Are Welcome !

Abstract

In Hong Kong, there are around 3,600 tonnes of food waste generated, which is made up of 40% of Municipal Solid Waste (MSW). Fifty-two percent (52%) of the MSW generated is dumped into landfills. It is estimated that by 2020, all current landfill sites in Hong Kong will be exhausted.

Exploiting food waste and by-product streams generated by the food and beverage industry for chemical and material production could create integrated, sustainable and bio-based processes. Local or regional production of bio-based chemicals and materials could be supported through integration of new technologies in existing industrial plants where waste or by-product streams could be exploited as raw material for chemical and material production. This synergistic approach could create significant added-value, will require less capital investment, will create new job opportunities, will expand the market outlets of existing industrial sectors and reduce environmental impact of existing plants. Furthermore, this approach could lead to a smoother transition from the petrochemical to the bio-economy era.

In this talk, valorization of food and beverage waste in biotechnological processes is presented. The focus is on the production of three industrially important added value chemicals, namely succinic acid, lactic acid and fructose, which have been used for the synthesis of biobased products.

About the speaker

Dr. Carol Lin graduated in Chemical and Materials Engineering from the University of Auckland, New Zealand with a 1st class honours degree, and PhD in Biochemical Engineering from the University of Manchester, the United Kingdom

She is currently an Assistant Professor in the School of Energy and Environment at the City University of Hong Kong. Her research focuses on valorization of renewable resources through biorefinery concept into commercially valuable bio-based products.

Dr. Lin is also editorial board member of several biotechnology and energy related journals. She has published over 55 papers with several scientific manuscripts in top impact factor journals including Chemical Society Reviews, Energy and Environmental Sciences; editor of 2 books and co-authored 8 book chapters. She gave around 65 oral presentations around the world.