

Novel Processing Technologies to Manage the Risk of Foodborne Viruses

By Dr. Alvin Lee

Date: 26th October 2015, Monday

Time: 12pm - 1pm

Venue: Seminar Room, S14-06-20

Host: Dr Yuk Hyun-Gyun

Abstract

Foodborne viruses, including norovirus and hepatitis A, accounts for an estimated 66% of food-borne illness in the US and continue to cause outbreaks, often linked to minimally processed foods and ready-to-eat foods, including fresh produce and shellfish, that often do not receive any thermal treatments or kill step. Demands by the consumer for fresh, nutritious and convenient foods have resulted in the application of novel non-thermal based technologies in the food industry to meet such demands while addressing issues of food safety, production efficiency, and shelf life extension. A number of new and novel technologies such as high powered ultrasound and high pressure processing have been shown to act synergistically with antimicrobial sanitizers during commercial washing of fresh-cut produce and inactivate viruses in shellfish and certain ready-to-eat foods, respectively. Similarly, other non-thermal processing techniques such as high intensity pulsed light has gained prominence and being extensively studied determine their efficacy in disrupting and inactivating viruses. The data collected from such research activities along with improved understanding of the prevalence and behavior of foodborne viruses in the food production, processing, and handling environments could be used to develop and validate risk-informed, scientifically justifiable commercial control measures.

About the speaker



Dr. Alvin Lee is a microbiologist and virologist with more than 17 years research experience with a Ph.D. from RMIT University. He was at CSIRO, Australia for almost 10 years before joining the Institute for Food Safety and Health. Dr. Lee currently leads IFSH Center for Processing Innovation and co-leads the joint IFSH/FDA Microbiology Research Platform on food safety and defense related projects. He leads the Prevention and Control CORE of NoroCORE, a USDA-NIFA Food Virology Collaborative based at North Carolina State University. Current research support includes funding from USDA, U.S. FDA, National Center for Food Protection and Defense (NCFPD), Department of Homeland Security (DHS) and various industry contracts.

Dr. Lee is an instructor for food microbiology in the IIT's Masters of Science program and has mentored more than 30 graduate research students and post-doctoral fellows. He is currently an active member of the International Association for Food Protection – serving on the IAFP Scientific Program Committee, American Society for Microbiology and Institute of Food Technologists.