



# Luca Zuliani

Science and nature enthusiast. Fascinated about the environment and sustainable resources.  
Curious about what is next.

## Post-Doc Fellowship at BIB Lab

Università di Verona, Biochemistry and Industrial Biotechnology Lab,  
November 2020 - present

## PhD in Biotechnology

Università di Verona, October 2017 – October 2020

Study on the molecular mechanisms at the basis of photosynthesis  
toward microalgae domestication

## Visiting Scientist at UC Berkeley

University of California Berkeley, USA, September 2018 – December 2018

Study of excess light dissipation in *Chlamydomonas reinhardtii* via an  
*in vivo* and *in vitro* approach

## Research Fellow

Università di Verona, March 2017 – October 2017

Biotechnological improvement of *Nannochloropsis gaditana* to  
produce omega-3 and carotenoids

## Master's degree in Agri-food Biotechnology (LM7)

Università di Verona, 2014 – 2017

Molecular mechanisms of activation of thermal dissipation of the  
light absorbed by *Chlamydomonas reinhardtii*

**Final grades:** 110 cum laude

## Bachelor's degree in Industrial Biotechnology (L2)

Università di Verona, 2011 – 2015

Microalgae cultivation on anaerobic digestate of municipal  
wastewater, sewage sludge and agro-waste

**Final grades:** 100

## High School Diploma in Computer Science

I.T.I.S. G. Marconi, Verona, 2011

## Detail

Address:

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Date and place of birth:

August 20<sup>th</sup> 1992, Verona (Italy)

Available to relocate

Highly proficient in spoken and  
written English

## Other activities and Interests

- Teaching and tutoring;
- Creation and management of websites;
- Digital photography and its post-production;
- Green thumb.

Autorizzo il trattamento dei miei dati  
personali ai sensi del Decreto  
Legislativo 30 giugno 2003, n. 196  
"Codice in materia di protezione dei  
dati personali".

## Publications and Professional Accolades

- Biodiesel, Biogas and Fermentable Sugars Production from Spent Coffee Grounds: a Cascade Biorefinery Approach - Battista F., Zuliani L., Rizzioli F., Fusco S., Bolzonella D. - *Bioresource Technology*, September 2021
- Biorefinery Gets Hot: Thermophilic Enzymes and Microorganisms for Second-Generation Bioethanol Production - Zuliani L., Serpico A., De Simone M., Frison N., Fusco S. - *Processes*, September 2021
- The Role of Acidic Residues in the C Terminal Tail of the LHCSR3 Protein of *Chlamydomonas reinhardtii* in Non-Photochemical Quenching - Camargo F. V. A., Perozeni F., de la Cruz Valbuena G., Zuliani L., Sardar S., Cerullo G., D'Andrea C., Ballottari M. - *The Journal of Physical Chemistry Letters*, July 2021
- LPA2 protein is involved in Photosystem II assembly in *Chlamydomonas reinhardtii* - Cecchin M., Jeong J., Son W., Kim M., Park S., Zuliani L., Cazzaniga S., Pompa A., Kang C. Y., Bae S., Ballottari M., Jin E. - *The Plant Journal*, July 2021
- Identification of distinct pH-and zeaxanthin-dependent quenching in LHCSR3 from *Chlamydomonas reinhardtii* - Troiano J. M., Perozeni F., Moya R., Zuliani L., Baek K., Jin E., Cazzaniga S., Ballottari M., Schlau-Cohen G. S. - *eLife Sciences* 10, January 2021
- Premio Giovane Biologo Vegetale 2017 - Società Italiana di Biologia Vegetale
- Microalgae Cultivation on Anaerobic Digestate of Municipal Wastewater, Sewage Sludge and Agro-Waste - Zuliani L., Frison N., Jelic A., Fatone F., Bolzonella D., Ballottari M. - *International Journal of Molecular Sciences*, October 2016

