

## Postgraduate Course

# Microalgae Process Design: from Cells to Photobioreactors

5 – 12 July 2019

(Bioprocess Engineering - AlgaePARC, Wageningen, The Netherlands)



### AIM OF THE COURSE

This course provides the essential skills for designing optimal microalgae-based production processes, for both research and commercial purposes.

### COURSE CONTENTS

Through lectures, digital cases and a photobioreactor practical, the participants will learn:

- to quantify light-limited growth in photobioreactors,
- to define approaches for strain selection and improvement,
- to apply basic design principles and set up mass/energy balances for photobioreactors,
- to cultivate microalgae in fully controlled photobioreactors,
- to integrate the acquired knowledge into optimal production strategies for microalgae biomass or secondary metabolites,
- to scale it up and evaluate the impact of process parameters on production costs.

### PARTICIPANTS

The course is aimed at PhD students, postdoctoral researchers, professionals from academy and industry, who would like to acquire a thorough understanding of microalgal metabolism and photobioreactor design and operation. An MSc level in bioprocess technology, or alike, is recommended. Please note that in this course the biology and cultivation of microalgae are covered. In a second course "Microalgae Biorefinery" (Wageningen, 15 – 18 July 2019) the next process step i.e. the biorefinery will be in focus. When taking both courses we can offer a reduction in total course fee. For more information, please contact Eva Oudshoorn ([eva.oudshoorn@wur.nl](mailto:eva.oudshoorn@wur.nl)).

### COURSE LECTURERS & ORGANIZERS

**Colorado School of Mines, Department of Chemistry, US**  
Prof. Matthew Posewitz

**Bioprocess Engineering - AlgaePARC  
Wageningen University & Research**

Dr Maria Barbosa (course leader)  
Prof. René Wijffels, Dr Marcel Janssen,  
Dr Arjen Rinzema, Dr Sarah D'Adamo

**The Graduate School VLAG  
Wageningen University & Research**

Eva Oudshoorn, MSc

### COURSE FEES <sup>1</sup>

VLAG / WU PhD candidates	€ 450,-
All other PhD candidates, VLAG Postdocs and staff	€ 750,-
Postdocs and other academic staff	€ 1300,-
Participants from the private sector	€ 2850,-

<sup>1</sup> includes materials, lunches/tea/coffee, and two course dinners.

### REGISTRATION AND INFORMATION

<http://www.vlaggraduateschool.nl/en/courses/course/MPD19.htm>

For information contact:  
Eva Oudshoorn: [eva.oudshoorn@wur.nl](mailto:eva.oudshoorn@wur.nl)

