

University Academic Curriculum Vitae

Personal Information **Prof. Carlo Andreotti**

Place and – date of birth: Riccione (Rimini, Italy), 10 February 1969

Nationality: Italian

Education:

- 2002, Ph.D. in “Fruit Tree, Forestry and Ornamental Agro-Ecosystems”, University of Bologna. Thesis title: ‘Phenolic compounds of *Pyrus communis*: cultivar characterization and evaluation of their role in plant response to abiotic and biotic stresses’
- 1997, Laurea (equiv. to M.Sc.) in Agricultural Sciences, University of Bologna

Current Academic Position at UNIBZ: Associate Professor since 2015

Previous academic positions

- Assistant Professor (Researcher) at Free University of Bozen-Bolzano from 2009 to 2014
- Researcher at CRA (Consiglio Nazionale per le Ricerche in Agricoltura) at the Fruit Production Unit in Forlì (FC) from 2008-2009
- Research Assistant (with post doctorate fellowships) at the Dipartimento Colture Arboree of the University of Bologna from 02/2002 to 01/2007
- Contract Professor at the University of Teramo (Faculty of Agriculture) for the course *Morphology and physiology of grapevine*, Academic Years 2004-2005, 2005-2006, 2006-2007;
- Contract Professor at the University of Teramo (Faculty of Agriculture) for the course *Cytology, anatomy and plant physiology*, Academic Year 2007-2008

Teaching

- Course: *Fruit production* (AY 2009-10 and 2010-11) and *Fruit production and Viticulture* (from AY 2011-12 onward) at the Bachelor in Agricultural and Agro-environmental Sciences
- Course: Integrated orchard and vineyard management (module: Canopy management) from AY 2016-17 onward at the International Master of Horticultural Sciences (IMaHS)
- Course: Agricultural systems in mountain areas (module: Fruit and vegetable production in mountain areas) from AY 2015-16 onward at the Environmental Management of Mountain Areas (Emma)
- Course: Fruit production in mountain areas (AY 2014-15 and 2015-16) at the IMaHS
- Supervision of students: 3 PhD students and 12 Bc or Ms students as first supervisor ´ thesis at UNIBZ: 8 (Bachelor and Master). PhD student: as supervisor 1. As co-supervisor 3.

Academic duties

- Member of the Study Council of the course Agricultural and Agro environmental Sciences
- Member of the Phd Board (Mountain Environment and Agriculture)
- Member of the Faculty Council
- Appointed by the Faculty of Science and Technology for the coordination of the activities related to the management of the experimental/didactic orchard and vineyard at the Laimburg Research Centre
- Appointed by the Faculty of Science and Technology for the coordination of the activities related to the realization of the new facilities (open space and greenhouse) at the Laimburg Research

Centre

Research

My ongoing research activity, developed within the research projects listed below, focused on two main areas of interest. In detail:

Mountain viticulture: optimization of cultural inputs to enhance grape quality.

This research line is focused on the efficient use of cultural inputs to enhance grapevine performances and quality. More in detail these are the current research actions:

- Efficient use of water resources in vineyard. The activities are conducted within the projects “Effect of different water supply management on grapevine growth and quality performances” (2014-16) and “Water use efficiency across land use types in South Tyrol” (2016-2018). These activities are conducted with the group of Tree ecophysiology at unibz and in collaboration with other research institutions (the Research Centre Laimburg and the EURAC)
- Canopy management techniques to delay berry ripening in grapevine. This activity is conducted within the internally founded project “Pre-harvest techniques to control fruit ripening in Sauvignon Blanc grapevines” and in collaboration with the Research Centre Laimburg.
- Use of biochar as soil amendment in vineyard. Research activity conducted within the FESR project “Optimization of wood gasification chain in South Tyrol to produce bio-energy and other high-value green Products to enhance soil fertility and mitigate climate change (WOOD-UP) in collaboration with different research groups of the Faculty of Science and Technology, Laimburg and IDM)

Use of biostimulants to enhance sustainability of fruit crops.

This research line deals with the experimental application of biostimulants (seaweed extracts, amino acids mix, vitamins, chitosan, mineral elements) which are able to affect primary and secondary metabolisms of the plant. The goal is to explore the potentiality of these products to improve different aspects of fruit crop performances, such as growth, vigor, yield and overall fruit quality. The activities are conducted in collaboration with a private company (ILSA SpA), which in part support the project financially.

