VLAG GRADUATE SCHOOL

COURSE

Algae Biorefinery

30 June – 3 July 2025

Wageningen Campus, the Netherlands

BACKGROUND

Algae, both microalgae and macroalgae, are considered promising feedstock for a variety of applications: food, feed, chemicals, materials and energy. The advantages of this feedstock include a wide variety of potential products, sustainability, high areal productivity in comparison to terrestrial crops, and lack of competition for land that is suitable for agriculture. On the other hand, algae are a relatively costly biomass source, certainly for more bulk products. In addition to cost-price reduction needed for the production / cultivation (e.g. by increasing the scale of sourcing), the biomass value should be maximized by realisation of biorefinery concepts generating multiple value-added products.

Thus, to develop a more sustainable and economically feasible process, all major biomass components (e.g. proteins, lipids, carbohydrates) should be used at minimal energy requirements and costs while maintaining the functionality of the different biomass components. Biorefining of algae is a key step for the selective separation and use of the functional biomass components.

COURSE FEE

	Early Bird Fee**	Regular fee**
VLAG / WU PhD candidates	€ 275	€ 325
PhD candidates	€ 500	€ 550
Postdocs and other academic staff / Non-profit	€ 725	€ 775
Participants from the private sector	€ 1600	€ 1650

MICROALGAE PROCESS DESIGN COURSE

We can offer a discount in total course fee when taking this course together with the course on Microalgae Process Design: from cells to photobioreactors (4 - 11 July 2025). Please contact yvonne.smolders@wur.nl

COURSE DESIGN & TOPICS

Through lectures, case studies and practicals, the participants will learn: 1) to understand different process units for each process step in the algae biorefinery chain; 2) to evaluate and optimize the process units by setting up mass/energy balances for each unit; 3) to integrate the different process units in a process chain and 4) to integrate the acquired knowledge into optimal process chains for different business cases with different combinations of end products.

- Unit operations including pre-treatment, cell disruption, extraction and fractionation;
- Biorefinery process design;
- Economic and environmental assessment of the process chain;
- Hands-on processing of algal biomass;
- Novel processing approaches and trends.

COURSE LECTURERS

- Dr **Iulian Boboescu**, Wageningen University & Research, Bioprocess Engineering
- Dr **Wouter Huijgen,** Wageningen University & Research, Bioprocess Engineering
- Several academic and industrial speakers – t.b.a.

PARTICIPANTS

The course is aimed at PhD candidates, postgraduate and postdoctoral researchers, as well as professionals, that would like to acquire a thorough understanding of algal biorefinery. An MSc level in (bio)process technology, or alike, is recommended.

COURSE INFORMATION AND REGISTRATION

For the full course details and registration link

SCAN ME

https://www.vlaggraduateschool.nl/en/courses/course/abr25.htm