



CRISTINA MORABITO

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Graduated in **plant biotechnology**, I am an expert in the field of **plant physiology** with a particular focus on the functions related to carbohydrate metabolism and signaling. Able to set up and carry out scientific experiments, due to the skills acquired during my research experience and due to my innate curiosity. I am an enthusiastic and motivated scientist with a good knowledge of principal molecular techniques and plant metabolites with particular focus on sugars extraction and quantification methods. Fluent English speaker.

Great motivation in carrying out assigned tasks within the given time-frames and according to the pre-established requirements, I am versatile in problem solving and inclined to teamwork. Looking for a new position to expand professional knowledge and skills.

Italian - Mother tongue



English - Advanced



French - Beginner



PERSONAL SKILLS AND COMPETENCES

Good experience in the fields of

- **Plant physiology**
 - monitoring of physiological parameters (*net photosynthesis, stomatal conductance, transpiration, stem and leaf water potential*);
 - hydraulic measurements (*high pressure flow meter - HPFM*);
 - experience of the mechanisms involved in plant responses to drought, both during the stress and the stress-relief;
 - evaluation of priming treatments with metabolizing and non-metabolizing sugars to stimulate plant tolerance to drought;
 - field and greenhouse experience.
- **Plant molecular biology and biochemistry**
 - good knowledge of plant carbohydrate metabolism;
 - good knowledge of sugar signaling in plants, with particular reference to sucrose and trehalose-6-phosphate pathway;
 - gene expression analyses (*nucleic acids extraction, PCR, Real-time qPCR*);
 - bioinformatics analyses (*primer design, phylogenetic analyses, genomic sequences analyses*);
 - sugars extraction and quantification (*anthrone method, spectrophotometric enzymatic assays, HPLC/DAD*);
 - protein extraction;
 - enzymatic activity (*kinetics, end-point measurements*) - in particular antioxidants and enzymes involved in the carbohydrate metabolism.
- **Viticulture**
 - good knowledge of grapevine system;
 - plant management;
 - good experience with grapevine phytoplasmas, especially the causing agent of *Flavescence dorée* (diagnostic evaluation in field and through molecular techniques – *Real time qPCR based protocol; IPADLAB commercial kit*);
 - evaluation of treatments with metabolizing and non-metabolizing sugars to trigger recovery responses from the disease.

WORK EXPERIENCE

March 2021 – March 2023

Post-doctoral fellowship – University of Turin – Department of Agricultural, Forest and Food sciences (DISAFA)

Largo Paolo Braccini 2, Grugliasco – Turin

Project: Physiological and molecular mechanisms involved in tolerance responses to osmotic stress in tomato.

VEG-ADAPT PRIMA Project Manager

<https://www.veg-adapt.unito.it/home>

December 2020 – March 2021

Traineeship – Photo B-Otic S.r.l. (Coop. Arcobaleno)

Via Paolo Veronese 202, 10148 – Turin

- R&D section – Microalgae and cyanobacteria biotechnology
 - cultivation and maintenance of microalgal strains (media preparation, propagation);
 - monitoring of microalgal cultures status (absorbance measurements, dry weight analyses);
 - photobioreactors maintenance.

September 2017 – November 2020

Ph.D. candidate – University of Turin – Department of Agricultural, Forest and Food sciences (DISAFA)

Largo Paolo Braccini 2, Grugliasco – Turin

Ph.D. project: **The role of sugar metabolism and signaling in plant responses to biotic and abiotic stress**

October 2019 – February 2020

Ph.D. candidate internship – University of Copenhagen – Department of Plant and Environmental sciences

Hoejbakkegaard Allé 13, DK-2630 Taastrup – Denmark

- cell-physiological and biochemical phenotyping (spectrophotometric enzymatic assays – end-point and kinetics; antioxidants; set up of new protocol for trehalose metabolism analyses) - Prof. Thomas Roitsch

January 2015 – June 2015

Research fellow – Centre of Competence for the Innovation in the Agro-Environmental field (AGROINNOVA)

Largo Paolo Braccini 2, Grugliasco – Turin

“From waste to resource”

Project supported by the *Club Ivrea and Canavese of Soroptimist International of Italy*. On June 7th 2015, within the context of the event “We Italian Soroptimist for Expo”, the study was rewarded as one of the best project related to Expo realized by the Italian Soroptimist Clubs.

