

Curriculum vitae

SIMONETTA SANTI, PhD

Researcher, Professor in charge for 'Biochemistry II-Plant Biochemistry'
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Education and training

2013	National Scientific Qualification for the position of Associate Professor in the domain 07/E1 - Chimica Agraria, Genetica Agraria e Pedologia for the period 2014-2023.
1992	PhD in 'Crop Productivity' (Università degli Studi di Udine, May 1992). Tutor: prof. Angelo Maggioni, co-tutor: Claude Cretin, Institute de Physiologie Vegetale Moleculaire, Centre Scientifique d'Orsay, Université Paris Sud XI.
1985	National Qualification for the profession of Agronomist, Università degli Studi di Padova.
AA 1983/84	Laurea in Agricultural Sciences, Università degli Studi di Padova.
1977	High school degree of Maturità Classica at the Liceo-Ginnasio "R. Franchetti" of Venezia Mestre.

Work experience

2001 to present	Researcher at the Department of Agricultural, Food, Environmental and Animal Sciences, University of Udine.
May 2011	Guest scientist at the Institute of Plant and Microbial Biology, Academia Sinica, Taipei Taiwan, for the project: 'Dissection of the epidermis specific iron stress response in <i>Arabidopsis</i> roots'.
2006/2007 (4 months)	Guest scientist at the Institute of Plant and Microbial Biology, Academia Sinica, Taipei Taiwan, with fellowship of the Area di Ricerca Scientifica e Tecnologica of Trieste (FVG region, D4 project).
Dec 1994 to Jan 2002	Research Assistant at the Dipartimento di Produzione Vegetale e Tecnologie Agrarie, University of Udine.
Oct 1994 to Dec 1994	Guest scientist with Postdoctoral Scholarship at the Institute of Botany, Darmstadt Technical University, Darmstadt, Germania, (responsibility: Dr. Elke Fisher, Prof. U. Luttge).
1993 (3 months)	Guest scientist with Postdoctoral Scholarship at the prof. P. Gadal laboratory (Orsay, Université PARIS SUD XI) and INRA of Nancy (Francia) with the EU project: EUROSILVA-EUREKA: Mychorriza: structure and function".
Jun 1992	Guest scientist at the Institute de Physiologie Vegetale Moleculaire (Université Paris Sud XI) with the CNR Bilateral project Italia-Francia (resp. Prof. Z. Varanini): "Studio della regolazione dell'enzima PEP-carbossilasi in piante di sorgo in relazione alla fonte azotata".

<p>Nov 1989 to Oct 1990 and Jul 1991 to Aug 1991 (13 months)</p> <p>May 1987 to Oct 1988 (20 months)</p> <p>Dec1986 to Apr1987 (5 months)</p>	<p>Visiting Ph.D. student at the Institute de Physiologie Vegetale Moleculaire (presently: Institute de Biotechnologie des Plantes), Centre Scientifique d'Orsay, Université Paris Sud XI, resp. prof. Pierre Gadal.</p> <p>Fellowship of ENICHEM ANIC for research activity at the Istituto di Produzione Vegetale dell'Università di Udine. Tutor: prof Maria De Nobili.</p> <p>Fellowship "Cirillo Maliani" of the Amministrazione Provinciale di Vicenza at the Dipartimento di Biotecnologie Agrarie - 'University of Padova. Tutors: prof. Angelo Dal Belin Peruffo and prof. Andrea Curioni.</p>
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Teaching

<p>AA 2011/12 to present</p> <p>2010 to 2018</p> <p>AA 2009/10 to 2012/13</p> <p>AA 2004/05 to 2009/10</p> <p>AA 2002/03 to 2008/09</p> <p>1994 to 2001</p>	<p>Professor in charge for 'Biochemistry II, Plant Biochemistry' (LT of Biotecnology, 3 CFU module, 2nd year).</p> <p>Member of the PhD of Agricultural Sciences and Biotechnology at the University of Udine.</p> <p>Professor in charge for 'Metodologie di analisi chimico-agrarie e Sicurezza nei laboratori' (LM of Scienze e Tecnologie Agrarie, 6 CFU, 3rd year).</p> <p>Professor in charge for 'Sicurezza in Laboratorio II' (LS of Biotecnologie Agrarie, 2 CFU).</p> <p>Professor in charge for 'Laboratorio di Biochimica Agraria' (LT of Scienze e Tecnologie Agrarie, 4 CFU).</p> <p>Practical courses in Plant Biochemistry and Abiotic stress and Plant Nutrition.</p>
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Scientific activity

