

Todeschini Valeria

PERSONAL DATA

Date of Birth: 22nd August 1975

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BIO AND EDUCATION

Valeria Todeschini obtained her high school leaving qualification in scientific studies in 1994. She graduated in Biology at the University of Piemonte Orientale in July 2003, achieving in the same year the qualification to the profession of biologist. In 2007 she received her PhD in Environmental Sciences from the same University. After discussing her PhD thesis, she continued her research relying on post-doctoral fixed-term positions.

From 2008 she is enrolled in national register of biologists.

UNIVERSITY CAREER

2006-	Postdoctoral fellowship, Università del Piemonte Orientale
2015-2016	Professor on contract, Università del Piemonte Orientale
2003-2006	PhD student, Università del Piemonte Orientale

UNIVERSITY POSITIONS

2009-	Honorary fellow in BIO/01 e BIO/02
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SCIENTIFIC POSITIONS

2015-	Member of "Plant Physiology and Biochemistry" Editorial Advisory Board
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MAIN FIELDS OF INTEREST

1. Phytoremediation
2. Heavy metals
3. Arbuscular mycorrhizal fungi (AMF)
4. Plant growth promoting bacteria (PGPB)
5. Plant-microorganism interactions

6. Photosynthetic activity
7. Fruit nutritional and qualitative properties
8. Compounds of secondary metabolism

CURRENT ISSUES OF RESEARCH

1. Phytoremediation of contaminated soils

Phytoremediation techniques were applied in field and in controlled conditions in order to decontaminate soil from heavy metals, especially zinc and copper, using poplar clones selected for their tolerance and accumulation capacity. The physiological response to stress by the plant, in its various organs (leaves, stem and roots), were investigated exploring the various mechanisms involved in metal accumulation and tolerance, either endogenous or induced by soil microorganisms (PGPB and AMF).

2. Pollutant effects in planta

The effects of heavy metals have been investigated at different levels: whole plants, cellular (light and electronic microscopy) and molecular (2DE, mass spectrometry, RT-PCR). In particular, proteins and genes involved in response to stress and inoculation with soil microorganisms were identified.

3. Qualitative improvement of crop and medicinal plants using bio-inoculants

The effects of fungal and bacterial inoculation were assessed on growth parameters, photosynthetic activity, fruit yield and quality of crop (strawberry and tomato) and medicinal (artemisia) plants.

TOP FIVE PAPERS

1. **(2013)** - Lingua G., Bona E.*, Manassero P., Marsano F., **Todeschini V.**, Cantamessa S., Copetta A., D'Agostino G., Gamalero E., Berta G. Arbuscular mycorrhizal fungi and plant growth-promoting Pseudomonads increase anthocyanin concentration in strawberry fruits (*Fragaria x ananassa* var. Selva) in conditions of reduced fertilization. *International Journal of Molecular Science* 14: 16207-16225.
2. **(2012)** - Lingua G., Bona E., **Todeschini V.**, Cattaneo C., Marsano F., Berta G., Cavaletto M.. Effects of heavy metals and arbuscular mycorrhiza on the leaf proteome of a selected poplar clone: a time course analysis. *PLoS ONE* 7 (6): 1-25.
3. **(2011)** - **Todeschini V.**, Lingua G., D'Agostino G., Carniato F., Roccotiello E., Berta G.. Effects of high zinc concentration on poplar leaves: a morphological and biochemical study. *Environmental and Experimental Botany* 71(1): 50-56.
4. **(2009)**- Castiglione S., **Todeschini V.**, Franchin C., Torrigiani P., Gastaldi D., Ciatelli A., Rinaudo C., Berta G., Biondi S., Lingua G.. Clonal differences in survival capacity, copper and zinc accumulation, and correlation with leaf polyamine levels in poplar: a large-scale field trial on heavily polluted soil. *Environmental Pollution* 157: 2108–2117.

5. **(2008)** - Lingua G., Franchin C., **Todeschini V.**, Castiglione S., Biondi S., Burlando B., Parravicini V., Torrigiani P., Berta G. Arbuscular mycorrhizal fungi differentially affect the response to high zinc concentrations of two registered poplar clones. *Environmental Pollution* 153: 137-147.

AWARDS

1. “Plant Physiology and Biochemistry Best Reviewer Award 2011” - Professor Mario De Tullio Editor-in-Chief and Gilles Jonker Executive Publisher Elsevier. 2014 “Best Professor”, Università del Piemonte Orientale
2. “Certificate of Excellence in Reviewing 2013 in recognition of an outstanding contribution for the quality of the journal *Plant Physiology and Biochemistry* (Elsevier)” Dr Mario De Tullio Editor-in-Chief and Emma Granqvist Publisher.