List of Research grants and contracts

Date granted	Role	Funding Body	Title	Amount received (euro)
2017	Research Unit responsible	FESR	Effect of biochar application on soil-grapevine water status and to enhance N-fertilizer efficiency in grapevine cultivation (WOOD.UP project)	95.740
2016	Principal investigator	Unbz research commission	Pre-harvest techniques to control fruit ripening in Sauvignon Blanc grapevines	34.500
2016	Member of the research team, responsible for the manipulation experiments in vineyards	Unbz research commission	Water use efficiency across land use types in South Tyrol	99.200
2016	Principal investigator	ILSA SpA (sponsor)	Impiego dei prodotti biostimolanti su alcune colture	4.000

			frutticole: effetti sulla crescita delle piante e sulla qualità dei frutti	
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Publications over the last 10 years

Articles in international refereed journals

- MOROZOVA, K., ANDREOTTI, C., ARMANI, M., CAVANI, L., CESCO, S., CORTESE, L., GERBI, V., MIMMO, T., RUSSO SPENA, P. AND SCAMPICCHIO, M. (2016) Indirect effect of glyphosate on wine fermentation studied by microcalorimetry. *Journal of Thermal Analysis and Calorimetry*, 1-10. DOI 10.1007/s10973-016-5891-y
- CANISTRO, D., VIVARELLI, F., CIRILLO, S., COSTA, G., ANDREOTTI, C. AND PAOLINI, M. (2016). Comparison between in toto peach (*Prunus persica* L. Batsch) supplementation and its polyphenolic extract on rat liver xenobiotic metabolizing enzymes. *Food and Chemical Toxicology*, 97, 385-394.
- GUERRERO-CHAVEZ, G., SCAMPICCHIO, M. AND ANDREOTTI, C. (2015). Influence of the site altitude on strawberry phenolic composition and quality. *Scientia Horticulturae*, 192, 21-28.
- BOSCHIERO, M., KELDERER, M., SCHMITT, A. O., ANDREOTTI, C. AND ZERBE, S. (2015). Influence of agricultural residues interpretation and allocation procedures on the environmental performance of bioelectricity production– A case study on woodchips from apple orchards. *Applied Energy*, 147, 235-245
- VALENTINUZZI F, MASON M, SCAMPICCHIO M, ANDREOTTI C, CESCO S, MIMMO T (2014). Enhancement of the bioactive compound content in strawberry fruits grown under iron and phosphorus deficiency. *JOURNAL OF THE SCIENCE OF FOOD AND AGRICULTURE*, ISSN: 0022-5142, doi: 10.1002/jsfa.6924
- RAVAGLIA D, ESPLEY RV, HENRY-KIRK RA, ANDREOTTI C, ZIOSI V, HELLENS RP, COSTA G AND ALLAN ANDREW C (2013). Transcriptional regulation of flavonoid biosynthesis in nectarine (*Prunus persica*) by a set of R2R3 MYB transcription factors. *BMC PLANT BIOLOGY*, vol. 13, 68, ISSN: 1471-2229
- ANDREOTTI C, RAVAGLIA, D. AND COSTA, G (2010). Effects of fruit load and reflective mulch on phenolic compounds accumulation in nectarine fruit. *EUROPEAN JOURNAL OF HORTICULTURAL SCIENCE*, vol. 75, p. 53-59, ISSN: 1611-4426
- ANDREOTTI C, RAVAGLIA D. AND COSTA, G (2009). Innovative light management to improve production sustainability, overall quality, and the phenolics composition of nectarine (*Prunus persica* cv. Stark Red Gold). *JOURNAL OF HORTICULTURAL SCIENCE AND BIOTECHNOLOGY*, vol. Sp. Iss. SI, p. 145-149, ISSN: 1462-0316
- BOTTON A, ANDREOTTI C, COSTA G. AND RAMINA A (2009). Peach (*Prunus persica* L. Batsch) Allergen-Encoding Genes Are Developmentally Regulated and Affected by Fruit Load and Light Radiation. *JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY*, vol. 57, p. 724-734, ISSN: 0021-8561
- ANDREOTTI C, RAVAGLIA D, RAGAINI A. AND COSTA G (2008). Phenolic compounds in peach (*Prunus persica*) cultivars at harvest and during fruit maturation. *ANNALS OF*

