

Dr Fabian Abiusi

Process technologist

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15 July 1985, Pinerolo, Italy

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Current position:
PostDoc

📍 Schmelzbergstrasse
9, 8092 Zürich (CH)

Sustainable Food Production, ETH Zürich



I am an ambitious biotechnologist fascinated by microalgae and their potential for a bio-based economy. My aspiration is to coordinate impactfully R&D projects with leading international partner in microalgal research and industry.

Timeline

Research experience

Additional information

1 Mar 2022

PostDoc

(focus: Volcanic protein)

Sustainable Food Production, ETH Zürich (CH)

1 Feb 2021

Chief Scientific Officer

(focus: Scale-up of *Galdieria* and *Spirulina* cultivation for pigment production)

29 Mar 2021

PhD in Bioprocess Engineering

(focus: Oxygen balanced mixotrophic cultivation of microalgae in *Chlorella* and *Galdieria*.)

Bioprocess Engineering group (BPE)

Wageningen University & Research, Wageningen (NL)

1 July 2015

Research assistant in the EU project MAB2.0

(focus: Integration of algae technology into waste water treatment plants to enhance water quality and improve economic viability.)

Bioprocess Engineering group (BPE)

Wageningen University & Research, Wageningen (NL)

1 Sep 2015

Research fellow in the EU project BIOFAT and GIAVAP

(focus: Biofuels, Ω -3-fatty acids, pigment production with microalgae,

design and operation of 1 hectare microalgal demo facility)

Department of Agri-food production and Environmental Sciences

University of Florence, Florence (IT)

1 Sep 2011

ETH Zürich Post Doctoral Fellowship

Two national project granted
Supervisor of 4 international junior researchers

Speaker at:

Algae Biomass Summit 21 (online)

AlgaEurope 21 (online)

Project self-designed

Supervision of 10 international MSc

Speaker at:

AlgaEurope 19 (Paris, FR)

Algae Biomass Summit 19 (Orlando, US)

Project in collaboration with 4 Universities, 2 research centres and 2 companies across EU

Speaker at European Roadmap for an Algae-Based Industry 2016, Olhão (PT)

Project in collaboration with 2 Universities and 8 companies across EU

Operation and design of industrial photobioreactors

Hard skills

Competences

Soft skills

Bioreactor cultivation



Process design



Biomass analysis



Microbial physiology



Bioprocess modelling



Interpersonal

Empathy, honesty, friendliness,
supervision, leadership, extroversion

Intrapersonal

Motivation, resilience, goal oriented,
vision, creativity, cautiousness

Most relevant Publications

Abiusi F., Wijffels R.H. , Janssen M. Doubling of Microalgae Productivity by Oxygen Balanced Mixotrophy. ACS Sustain. Chem. Eng. 2020, 8 (15), 6065-6074. <https://doi.org/10.1021/acssuschemeng.0c00990>

Abiusi F., Wijffels R.H. , Janssen M. Oxygen Balanced Mixotrophy under Day-Night Cycles. ACS Sustain. Chem. Eng. 2020, 8 (31), 11682-11691. <https://doi.org/10.1021/acssuschemeng.0c03216>

Abiusi F., Sampietro G. , Marturano G., Biondi N. Rodolfi L., D'Ottavio M., Tredici M. Growth, photosynthetic efficiency, and biochemical composition of *Tetraselmis suecica* F&M-M33 grown with LEDs of different colors. Biotechnol Bioeng. 2014 May;111(5):956-64. doi: 10.1002/bit.25014.

Abiusi F., Fernández P.M., Canziani S., Janssen M., Wijffels R.H., Barbosa M. Mixotrophic cultivation of *Galdieria sulphuraria* for C-phycoerythrin and protein production. Alg. Res, 2022. doi.org/10.1016/j.algal.2021.102603

Abiusi F., Trompeter E., Hoenink H., Wijffels R.H.; Janssen M. Autotrophic and mixotrophic biomass production of the acidophilic *Galdieria sulphuraria* ACUF 64. Alg. Res 2021. <https://doi.org/10.1016/j.algal.2021.102513>

Abiusi F., Trompeter E., Pollio A., Wijffels R.H.; Janssen M. Acid Tolerant and Acidophilic Microalgae: An Underexplored World of Biotechnological Opportunities. Front. Microbiol., 2022. doi.org/10.3389/fmicb.2022.820907

Teaching

Wageningen University & Research

Applied biocatalysts 2016, 2017

Microalgal biotechnology 2018, 2019

Additional information

2 week case study on the application of biocatalysts in apple juice production

2 week practical course operating small-scale controlled photobioreactors

Education

MSc in Biotechnology (110/110 *cum laude*)

1 Dec 2008- 20 Apr 2011

Curriculum: Agricultural biotechnology

University of Florence, Florence (IT)

BSc in Biotechnology (106/110)

20 Sep 2004- 20 Jun 2008

Curriculum: Medical biotechnology

University of Florence, Florence (IT)

Additional information

6 months MSc thesis on the effect of oxygen accumulation in *Nannochloropsis sp.* BPE, Wageningen University & Research, Wageningen (NL). Dr. M. Vermue

3 months internship on comparison of different types of outdoor photobioreactors for bio-oil production from microalgae. F&M s.r.l. Florence (IT). Dr. L. Rodolfi

9 months internship and BSc thesis on pharmacogenomics determinants predictive of chemotherapy effectiveness.

Department of Health Sciences, University of Florence, Florence (IT). Prof. Dr. E. Mini

Hobbies & interests

Oil painting Playing music (Oboe, guitar, piano)

Scouting Hiking Organizing events

Dogs Volleyball Traditional cooking

Swimming Cultural diversities

Languages

Italian ● ● ● ● ●

English ● ● ● ● ○

French ● ● ○ ○ ○

Spanish ● ● ○ ○ ○

Extra academic occupations

1998-2007: Scout Executive, Group leader at the local level and at national events, organization of technical courses and recreational activities, Florence, Rome, Rossano-Corigliano (IT)

1999-2003: Student of Oboe in the music academia "Stanislao Giacomantonio", Cosenza (IT)

References (contacts available upon request)

Stefano Canziani, Algreen B.V.

Prof. René H. Wijffels, Wageningen University & Research

Prof. Antonino Pollio, University of Naples

Prof. Mario Tredici, University of Florence

Prof. Enrico Mini, University of Florence