- Quality assessment of **biochars** and **composts** (produced in different European Countries) - effects on crop development and suppressive effects against some soil-borne pathogens;
 - germination tests;
 - diagnostic analyses;
 - soil inoculation.

EDUCATION AND TRAINING

September 2021

Ph.D. in Plant Physiology (Excellent)

University of Turin – Department of Agricultural, Forest and Food sciences (DISAFA)

Ph.D. thesis: ***Sweeties vinifera*: the role of sugar metabolism and signalling in grapevine responses to biotic and abiotic stress.**

September 2017

Master Degree in Plant Biotechnology (106/110)

University of Turin – Department of Agricultural, Forest and Food sciences (DISAFA)

Master thesis: Study of molecular effects induced by *Flavescence dorée* phytoplasma (FDp) in *Vitis vinifera* cv. Barbera.

August 2018 - December 2018

Erasmus+ (Internship)

National University of Ireland Galway – Department of Environmental Microbiology

- Physical and molecular characterisation of methanogen bacteria granules, grown in anaerobic bioreactors (expanded Granular Sludge Bed reactors) – Prof. Gavin Collins

September 2015

Bachelor Degree in Agronomic Science and Technology (105/110)

University of Turin – Department of Agricultural, Forest and Food sciences (DISAFA)

Bachelor thesis: Applications of the Loop Mediated Isothermal Amplification (LAMP) technique to the diagnosis of phytopathogenic fungi and oomycetes.

November 2014 – January 2015

Internship

University of Turin – Department of Agricultural, Forest and Food sciences (DISAFA) – ULF Plant Pathology

- Evaluation of effectiveness of different seed sterilization treatments on seed vitality and germination (*vigor tests, germination tests*);
- Plant-pathogen interaction - main case of study *Peronospora belbahrii* (*radical and foliar inoculation, isolation of bacteria and fungi, diagnosis*).

PUBLICATIONS AND CONGRESS CONTRIBUTIONS

Ripamonti, M., Pegoraro, M., Morabito, C., Gribaudo, I., Schubert, A., Bosco, D., Marzachi, C. (2020). Susceptibility to Flavescence dorée of different *Vitis vinifera* genotypes from North-Western Italy. PLANT PATHOLOGY, p. N/A, ISSN: 0032-0862, doi: 10.1111/ppa.13301

Morabito, C. (2020). Flavescenza dorata: la strega cattiva di una favola dai dolci risvolti. - Nella sezione "Di sana pianta" di Frida (Forum della ricerca di Ateneo)- https://frida.unito.it/wn_pages/contenuti.php/750_vita/437_flavescenza-dorata-la-strega-cattiva-di-una-favola-dai-dolci-risvolti/

Morabito, C., Secchi, F., Schubert, A. (2021). Grapevine TPS (trehalose-6-phosphate synthase) family genes are differentially regulated during development, upon sugar treatment and drought stress. Plant Physiology and Biochemistry

Morabito, C., Orozco, J., ... Zwieniecki, M.A., Secchi, F. (2021). Do the ends justify the means? Impact of drought progression rate on stress response and recovery in *Vitis vinifera*

- VEG-ADAPT Project Meeting**, Agadir (Morocco), October 26-27, 2022 – *Oral presentations*
Morabito, C., D'Angeli, A., Gualtieri, C., Secchi, F., Cardinale, F., Visentin, I., Schubert, A. (2022). Investigating the stomatal «after effect» in recovery from drought stress: hormones, sugar and their cross-talk.
Morabito, C., D'Angeli, A., Schubert, A. (2022). *Capsicum annuum* varieties under drought and during recovery from water stress: diverse responses and effect of exogenous strigolactones application.
- Plant Metabolomics Profiling Training School, Roxy COST**, Royal Holloway of London, Egham (UK), July 4-6, 2022 – *Oral presentation*
Morabito, C., D'Angeli, A., Schubert, A. (2022). The role of strigolactones in tomato fruit ripening.
- XX EUCARPIA Meeting of the Tomato Working Group**, Valencia (Spain), May 31-3 June, 2022 - *Poster*
Morabito, C., D'Angeli, A., Gualtieri, C., Secchi, F., Cardinale, F., Visentin, I., Schubert, A. (2022). Strigolactones and karrikins modulate osmotic rearrangements in response to drought in tomato plants.