- APPLIED BIOLOGY, vol. 153, p. 11-23, ISSN: 0003-4746, doi: 10.1111/j.1744-7348.2008.00234.x
- ANDREOTTI C, COSTA G, TREUTTER D (2006). Composition of phenolic compounds in pear leaves as affected by genetics, ontogenesis and the environment. SCIENTIA HORTICULTURAE, vol. 109, p. 130-137, ISSN: 0304-4238
 - FISCHER TC, HALBWIRTH H, ROEMMELT S, SABATINI E, SCHLANGEN K, ANDREOTTI C, SPINELLI F, COSTA G, FORKMANN G, TREUTTER D, STICH K. (2006). Induction of polyphenol gene expression in apple (*Malus x domestica*) after the application of a dioxygenase inhibitor. PHYSIOLOGIA PLANTARUM, vol. 128, p. 604-617, ISSN: 0031-9317

Articles in national journals

- ANDREOTTI C (2013). Qualità delle produzioni frutticole di montagna. ITALUS HORTUS, vol. 20, p. 45-60, ISSN: 1127-3496
- CASTAGNOLI M, MIGANI M, ANDREOTTI C, MALTONI ML, FAEDI W (2013). Primi studi sulla coltivazione del mirtillo in Romagna. RIVISTA DI FRUTTICOLTURA E DI ORTOFLORICOLTURA, vol. 6, p. 38-43, ISSN: 0392-954X
- ANDREOTTI C, BARUZZI G, TAGLIAVINI M (2009). Come effettuare correttamente la concimazione della fragola. INFORMATORE AGRARIO, vol. 25, p. 69-72, ISSN: 0020-0689
- ANDREOTTI C, CASTAGNOLI M, MALTONI M. L, MAGNANI S, BAUDINO M, FONTANARI M, CARLINI A, MARCHESINI A, PITITTO A, FAEDI W (2009). Mirtillo, un frutto ricco di composti fenolici antiossidanti ad alto valore dietetico. RIVISTA DI FRUTTICOLTURA E DI ORTOFLORICOLTURA, vol. 6, p. 82-88, ISSN: 0392-954X
- BREGOLI AM, NARDOZZA S, ANDREOTTI C, MAGNANI R, CORELLI-GRAPPADELLI L, MASIA A, COSTA G (2007). Aspetti biometrici, fisiologici e applicativi di un interruttore della dormienza delle gemme fiorali. RIVISTA DI FRUTTICOLTURA E DI ORTOFLORICOLTURA, vol. 7-8, p. 44-46, ISSN: 0392-954X
- ANDREOTTI C, RAGAINI A, COSTA G (2006). Caratterizzazione del profilo fenolico di alcune pesche e nettarine. RIVISTA DI FRUTTICOLTURA E DI ORTOFLORICOLTURA, vol. 7/8, p. 56-59, ISSN: 0392-954X

Books and contribution to books

- ANDREOTTI C., TAGLIAVINI M (2015). Gestione della fertilizzazione. In: La nuova viticoltura. Edagricole (New Business Media) Bologna
- TAGLIAVINI M, ANDREOTTI C (2011). La concimazione della fragola. In: La Fragola. p. 186-199, BOLOGNA: ART Servizi Editoriali S.p.A., ISBN: 978-88-96301-08-1

Papers in International conference proceedings

- WENTER A, ZANOTELLI D, MONTAGNANI L, TAGLIAVINI M AND ANDREOTTI C. (2017). Effects of an early-summer drought stress on leaf photosynthesis, growth and yields of grapevine in mountain conditions. ACTA HORTICULTURE 1150, 457-462
- SAVINI, G., GRAZIANO, G., BERTOLDI, D., SOPPELSA, S., and ANDREOTTI, C. (2016). Dynamics of nutrient uptake in raspberry plants. ACTA HORTICULTURE 1117, 335-340
- WENTER A, ZANOTELLI D, MONTAGNANI L, TAGLIAVINI M, ANDREOTTI C (2015). Effect of different water supply management systems on the growth and quality performances

of Sauvignon Blanc grapevine cultivated in mountain conditions. 19th International Meeting of Viticulture GiESCO, Pech Rouge - Montpellier, 31 May - 5 June 2015: Proceedings Vol. 1, p. 134-138

