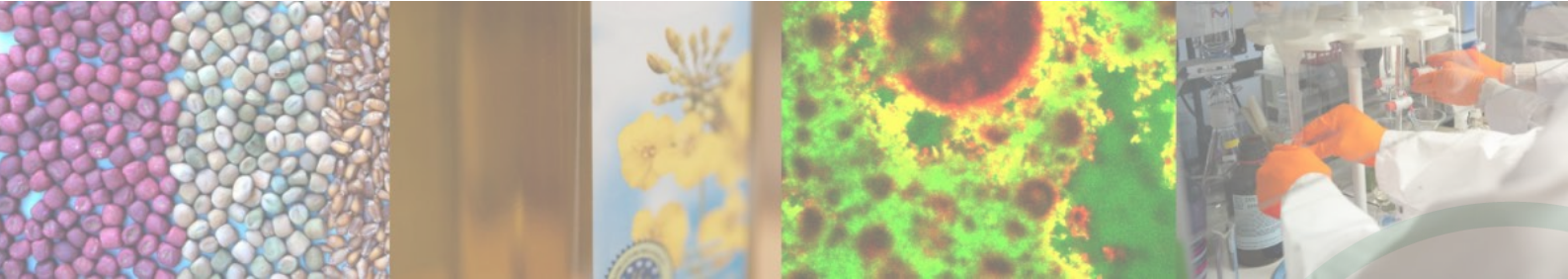


COURSE

Lipid oxidation in foods and nutrition

22 – 24 April 2025

Wageningen Campus & Online, the Netherlands



BACKGROUND

Lipid oxidation is a major concern in food technology and nutrition, as it can significantly affect the quality, flavor, safety, and nutritional value of food products enriched in (poly)unsaturated fatty acids. Besides, lipid oxidation does not occur only in foods but also within the body, e.g., during digestion, and can have some significant health effects. Understanding the mechanisms of lipid oxidation and how to monitor them is essential for the development of strategies to prevent it, extend the shelf-life of lipid containing food products and maintain their nutritional value and safety.

This course provides an in-depth description of the reactions catalysing the oxidation of fatty acids in food matrices and in vivo. Factors promoting or preventing lipid oxidation will be discussed in details, as well as co-oxidation of other food components, in particular the proteins. The course will cover the oxidation reactions in food systems, during digestion and their potential impact on human health. Additionally, a review of various analytical methods used to assess lipid and protein oxidation will be presented, along with their strengths and limitations.

PROGRAMME TOPICS

The course will consist of 65% lectures and 35% activities. To kick-off the course, each participant will be asked to give a 2-min pitch presentation about their project and their expectations from the course. Participants will also work in small groups on case studies during which they will have the opportunity to dive a bit deeper into specific aspects of lipid oxidation.

- Chemistry of lipid oxidation – Autoxidation, photooxidation, and enzymatic oxidation
- Analytical methods to monitor lipid oxidation
- Lipid oxidation in emulsions
- Co-oxidation of proteins and other emulsifiers
- Antioxidant solution to prevent lipid oxidation
- Lipid Oxidation in Digestion and interactions with microbiome

PARTICIPANTS

The course is aimed at PhD candidates and young researchers working in food and nutrition research, as well as industries working on lipid oxidation..

COURSE LECTURERS

Course coordinators

- Dr **Marie Hennebelle**, Food Chemistry, Wageningen University & Research, the Netherlands
- Dr **Claire Berton-Carabin**, Biopolymers, Interactions and Assemblies, INRAE, Nantes, France

Other faculty

- Prof. **John van Duynhoven**, Biophysics, Wageningen University and Research, the Netherlands
- Dr **Anne Meynier**, Biopolymers, Interactions and Assemblies, INRAE, Nantes, France
- Dr **Josep Rubert**, Division of Human Nutrition and Health, Wageningen University and Research, the Netherlands
- Dr **Tom Ewing**, Wageningen Food & Biobased Research, Wageningen University and Research, the Netherlands
- t.b.d. (CIRAD, Montpellier, France)

COURSE FEES

	Early Bird Fee**	Regular fee**
VLAG / WU PhD candidates and VAAME / BS (France) PhDs	€ 225	€ 275
PhD candidates	€ 450	€ 500
Postdocs and other academic staff / Non-profit	€ 625	€ 675
Participants from the private sector	€ 1200	€ 1250

**Early bird registration deadline is 28 February 2025. The final registration date is 22 March 2025.

For more information and registration

