



Martina Carlessi Ph.D

I am a passionate Ph.D level researcher with four years of experience in the research field of Molecular Biology and Biotechnology. I am a productive, independent researcher with excellent communication skills, who works very well in teams or alone. I can work well in different environments and have great problem-solving skills. I am stress resistant and flexible.

About me

Place and date of birth:

Bergamo (Italy): July 6th, 1991

Nationality:

Italian

Residence:

Mobile:

Email:

Available to relocate

Technical Expertise

- Research: Planning, Designing and Reporting;
- Data analysis;
- Statistical Data Analysis (GraphPad; Excel Stat);
- Good ability in genetic and phenotypic analysis and plants caring in the greenhouse;
- Ability to work in sterile condition using the Laminar flow hood;
- Molecular biology techniques;
- DNA and RNA extraction;
- Gel Electrophoresis;
- PCR; RT-PCR; Real time PCR (qrt-PCR);
- Genome Editing Technology (CRISPR-Cas9);
- Cloning via Gateway and Golden Gate technologies;
- Plasmids extraction;
- "In vitro" analysis;
- Arabidopsis and Rice protoplast isolation and transfection;
- Bacterial cell culture;
- Protein Isolation and Purification;
- Western blot;
- Microscopy techniques;
- BIFC and Split assay;

Work and educational experience

PhD programme in Agrobiosciences-Lifesciences

Scuola Superiore Sant'Anna (PLANT LAB), Pisa (Italy) | 1/10/2017 – 28/02/2021

- Characterization of the molecular functions of the *HOL* genes of rice with the aim of possibly reducing the iodine volatilization processes. *OshOL* silencing, would possibly result in an increase of the iodine content in rice plants.
- Achievements: We investigated the *OshOL* genes of rice, describing for the first time the proteins they codify. We developed an effective mechanism to reduce methyl iodide emissions from rice plants and propose a possible strategy to enrich the iodine content of rice crops without further impacting on the environment.

Internship for Master's Degree at Istituto di Biologia e Biotechnologia Agraria (IBBA)

Consiglio Nazionale delle Ricerche (CNR), Milano (Italy) | 12/10/2015 – 21/02/2017

- Characterization and isolation of a new common bean *lpa* mutant and study of the phytic acid regulatory role in root development in *Arabidopsis thaliana*.
- Achievements: I partially screened an EMS population and isolated the common bean *lpa-2* mutant, affected in the *PvMRP1* gene, coding for a putative tonoplasmic phytic acid transporter. A further mutant was phenotypically characterized.

Internship for Bachelor's Degree in the labs of the UMR Agroécologie INRA, Dijon (France) | 24/02/2014 – 4/07/2014

- Analysis of the effect of shadow and darkness stresses on various plants and on the expression of all known fungal hexose transporter genes (MSTs) in the AMF model *R. irregularis* in interaction with the model plant *M. truncatula* and a cultivated plant *Sorghum bicolor*.

Education

Doctor of Philosophy - PhD Agrobiosciences

03/06/2021 | Scuola Superiore Sant'Anna (PLANT LAB), Pisa (Italy)

- Thesis: "Control of Iodine Emissions from Rice Plants"

Master's degree in Plant, Food and Agro-environmental Biotechnology

29/03/2017 | Università degli Studi di Milano (Italy)

- Final grade: 109/110

- Thesis: "Isolation of a new common bean *lpa* mutant and study of phytic acid transport in root growth"

Bachelor's Degree in Plant, Food and Agro-environmental Biotechnology

14/07/2015 | Università degli Studi di Milano (Italy)

- Final grade: 96/110

- Thesis: "Nutrient transport during arbuscular mycorrhizal symbiosis under light stress conditions"

Publications

Articles

- *Carlessi M., Mariotti L., Giaume F., Fornara F., Perata P., Gonzali S.* Targeted knockout of the gene *OsHOL1* removes methyl iodide emissions from rice plants. Scientific Reports; Article submitted and under review for the "Genome editing" Guest Edited Collection (reference number: SREP-21-00631).
- *Cominelli E., Confalonieri M., Carlessi M., Cortinovia G., Daminati M.G., Porch T.G., Losa A., Sparvoli F.* Phytic acid transport in *Phaseolus vulgaris*: A new low phytic acid mutant in the PvMRP1 gene and study of the PvMRPs promoters in two different plant systems. Plant Sci; 2018.

Abstracts

- *Hamed S., Cortinovia G., Carlessi M., Costa A., Daminati M.G., Sparvoli F., Cominelli E.* Phytic acid: novel putative common bean mutants and tools to study its role in cell signaling. LXII SIGA Annual Congress. Verona (Italy), September 25th-28th, 2018.
- *Cominelli E., Carlessi M., Cortinovia G., Daminati M.G., Petry N., Nielsen E., Bollini R., Sparvoli F.* Common bean (*Phaseolus vulgaris*) biofortification: identification of a new *lpa* mutant and (unsuspected) effects of the *lpa* mutation on lectin activity. Sustainable Intensification Conference 2017 Biodiversity and ecological engineering for sustainable intensification of agriculture. Dakar (Senegal), April 24th-26th, 2017.
- *Cominelli E., Confalonieri M., Carlessi M., Daminati M.G., Bollini R., Sparvoli F.* Isolation and characterization of a new low phytic acid mutant in the common bean PvMRP1 gene and study of PvMRPs promoters in two different plant systems. FISV 2016 XIV Congress. Roma (Italy), September 20th - 23rd, 2016. Selected for oral communication.

Language Skills

Italian: Mother tongue

English:

- **Listening:** B2
- **Reading:** B2
- **Speaking:** B2

French:

- **Listening:** B1/B2
- **Reading:** B1/B2
- **Speaking:** B1/B2

Digital competences

- **Word:** advanced user
- **Excel:** intermediate user
- **Power Point:** advanced user
- **Excel Stat:** intermediate user
- **Prism-GraphPad:** intermediate user

Other skills

For years I have been volunteering as a clown therapist with the Association "Dutùr Claun V.I.P Bergamo", acting as an educational support for children who are hospitalised in Bergamo and Treviglio. In August 2016 I worked as a volunteer in the county of Primavera in the state of Pernambuco, Brazil, performing educational activities with children and teenagers. In 2015 I worked as a volunteer for EXPO 2015 in Milano (Italy).

References

- **Silvia Gonzali** silvia.gonzali@santannapisa.it
Research assistant, Scuola Superiore Sant'Anna, Pisa (Italy)
- **Cominelli Eleonora** cominelli@ibba.cnr.it
Researcher, Istituto di Biologia e Biotecnologia Agraria, CNR, Milano (Italy)
- **Wipf Daniel** daniel.wipf@dijon.inra.fr
Professor at the University of Bourgogne, Dijon (France)

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