

APRU Food Security Webinar Series 2024

▾ Precision Agriculture and Food Shelf Life Extension in Asia-Pacific

Webinar 1

”AI-based Drone Mapping Solutions” &
“Sustainable Cold Chain: Jelly Ice Cubes”

Feb 22 Thursday at 5pm (Vancouver, Los Angeles)

/ Feb 23 Friday at 9am (Singapore, Taipei)

/ Feb 23 Friday at 11:30am (Adelaide)

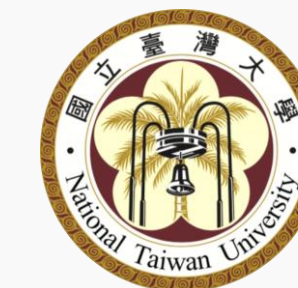
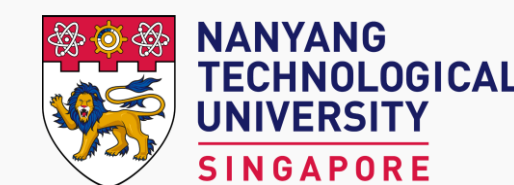
Speakers:

Dr. Bing Lu, Department of Geography, Simon Fraser University

Dr. Jiahua Zou, Department of Food Science and Technology, University of California, Davis



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Speakers



Dr. Bing Lu

Simon Fraser University
"AI-based Drone Mapping
Solutions"



Dr. Jiahan Zou

University of California, Davis
"Sustainable Cold Chain:
Jelly Ice Cubes"

Moderators

Prof. Woo Soo Kim

Simon Fraser University

Prof. Ermias Kebreab

University of California, Davis

Discussants

Prof. Gang Sun

University of California, Davis

Prof. Luxin Wang

University of California, Davis

Dr. Bing Lu

Investigating Blueberry Scorch Virus Infection Using Unmanned Aerial Vehicle (UAV)-based Imagery and Deep Learning



Abstract

Blueberry is an essential agricultural product in British Columbia, Washington, Oregon, and many other locations around the world, but its growth and yield have been significantly affected by the scorch virus in the past few decades. This research was thus proposed to map the virus infection using high-resolution UAV images and support growers in taking timely management actions.

Biography

Dr. Bing Lu is an Assistant Professor in the Department of Geography at Simon Fraser University. His research is focused on remote sensing (e.g., drone- and satellite-based imaging) and its applications in ecosystem monitoring. He has been trying to use remote sensing as an Agritech for evaluating crop health and soil health and investigating the impacts of climate change and extreme events (e.g., heatwave, flooding).

Dr. Jiahan Zou

Sustainable Temperature Controls: A Critical Step for Ensuring Food Safety and Quality



Abstract

Temperature abuses in the cold chain can lead to significant reduction of food shelf life and quality, as well as potential microbial cross-contamination. Traditional ice and ice packs exacerbate environmental burdens through water and plastic use. The bio-based reusable "Jelly Ice Cubes (JICs)" could be an environmentally friendly solution to address these issues through a multidisciplinary approach. The novel cooling media have the features of customizable and efficient in cooling, no meltwater and reusable, microbial resistant and home compostable, which can contribute to sustainable temperature control for food and biomedical supplies.

Biography

Dr. Jiahan Zou currently serves as a postdoctoral research associate in the Department of Food Science and Technology at UC Davis. With an interest in sustainable bio-based functional materials, she has been engaged in research for over 11 years. As part of her doctoral work, Jiahan is a key inventor of "Jelly Ice" and has been instrumental in its development. She transformed this visionary idea into a tangible prototype in three years and is now leading the effort to transition Jelly Ice from a laboratory innovation to a practical, everyday application.