



CURRICULUM VITAE

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Valentina Dusi

Ph.D. in Biotechnology

PROFILE AND SKILLS

Date of birth

8 march 1991

Address

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37047, San Bonifacio
Verona, Italy

Contacts

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valentinadusi@yahoo.it

Languages

Italian (native)
English (professional)

Highly motivated and forward-thinking researcher with a personal passion for science and nature. Specialized in plant physiology and biotechnology with 5 years of laboratory experience. Ability to coordinate and organize not only experimental procedures but also administrative and management practices of scientific projects. Aptitude for establishing and maintaining effective working relationships with colleagues and collaborators.

Problem solving

Lab maintenance
procedure

Critical thinking

Project planning

Time management

Effective
communication

PUBLICATIONS

- Nanovector-mediated exogenous delivery of dsRNA induces silencing of target genes in very young tomato flower buds
B. Molesini, F. Pennisi, C. Cressoni, N. Vitulo, **V. Dusi**, A. Speghini and T. Pandolfini (2022).
<https://doi.org/10.1039/D2NA00478J>. Nanoscale Advaces.
- TCMP-2 affects tomato flowering and interacts with BBX16, a homolog of the arabidopsis B-box MiP1b.
Barbara Molesini, **Valentina Dusi**, Federica Pennisi, Gian Pietro Di Sansebastiano, Serena Zanzoni, Anna Manara, Antonella Furini, Flavio Martini, Giuseppe Leonardo Rotino, Tiziana Pandolfini (2020).
<https://doi.org/10.1002/pld3.283>. Plant Direct.
- How Hormones and MADS-Box Transcription Factors Are Involved in Controlling Fruit Set and Parthenocarpy in Tomato.
Barbara Molesini, **Valentina Dusi**, Federica Pennisi and Tiziana Pandolfini (2020), Genes 2020,11, 1441;
<https://doi.org/10.3390/genes11121441>. Genes.
- Two metalloprotease inhibitors are implicated in tomato fruit development and regulated by the Inner No Outer transcription factor.
B. Molesini, G.L. Rotino, **V. Dusi**, R. Chignola, T. Sala, G. Mennella, G. Francese, T. Pandolfini (2017)
<https://doi.org/10.1016/j.plantsci.2017.10.011>. Plant Science.
- Oral contribution: "Involvement of B-box MicroProteins in the reproductive development of tomato",
Valentina Dusi, 9th International Meeting on Plant Peptides and Receptors, 8-10 September 2021.

• Oral Contribution: "RNA interference-based techniques to increase sustainability and safety in the fruit and vegetable supply chain"

Michela Cecchin, F. Perozeni, L. Capriotti, S. Sabbadini, **V. Dusi**, M. Ballottari, B. Mezzetti, O. Navacchi, B. Molesini, T. Pandolfini

• Poster: "Investigation of the role of B-box MicroProteins in the tomato reproductive development", FISV Congress, September 2022

Federica Pennisi, **Valentina Dusi**, Daniela Fortini, Barbara Molesini, Tiziana Pandolfini

• Poster: "Involvement of B-box MicroProteins in the reproductive development of tomato", PBE 2021

Valentina Dusi, Federica Pennisi, Barbara Molesini and Tiziana Pandolfini

• Poster: "The Solanaceous cystine-knot miniproteins are metallo-carboxypeptidase inhibitors acting in stress defence and development", PBE 2021

Barbara Molesini; **Valentina Dusi**; Federica Pennisi; Anna Manara; Antonella Furini; Tiziana Pandolfini

• Flash talk: "Miniproteins as controlling factors in reproductive development", SIBV-TOMRES 2020 Summer school

Valentina Dusi; Tiziana Pandolfini; Barbara Molesini.

• Poster: "Novel insights on the role of tomato cystine-knot proteins in the regulation of fruit set", SIBV-SIB, 2019

Barbara Molesini; **Valentina Dusi**; Federica Pennisi; Tiziana Pandolfini

EDUCATION AND TRAINING

7 October 2022

Ph.D. and Doctor Europaeus in Biotechnology

Title: "Cysteine-knot peptides and BBX microproteins as controlling factors of flower and fruit development"

Tutors: Prof.ssa Tiziana Pandolfini; Prof.ssa Barbara Molesini

Reviewers: Prof. Bruno Mezzetti; Prof. Livio Trainotti

14 March 2018

Master's Degree in Agro and Food Biotechnology

Title: "Molecular Analysis of an insertional mutant of tomato"

Final Mark: 110/110

25 November 2015

Bachelor's Degree in Biotechnology

Title: "Strains characterization of *Burkholderia fungorum* able to degrade polycyclic aromatic hydrocarbon"

Final Mark: 87/110

31 August 2021-
3 September 2021

Certification as Trainer Assistant at the course "**Evolution Assisted Technology: CRISPR/Cas9 in agricultural plants - 2021**"

26 September 2018-
28 September 2018

Certificate of attendance of "**COST IPLANTA TRAINING SCHOOL**" on RNAi applications obtained at the Rothamsted Research, Harpenden, UK.

WORK EXPERIENCE

February 2022-
to date

Post-Doc Researcher in the laboratory of Physiology and Plant Biotechnology, University of Verona

Project: RESO - Resilienza e Sostenibilità delle filiere ortofrutticole e cerealicole per valorizzare i territori (Resilience and sustainability of fruit and vegetable and grain supply chains to enhance territories).

October 2018-
March 2022

The research activity is focused on the analysis of small molecules of RNA for the developmental control and defence against pests and pathogens in horticultural plants, through the RNA interference mechanism. In particular I'm working with transgenic plants expressing double-stranded RNA against *Botrytis cinerea* usually called "grey mould" and *Plum Pox virus* (PPV), the agent responsible for the Sharka disease, which is one of the most significant and destructive viral disease of Prunus.

