



Prof. Dr. René H. Wijffels

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PERSONAL DATA

BORN: 8th February 1960, The Netherlands

PROFESSIONAL: Wageningen UR/Bioprocess Engineering /
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EDUCATION

- 1987-1994 **PhD in Environmental and Agricultural Sciences**, specialty Bioprocess Engineering, **Wageningen University**, Wageningen, The Netherlands.
- 1982-1987 **MSc in Environmental Engineering**, **Wageningen University**, Wageningen, The Netherlands
- 1977-1982 **BSc in Food Engineering at the Den Bosch Polytechnic Agricultural School**

PROFESSIONAL ACTIVITIES

- Since 2007 **Professor and chairholder at Wageningen University**, Bioprocess Engineering, the Netherlands
- Since 2013 **Professor II at University of Nordland**, Faculty of Biosciences and Aquaculture, Bodø, Norway
- 2005-2007 **Professor Marine Biotechnology at Wageningen University**, personal chair
- 2001-2005 **Associate professor Wageningen University**, Food and Bioprocess Engineering, the Netherlands
- 1999-2000 **Study coordinator Wageningen University** of the study programs Bioprocess Engineering and Biotechnology
- 1990-2001 **Assistant professor Wageningen University**, Food and Bioprocess Engineering, the Netherlands
- 1987-1990 **PhD in Environmental and Agricultural Sciences**, **Wageningen University**, the Netherlands

Memberships/Other functions

- Since 2018 Institutional member of the **European Society of Biochemical Engineering and Science (ESBES)**
- Since 2012 Member of the **Scientific Advisory Board of L'Oreal, France**
- 2004-2006 **Founder and CEO** of algae start-up company **LGem**
- Member of organizations: **European Algae Biomass Association (EABA)** (member of the steering board) , **International Society for Applied Phycology (ISAP)**, **Algal Biomass Organisation (ABO)**, **Dutch Organization of Biotechnology (NBV)**, **European Society of Biochemical Engineering and Science (ESBES)**

Research

Involved in more than 50 projects in the last 10 years; 5 key projects are given below:

1. **Photosynthetic Cell Factories**. VICI grant, 2005-2010, VICI is the most prestigious research project funded by the Dutch Science Foundation (NWO) and meant as a stimulus to set up an independent research group
2. **Wetsus-algae**. Wetsus is a collaboration of the universities of Delft, Groningen, Twente and Wageningen in the field of water technology. The total budget of this program is nearly 100 million €. Funding is based on government support and company support. In this program there is a theme on microalgae with support from 15 companies 8 PhD projects ran under this umbrella:
3. **AlgaePARC pilot plant**. Project for infrastructure and research for a pilot facility. The pilot facility consists of 4 different types of outdoor photobioreactors for cultivation of microalgae. Funding of the infrastructure was from the Ministry of Economic Affairs in the Netherlands and the Province of Gelderland. The research program is a public private partnership with 40% support of the Ministry of Economic Affairs and 60% from companies. The total budget of this program is 8.3 M€

4. AlgaePARC Biorefinery: a public private partnership program on the biorefinery of microalgae. For this program production of microalgae takes place at pilot scale. The Ministry of Economic Affairs supports this program with 55% and there is 45% support from industry. Budget 5.3 M€
5. EU projects. Involved in 7 EU projects in the past years:
 - a. ALGADISK (FP7-SME): a collaborative projects with sme's for the development and pilot testing of an algal biofilm reactor. Coordinator: Confederacion Espanola de Fabricantes de Alimentos Compuestos para Animales. Budget 6 M€
 - b. SPLASH (FP7): an R&D project for the production of Botryococcus and from there to develop green chemicals and biopolymers. Part of the program is production of the biomass at pilot scale in Spain. Coordinator: Wageningen UR. Budget 13 M€
 - c. FUEL4ME (FP7): an R&D project for the production of biofuels from microalgae. Part of the project is done at pilot scale with pilots in Israel, the Netherlands, Italy and Spain. Coordinator Wageningen UR. Budget 6 M€
 - d. MIRACLES (FP7): an R&D project for the production and biorefinery of microalgae. Coordinator Wageningen UR. Budget 13 M€
 - e. GAIN (HORIZON2020) and R&D product about sustainable aquaculture. Our task is on the biomineralization of Zn and Se in microalgae. Coordinator: Universita Ca'Foscari Venezia. Budget 6 M€
 - f. MAGNIFICENT (HORIZON2020-BBI). Development of a new value chain for food, aquafeed and cosmetic ingredients based on microalgae. Coordinator: Wageningen University. Budget 6 M€
 - g. MERIT (HORIZON2020-ERA-CoBioTech): Synthetic biology techniques will be used to engineer microalgae for the sustainable production of diterpenoid products. Coordinator: University of Bielefeld. Budget: 4.8 M€

Publications

336 publications in peer reviewed journals (H-factor 59, Web of Science); a selection of 10:

1. **Wijffels R.H.**, Barbosa M.J. (2010) An outlook on algal biofuels ; Science **329**:296-299
2. Norsker N.H., Barbosa M.J., Vermuë M.H., **Wijffels R.H.** (2011) Microalgal production – a close look at the economics. Biotechnology Advances. 24: 27-29
3. **Wijffels R.H.**, Kruse O., Hellingwerf K.J. (2013) Potential of industrial biotechnology with cyanobacteria and eukaryotic microalgae. Current Opinion in Biotechnology 24:405–413
4. Draaisma B.B., **Wijffels R.H.**, Slegers P.M., Brentner L.B., Roy A., Barbosa M.J. (2013) Food commodities from microalgae. Current Opinion in Biotechnology 24: 169-177
5. Ruiz J., Olivieri G., de Vree J., Bosma R., Willems P., Reith J.H., Eppink M.H.M., Kleinegris D.M.M., **Wijffels R.H.**, Barbosa M.J. (2016) Towards industrial products from microalgae. Energy & Environmental Science 9: 3036 - 3043
6. Remmers I.M., D'Adamo S., Martens D.E., de Vos R.C.H., Mumm R., America A.H.P., Cordewener J.H.G., Bakker L.V., Peters S.A., **Wijffels R.H.**, Lamers P.P. (2018) Orchestration of transcriptome, proteome and metabolome in the diatom *Phaeodactylum tricornutum* during nitrogen limitation. Algal Research 35: 33-49
7. Remmers I.M., **Wijffels R.H.**, Barbosa H.J., Lamers P.P. (2018) Can we approach theoretical lipid yields in microalgae? Trends in Biotechnology 36: 265-276
8. Cabanelas I.T.D., van der Zwart M., Kleinegris D.M.M., **Wijffels R.H.**, Barbosa M.J. (2016) Sorting cells of the microalga *Chlorococcum littorale* with increased triacylglycerol productivity. Biotechnology for Biofuels 9: 183
9. Camilo Muñoz C., de Jaeger L., Lip K.Y.F., Olijslager J., Springer J., Wolbert E.J.H., Martens D.E., Sturme M.H.J., Eggink G., Weusthuis R.A., **Wijffels R.H.** (2018) Improved DNA/protein delivery in microalgae – a simple and reliable method for the prediction of electroporation settings. Algal Research 33: 448-4
10. Janssen J.H., Lamers P.P., de Vps R.C.H., **Wijffels R.H.**, Barbosa M.J. (2019) Translocation and de novo synthesis of eicosapentaenoic acid (EPA) during nitrogen starvation in *Nannochloropsis gaditana*. Algal Research 37: 138-144