

GIACOMO PROIETTI TOCCA

PH. D IN CHEMICAL ENGINEERING



Rome, 18th March 1996



giacomo.proietti@polito.it



Turin, Italy



+39 3348017376



CAREER AND EXPERIENCE

VISITING PH.D STUDENT

ETH Zurich - Sustainable Food Processing group

(September 2023 - April 2024)

Project: Complete conversion of organic acids into protein-rich biomass: discovering the photoformatotrophic capacity of *Galdieria sulphuraria* SAG 108.79.

Advisor: Prof. Alexander Mathys, Dr. Fabian Abiusi

TEACHING ASSISTANCE:

- Biochemical Plants course collaborator (Polytechnic of Turin, March - June 2023, 2024)
- Industrial Biochemistry course collaborator (Polytechnic of Turin, October-December 2022)

Ph.D IN CHEMICAL ENGINEERING

Polytechnic of Turin / IIT (Istituto Italiano di Tecnologia)

(November 2021 - November 2024)

Research project: *Conversion of gas fermentation acetate-rich outflow into valuable microalgal biomass for food applications*

Advisor: Prof. Debora Fino, Prof. Tonia Tommasi,

EDUCATION

MASTER'S DEGREE IN INDUSTRIAL AND ENVIRONMENTAL BIOTECHNOLOGY

Sapienza, Università di Roma

(October 2019 -October 2021)

Thesis title: *Control of bacterial contamination in microalgae cultures integrated with wastewater treatment by applying feast and famine conditions*

Advisors: Prof. Francesca Pagnanelli, Prof. Pietro Altimari, Dr. Fabrizio di Caprio

Final grade: 110/110 cum laude.

BACHELOR'S DEGREE IN BIOLOGY

Università di Roma Tor Vergata

(October 2015 - March 2019)

Thesis title: *Determination of copper levels in tumor cells by atomic absorption spectrophotometry.*

Advisor: Prof. Luisa Rossi

LANGUAGES

- ITALIAN:** native language
- ENGLISH:** Excellent written and oral communication
- GERMAN:** Basic level, under study

HOBBIES AND INTERESTS

Electronic music and classical piano player

Beach volley player and in general sport lover

Anime, manga and role-playing games lover

Worldwide traveler, lover of different and exotic cultures

Animal lover, in particular cats

HARD SKILLS

- Biological and Chemical laboratory experience: cellular culture, maintenance of microbial cultures, optical microscopy, ultrafiltration and microfiltration, centrifugation, sterilization techniques
- Theoretical knowledge and experience with bioreactors cultivation: photobioreactors, CSTR, STR, fermenters
- Experience in biomass and wastewaters analysis: atomic absorption spectrophotometry, fluorescence microscopy, gas-chromatography-MS, flow cytometer, HPLC.
- Familiar with biomass extraction techniques;
- Experience in process design and development;
- Project design, administration and management;
- Software: Excel, Origin, Word, PowerPoint

SOFT SKILLS

- Teamwork
- Public Speaking
- Problem solving
- Time management
- Organization
- Critical thinking
- Data analysis and elaboration
- Adaptability

SCIENTIFIC PUBLICATIONS

- Giacomo Proietti Tocca et al, *Complete Conversion of Organic Acids into Protein-Rich Biomass: Discovering the Photoformatotrophic Capacity of Galdieria sulphuraria*, ACS Sustainable Chemistry and Engineering, 2025
- Giacomo Proietti Tocca et al, *From CO2 to proteins and oils: innovative approach for valorizing acetate-rich gas fermentation stream using microalgae through a two-step process*, Sustainable Chemistry and Pharmacy, 2025
- Giacomo Proietti Tocca et al, *Mixotrophic and heterotrophic growth of microalgae using acetate from different production processes*, Reviews in Environmental Science and (Bio)Technology, 2024
- Fabrizio di Caprio, Giacomo Proietti Tocca et al. *Control of bacterial contamination in microalgae cultures integrated with wastewater treatment by applying feast and famine conditions*, Journal of Environmental Chemical Engineering, 2022

CONFERENCES AND SYMPOSIUM

Speaker at Second Symposium of Young Chemists, Innovation and Sustainability, Sapienza University of Rome, 2024

Speaker at 11th International Conference on Sustainable Solid Waste Management, Rhodes 2024

Speaker at 10th International Conference on Sustainable Solid Waste Management, Crete 2023

Participation at AlgaEurope 2022

Best poster award by molecule journal at First Symposium of Young Chemists, Innovation and Sustainability, Rome 2022