## Student Tutoring

- Mattia Ambrosi  
Isolation of Novel Thermophilic Microorganism and Enzymes from a Local Biogas Plant
- Nicola Bonetti  
Valorization of Spent Coffee Grounds with a Cascade Biorefinery Approach
- Matteo Albugue  
Producing Saffron metabolites in *Chlamydomonas reinhardtii*
- Edoardo Ceschi  
Expression of the BKT enzyme in *Nannochloropsis oceanica* to achieve astaxanthin accumulation

## Conferences and seminars

- IFIB 21 Congress  
Virtual edition, 30 September - 1 October 2021  
[Poster presentation](#): Untreated Lignocellulose Feedstock Fermentation by Locally Sourced Enriched Thermophilic Consortia
- SIB 2021 Congress  
Virtual edition, 23-24 September 2021  
[Oral and Poster presentation](#): Lignocellulolytic enzymes secreted by mesophilic and thermophilic microbial consortia enriched on mushrooms litter
- EFB 2021  
Virtual conference, 10-14 May 2021  
[Flash and Poster presentation #1](#): Hunting for novel lignocellulolytic microorganisms and enzymes from a local biogas plant  
[Flash and Poster presentation #2](#): Cascade biotechnological production of chemical building blocks from municipal wastewater-derived cellulose
- First Workshop AISAM Young  
Firenze, Italy, October 2019  
[Poster presentation](#): Towards Production of Saffron metabolites in *C. reinhardtii*

- **XI SIBV Congress**  
Padova, Italy, September 2019  
Poster presentation: **Towards Production of Saffron metabolites in *C. reinhardtii***
- **First European Congress on Photosynthesis Research**  
Uppsala, Sweden, June 2018  
Oral (junior session) and Poster presentation: ***In vivo* and *in vitro* investigation of protonatable residues putatively involved in triggering non-photochemical quenching of the light absorbed in green algae**
- **7th Int. CeBiTec Research Conference**  
Bielefeld, Germany, September 2017  
Poster presentation: **Molecular Mechanism for Feedback Activation of Thermal Dissipation of the Light Absorbed by *C. reinhardtii***
- **Joint Congress SIBV-SIGA**  
Pisa, Italy, September 2017  
Poster presentation: ***In vivo* and *in vitro* investigation of protonatable residues putatively involved in triggering non-photochemical quenching of the light absorbed in green algae**
- **The 7th International Conference on Algal Biomass, Biofuels and Bioproducts**  
Miami (FL), USA, June 2017  
Poster presentation: **Microalgae Cultivation on Anaerobic Digestate of Municipal Wastewater, Sewage Sludge and Agro-Waste**
- **Winter School in Plant Biotechnology and Environmental Sustainability**  
Canazei, Italy, January 2017

## Lab Skills

### Biochemistry

- Expression, purification, and *in vitro* reconstitution of proteins;
- SDS-PAGE (traditional, gradient gels and 2D);
- Western blot (wet, semidry, dot blot);
- Immunoprecipitation;
- Chromatography of proteins (gel filtration, affinity, ion exchange);
- Pulse and chase experiments;
- Protein quantification;
- AZO enzymatic activity assays.

### Molecular Biology

- PCR;
- Traditional cloning techniques (e.g. restriction enzymes, ligation);
- Site-directed mutagenesis;
- Nucleic acids purification;
- Production of mutant algal strains via CRISPR/Cas RNP delivery;

### Miscellaneous

- Microalgal culture maintenance in small (80 ml photobioreactor) to medium scale (3 L reactors);
- Non-model microalgae transformation;
- Cell count (hemocytometer);
- UV/Vis spectrophotometry;
- HPLC;

### Photosynthetic parameters measurements

- Chlorophyll absorbance and fluorescence (PAM, Videoimaging);

- Fluorescence lifetime decay of *in vitro* reconstituted protein and whole cells (time-domain spectrofluorometer);
- Oxygen evolution (oxygen electrode);
- Electrochromic shift measurements.