



Course

Novel Sensing Technologies and Chemometrics

tools for quality management in fresh supply chains

Are you looking for insights in the latest non-destructive sensing technologies to analyse fresh horticultural products and gain insights in their properties? Do you want to use chemometrics modelling for quality measurements and assessment? Then this course is something for you. Novel sensing technologies and chemometric modelling provide tools to increase yield, improve postharvest quality and make better decisions in fresh supply chains and thus reduce food waste.

Target group

This course is designed for technical professionals responsible for quality assurance, marketability, safety, logistics, research and associated activities in fresh produce supply chains. The target audience consists of persons active in breeding, production, trade, retail, tech developers and equipment builders with a focus on (postharvest) quality.

No prior knowledge on the course topics is required.

Results

After successful completion of this course, you have learned the basic principles behind different sensing technologies and chemometric modelling approaches for analyzing physicochemical properties of fresh produce. Furthermore, you will understand the capabilities and challenges and can start applying new sensing and chemometric approaches in your own business.

Dates	30 September, 1 & 2 October 2024
Location	Wageningen Campus
Duration	3 days

Course leader Dr. P (Puneet) Mishra,
Wageningen Food & Biobased
Research

Outline and topics

The course offer a mix of lectures, demonstrations, networking, and ample time for discussions and questions. Together you will explore the challenges of:

- Capabilities and challenges of current and future sensing approaches for assessment of fresh horticultural products (fruit, vegetables, flowers and potted plants)
- Where and how the different sensing approaches can be used
- The novel chemometric modelling approaches to make meaning to sensor data
- Handling different sensors for routine use



Programme

Within 3 days you will be guided through the many interesting facets of non-destructive quality measurements by a team of experts from Wageningen University & Research. *All topics are focused on applications and solutions for fresh horticultural products.*

Monday 30 September 2024

- Welcome and introduction to the course
- The world of fresh horticultural products
- Importance of sensing and modelling
- Computer vision (*RGB and 3D*)
- Robotics and Automation
- Technology demonstrations and discussions
- Social diner

Tuesday 1 October 2024

- Temperature and humidity sensing along fresh produce chain
- Gas sensing
- Optical spectroscopic techniques: Basics and applications (*UV-Vis, NIR, MIR, Raman, Fluorescence*)
- Miniature spectral sensing
- Technology demonstration

Wednesday 2 October 2024

- Reference ground truth analysis in validating sensors
- Chemometrics signal modelling
- HyperSpectral image processing and modelling
- Pitches on new technologies (*X-ray, Digital twin, Piezo electric sensing and, nuclear magnetic resonance*)
- Panel discussion
- Certificates and drinks

The course content development has received funds from the DIP4Agri - Deep Tech Innovation Program for Agrifood



Practical information



€ 1,695.- per person and covers tuition, course materials, demonstrations, lunches and one diner.

For PhD students we offer a reduced course fee of € 1,125.-



Between 20 and 30 participants.



Based on your attendance you will receive a certificate after the programme is finished.

Registration

Enrollment is possible until the maximum number of participants is reached. Register via wur.eu/academy.

[Register](http://wur.eu/academy)



Wageningen Academy

We develop and organise courses for professionals, based on Wageningen University & Research expertise.

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