**PhD student in the laboratory of Physiology and Plant Biotechnology,
University of Verona**

Title: "Cystine-Knot Peptides and BBX Microproteins as controlling factors of flower and fruit development"

Academy tutors: Prof. ssa Tiziana Pandolfini and Prof.ssa Barbara Molesini

Abstract: The overall aim of the research activity concerned the study of signalling peptides and miniproteins that take part in biochemical processes associated with flowering, fruit set and growth in tomato. In particular, the study was focused on two miniproteins, named TCMP-2 (which is a tomato metalloprotease already known to be involved in fruiting) and BBX17 a B-BOX miniprotein not fully characterized in tomato. The project was carried on from the transgenic vectors construction, the plant's infection, the phenotypic evaluation of the transgenic plants and the subsequent experiments to analyze the effects of the transgenes. Part of the project was also done in collaboration with IBMCP (Valencia) leading to the issuance of the title of Doctor Europaeus.

April 2018 -
October 2018

**MSc fellow in the laboratory of Physiology and Plant Biotechnology,
University of Verona**

Project: "Improving protein hydrolysate formulations to increase their efficacy as crop biostimulants"

Abstract: The aim of the research of this project was the identification of the induced mechanisms and effects after treatment with biostimulants (Customized SICIT) on *Zea Mais* and on other model plants. Hydroponic maize and *Arabidopsis thaliana* cultures were grown in hypoxia and hydro-stress conditions, showing that biostimulants can recover and increase plant growth.

December 2016-
March 2018

**Intern in the laboratory of Physiology and Plant Biotechnology,
University of Verona**

Title: Analisi molecolare di un mutante inserzionale di pomodoro

Academy tutors: Prof.ssa Barbara Molesini and Prof. ssa Tiziana Pandolfini

My research goal was the functional characterization of genes involved in tomato development studying a particular insertional tomato mutant plant focusing on its molecular characterization. The aim of my thesis was to investigate the effects of different Agro mediated-insertions starting from the phenotypical analysis of the mutant and from its whole-genome sequencing.

I also worked on a research project started in 2010 that had as purpose the enrichment of the cystine-knot proteins in tomatoes by genetically engineered techniques.

March 2014 -
November 2015

Intern in the laboratory of Microbiology and Microbic Biotechnology, University of Verona

Title: Caratterizzazione di ceppi di *Burkholderia fungorum* capaci di degradare idrocarburi policiclici aromatici.

Academy tutors: Dott.ssa Silvia Lampis and Prof. Giovanni Vallini

Burkholderia fungorum DBT1 and 95 strains, although isolated from different environmental materials (DBT1 from a discharge of an oil refinery and 95 from the roots of a hybrid poplar grown on a polycyclic aromatic hydrocarbon-contaminated soil) are studied as models system for their involvement in the dibenzothiophene degradation. The aim of my thesis was asses and compare the catabolic ability of the stains in question versus 4 different PAHs (naphtalene, phenantrene, fluorene and dibenzotiophene).

TEACHING ACTIVITIES

a.y. 2018-2019
2019-2020
2020-2021

During my three years as a PhD student, I held the hours related to the laboratory activities of the course "Tecniche molecolari applicate ai vegetali" (Prof. Barbara Molesini) of the master's degree program in Agro and Food Biotechnology. Students were taught various activities ranging from molecular biology to data analysis and phenotyping of plants.

a.y. 2018-2019
2019-2020

Others teaching hours were held at the course of "Biologia e fisiologia vegetale-modulo di fisiologia vegetale" (Prof. Tiziana Pandolfini) of the bechelor's degree program in Viticultural and Enology sciences and Technologies. Several different activities were taught to the students explaining the basal mechanisms of cell biology and plant responses to exogenous hormones.

a.y. 2018-2019
2019-2020
2020-2021
2021-2022

Co-supervisor for the Bachelors and Masters students:

-Martina Moglia (Bachelor); Claudia Celin (Bachelor); Alessandra Bonfà (Bachelor); Luca Gambaretto (Bachelor); Alessandro Agostini (Master).

The students were followed in their project activity regarding the experimental designs and wet lab procedures, the thesis writing and its dissertation.

CONGRESSES AND AWARDS

4 September 2019-
6 September 2019

XI Congress of the Italian Society of Plant Biology (SIBV) - 2019

8 September 2020-
10 September 2020

SIBV/TOMRES Summer School 2020 "Stress resilience in plants: from molecules to field" - **Award** for the best poster presentation

28 June 2021-
1 July 2021

Plant Biology Europe 2021 (PBE - virtual Congress)

1 July 2021 -
2 July 2021

II AISSA Congress 2021 – #UNDER40

8 September 2021-
10 September 2021

9th International Meeting on Plant Peptides and Receptors 2021: "Involvement of B-box MicroProteins in the reproductive development of tomato"

14 September 2022-
16 September 2022

XVI FISV Congress 2022 - "3R: Research, Resilience, Reprise"

LANGUAGE CERTIFICATION

Certificate of language proficiency obtained during a period of study at the Academy of English Studies in Folkestone, Kent CT20 2AZ, UK.

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken Production	
B2	B2	B2	B2	B2
AES certificate B2 level				

Levels: A1/A2 basic user- B1/B2 independent user – C1/C2 Proficient user
Common European framework of reference for languages

Data: 28 novembre 2022

Firma: 

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Il sottoscritto VALENTINA DUSI, Codice fiscale DSUVNT91C48I7750, nata il 08/03/1991 a Soave (VR), attualmente residente a SAN BONIFACIO (VR), CAP 37047, via PRAISSOLA n.20, recapito +393678091

DICHIARA

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