- ANDREOTTI C, CASTAGNOLI M, MALTONI ML, MAGNANI S, FONTANARI M, CARLINI A (2014). Quality and Phenolic Composition of Blueberries Cultivated in Italy. ACTA HORTICULTURAE 1017, 427-432
- ANDREOTTI C, GUERRERO CHAVEZ G, ZAGO M (2014). Quality of strawberry fruits cultivated in a highland area in South Tyrol (Italy): first results. ACTA HORTICULTURAE, 1049: 795-800, ISSN: 0567-7572
- ANDREOTTI C, D. RAVAGLIA, G. COSTA (2007). Preliminary study of different fruit loads and reflective mulch effects on the phenolic composition in nectarines cv. 'Stark Red Gold'. ACTA HORTICULTURAE, 761, 249-254
- SPINELLI F., ANDREOTTI C, SABATINI E., COSTA G., SPADA G., PONTI L., GEIDER K. (2006). Chemical control of fire blight in pear: application of Prohexadione-Calcium, Acibenzolar-s-methyl, and copper preparations in vitro and under field condition. ACTA HORTICULTURAE, 704, 233-237
- SPINELLI F., ANDREOTTI C., BREGOLI A. M., CIAMPOLINI F., CRESTI M., FIORI G., NOFERINI M., ZIOSI V., COSTA G. (2006). Development and optimisation of sensitive, specific and rapid instrumental methods to detect low levels of pathogenic microorganisms directly in planta. In: Cost Action 864 Pome fruit health research in Europe: Current Status 2006 . Vienna, Austria, November 20-21, 2006, p. 169-171, VIENNA:s.n, ISBN: 3-200-00811-3
- ANDREOTTI C, COSTA G., RAGAINI A. (2006). Phenolic compounds characterization of peaches and nectarines. ACTA HORTICULTURAE, 713, 449-452
- COSTA G., ANDREOTTI C, SPINELLI F., RADEMACHER W. (2006). Prohexadione-Ca: More than a Growth Regulator for Pome Fruit Trees. ACTA HORTICULTURAE, 727, 107-116
- BREGOLI A.M., NARDOZZA S., ANDREOTTI C, MAGNANI R., CORELLI-GRAPPADELLI L., MASIA A., COSTA G. (2006). Relationship between biometric and physiological parameters, application time and flower bud abscission induced by a dormancy breaking agent in peach. ACTA HORTICULTURAE, 713, 191-196
- COSTA G., SPINELLI F., ANDREOTTI C, BREGOLI A. M., FIORI G., NOFERINI M., ZIOSI V. (2006). Sustainable production methods, resistant inducers and BCAs: combining environmental friendly strategies for fire blight control. In: COST Action 864: Pome Fruit Health Research in Europe (2006). Wien, vol. Cost Action 864, p. 94-96, ISBN: 3-200-00811-3

Papers in National conference proceedings

- WENTER A, ZANOTELLI D, MONTAGNANI L, TAGLIAVINI M, ANDREOTTI C (2016). Timing and intensity of drought-induced water stress differently affect growth and productivity of grapevine. XI Giornate Scientifiche SOI Bolzano 14/09/2016 - 16/09/2016. Conference proceedings abstract, p. 97.
- SOPPELSA S., TESTOLIN R., KELDERER M., CASERA C. AND ANDREOTTI C. (2016). Effetto della concimazione fogliare con prodotti biostimolanti (silicio e alghe) sulla qualità dei frutti di melo cv. Jonathan. XI giornate scientifiche SOI, Bolzano 14-16 settembre 2016. Conference proceedings abstract, p. 63
- TAGLIAVINI, M, ANDREOTTI C, C, BARUZZI, G (2009).

Esigenze nutrizionali e tecniche sostenibili di concimazione della fragola. In: Atti VII Convegno Nazionale, La fragola, presente e futuro. p. 199-205

Organization of conference and workshops

- Co-convener of the XI Giornate Scientifiche SOI, Bolzano 14-16 September 2016
- Scientific committee of the event "Spatium Pinot Blanc" scheduled for 29th - 30th August 2014 in Eppan, South Tyrol. The symposium is organized by the Research Centre for Agriculture and Forestry Laimburg together with the Faculty of Science and Technology of the UNIBZ and the Vineum Association of the wine economy of Eppan.

Other activities (e.g. role in scientific societies; editorial activity for Journals)

Referee for the following Journals:

- Scientia horticulturae
- eJHS
- Fruits
- Journal of the Science of Food and Agriculture
- Food Research International
- Journal of Berry Research
- Ciencia Rural
- Antioxidant
- Italus Hortus

Member of the SOI (Società Ortoflorofrutticola Italiana) and of the ISHS (International Society for Horticultural Science)

Language competences

In Italian German and English

Language and level (also with indication of any certification)

Italian: mother tongue
English: FCE level C1
German: B2 (Goethe-Zertifikat B2)

Bolzano, 16.02.2017

Prof. Carlo Andreotti