Participation to granted Research Projects

<p>2023</p> <p>2018-2019</p> <p>2011-2014</p> <p>2010-2012</p> <p>2003-2005</p>	<p>Associated Investigator (AI) of Research Unit of the University of Udine (UD-RU) for the PRIN2022 project: 'Dissecting the phloem response to a phloem-limited pathogen in grapevine'.</p> <p>RU member for the Project Start-up 2018-2019: Functional analysis of SEOR2 gene as resistance factor in plant-phytoplasma interaction (University of Udine founding, PDM_VQR3_DI4A_PJ_BASE_COMPETITIVA)</p> <p>AI of UD-RU for the project: 'Giallumi della vite: tecnologie innovative per la diagnosi e lo studio delle interazioni pianta/patogeno', funded by AGER-Agroalimentare e Ricerca' (project No. 2011-2013).</p> <p>AI of the UD-RU for the project: 'Gene expression profiling of the iron stress response in Arabidopsis root epidermal cells by high throughput parallel sequencing', belonging to the Pilot Project (AS-99-TP-B03; 2010-2012) of the Thematic Research Program of Academia Sinica of Taipei (Taiwan) with the title: 'Dissection of the epidermis specific iron stress response in <i>Arabidopsis</i> roots'.</p> <p>AI of the UD-RU for the project COFIN 2003: Flussi transmembrana di Na⁺ e Cl⁻ in linee di pomodoro a diverso metabolismo di maturazione del frutto allevate in 'acqua marina': studio del coinvolgimento di sistemi di trasporto primari e secondari del tonoplasto e del plasmalemma. UD-RU member (PI: prof. Giannina Vizzotto) for the MIPAF project: 'Studio di geni coinvolti nel metabolismo/trasporto degli zuccheri in frutti di pesco in accrescimento. Studio di geni coinvolti nel pathway carotenoidi-ABA' of the project DRUPOMICS: 'Sequenziamento del genoma del pesco ed</p>
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1988-2004

utilizzo della sequenza in programmi di miglioramento della qualità del frutto del pesco e della resistenza alle malattie'.

RU member for several projects as MURST 40%, CNR, MIRAAF e COFIN.

Scientific activity

Research activity

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Metrics (source: Scopus, 06/2023): H-index: 20; citations: 1642.

Physiological, biochemical and molecular plant responses to different abiotic stresses at the interface plant-root-soil have been studied since more than 20 years in my lab. In particular, plant molecular mechanisms involved in the nitrogen fluxes at the root/soil interface and the role of PM H⁺-ATPase have been focused formerly, and the molecular mechanisms underlying the plant response to iron deficiency, later. In this last activity, an approach directed to understand the response to stress at plant tissue/cell level has been chosen. In this direction, the expression of genes involved in the iron acquisition mechanism has been investigated in the epidermal cells of iron-sufficient and iron deficient roots using the Laser Microdissection technology combined with qPCR in cucumber and tomato. A combination of LM-assisted isolation of the cells with RNA-seq has been carried out in roots of the model plant *Arabidopsis* in co-operation with the Institute of Plant and Microbial Biology, Academia Sinica, Taipei, Taiwan. The support of the SISSA (International School for Advanced Studies, Trieste) and Perugia CNR has allowed a similar approach to investigate gene expression in fruit vascular tissues (project: DRUPOMICS of the Italian CRA, Centro di Ricerca per la Frutticoltura) and grapevine (AGER project). Presently, I'm working on the leaf response to different stresses (biotic and nutritional) in *Arabidopsis*, tomato (cv. Micro-Tom) and grapevine. Main interest is dissecting the role of the phloem tissue in the transport of energy-rich molecules, building blocks, mineral nutrients and signals by focusing on the molecular response of the phloem tissue to a phloem-limited pathogen (phytoplasmas).