FST lunchtime Seminar Announcement

Evaluation of a Novel Food Packaging Material Based on Clay/Polymer Nanocomposite

By Dr. Huang Jen-Yi

Date: 28th September 2015, Monday
Time: 12:00pm to 1:00 pm
Venue: Seminar Room, S14-06-20
Host: Dr. Yang Hongshun

Abstract

Nanocomposites have recently been developed as alternatives to polymers in food packaging, which improve the physical properties of polymers in contrast with conventional materials, representing the most emerging technology in food packaging field. A facile approach was developed for preparing a flexible and transparent clay-based polymer nanocomposite film with enhanced oxygen barrier properties, which could be adopted by the food industry. This work first investigates the migration of nanoclay to ensure the safety of the nanocomposite film application. The results of migration assessment verified the conformity of the nanocomposite film with European directives. The incorporation of nanoclay was found to have a high capacity to improve barrier properties, with drastic reduction of oxygen transmission rate of the polymer film. The performance of the packaging film developed on maintaining preservation qualities of model food was evaluated. Application of nanocomposite packages prolonged the retention of hydrophilic and lipophilic antioxidants in tomato paste, as well as retarded its discolouration. This work shows that application of the developed nanocomposite packaging materials is a new approach to assist commercial producers and retailers for preserving and extending the shelf life of food products over a broader range.

About the speaker

Dr Jen-Yi Huang joined National University of Singapore as a research fellow in 2013, with a current research focus on transparent active food packaging. He holds a master's degree in food science and technology and a bachelor's degree in agricultural mechanical engineering from National Taiwan University. He received his doctorate in chemical engineering from University of Cambridge. His PhD work on food fat fouling led him to develop strategic methods to reduce the carbon footprint of food production. He will begin his work at Purdue University as an assistant professor of food engineering in the Department of Food Science in 2016. His research will focus on sustainability of food processing.

All are welcome !