- **Plant Biology Worldwide Summit 2020**, July 27-31, 2020
- **SIBV/TOMRES Summer School** "Stress resilience in plants: from molecules to field", Online, September 8-10, 2020 – *Oral presentation*
Morabito, C., Secchi, F., Schubert, A. (2020). Grapevine TPS genes are differentially regulated during development and in response to sucrose availability.
- **XI Congress of the Italian Society of Plant Biology**, Padua (Italy), September 4-6, 2019 – *Poster and Elevator Pitch*
Morabito, C., Secchi, F., Schubert, A. (2019). Trehalose-6-phosphate synthase (TPS) gene family in grapevine: identification and expression analyses under water stress conditions.
- **SIBV/SIGA Summer School** (VIII Annual Meeting of the Plant Genetics and Biotechnology Network) "Epigenetic and RNA-mediated regulation in plant development and stress response", Conegliano (Italy), June 17-20 – *Abstract congress proceedings*
Morabito, C., Secchi, F., Schubert, A. (2019). Trehalose-6-phosphate synthase (TPS) gene family in grapevine: identification and expression analyses under water stress conditions.
- **XII International Conference on Grapevine Breeding and Genetics**, Bordeaux (France), July 15-20, 2018 – *Poster*
Morabito, C., Pagliarini, C., Marzachi, C., Strano, T., Secchi, F., Bosco, D., Schubert, A. (2018). Recovery from Flavescence dorée phytoplasma infection in Vitis vinifera cv Barbera: a putative role for sugar metabolism.
- **SIBV/SIGA Summer School** (VII Annual Meeting of the Plant Genetics and Biotechnology Network) "Climate change and crop productivity: the role of plant physiology, breeding and biotechnology", Isola Polvese (Italy), June 12-15 – *Abstract congress proceedings*
Morabito, C., Pagliarini, C., Ripamonti, M., Marzachi, C., Bosco, D., Lovisolo, C., Schubert, A. (2018). Recovery from Flavescence dorée phytoplasma infection in Vitis vinifera cv Barbera: a putative role for sugar metabolism.
- **XV FISV Congress**, Rome (Italy), September 19-21, 2018. p. 108 – *Poster and Elevator Pitch*
Morabito, C., Orozco, J., Tonel, G., Cavalletto, S., Schubert, A., Zwieniecki, M.A., Secchi, F. (2018). Apoplastic pH influences grapevine recovery responses to short and prolonged drought.

Trego, A. C., Morabito, C., Mills, S., Connelly, S., Bourven, I., Guibaud, G., ... & Collins, G. (2018). Diversity converges during community assembly in methanogenic granules, suggesting a biofilm life-cycle. *BioRxiv*. doi:10.1101/484642

OTHER SKILLS

- Experience in planning and management of scientific events
- Part of the Organizing Committee of the Summer School SIBV-TOMRES "Stress resilience in plants: from molecules to field"
<http://www.sibv.eu/congressi-ed-eventi/summer-school-2020>

The Summer School Organizing Committee was composed of Prof. Andrea Schubert (TOMRES Coordinator), Prof. Pierdomenico Perata (SIBV President), Prof. Chiara Pucciariello (SIBV Secretary), Prof. Francesca Secchi, Prof. Andrea Pompa and four PhD students and Post-Doc researchers (Chiara Agliassa; Sara Colanero; Carla Gualtieri; Cristina Morabito).

- Experience in the organization of scientific dissemination laboratories and activities for children, teenagers and adults
- Due Punti Festival (DISAFA)
- Science weeks (National University of Ireland Galway)
- Associazione Jonathan (lavoro accessorio)
- Workshop (Comune di Grugliasco)
- AGESCI (from 2002 to 2018)
- **WeRoad Travel Coordinator and Event Creator**
<https://www.weroad.it/coordinatori/cristina-morabito>
- Painting and drawing (also digital painting)

INFORMATICS SKILLS

Office suite – Word, Excel, PowerPoint

Photo editing and imaging softwares - Photoshop, Zbrush, GIMP, Inkscape, Python

Statistical analyses – SPSS Statistics 2.0, Rstudio, Past, Sigmaplot

Biological databases and softwares for bioinformatics analyses – genome databases, proteomics databases, MEGA

CERTIFICATIONS

English – OLS+ Certificate; PET (2011)

Computer – ECDL certificate (2014)

Driving licence - B

AFFILIATIONS AND REWARDS

SIBV (Società Italiana di Biologia Vegetale) member – since 2018

Premio SIBV *Giovani Biologi Vegetali* – September 2018

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