

Camilla Pandolfi, PhD

Female.

Google Scholar: <https://scholar.google.it/citations?user=e965i5kAAAAJ&hl=it>

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EDUCATION

21/03/2008 Università degli Studi di Firenze - PhD in Gravitational plant physiology. Title of the thesis: Study of the early phases of gravitropic response in roots.

29/04/2003 Università degli Studi di Firenze - Laurea degree in Agriculture and Environmental Protection 110/110 cum laude. Title of the thesis: "Use of green compost in the preparation of nursery substrates".

1997 - High school diploma (Liceo Scientifico Statale N. Rodolico) (FI), Italy Final grade: 53/60

Languages: Italian (Native proficiency), English (Professional working proficiency).

**05/12/2017 – CONSEGUIMENTO ABILITAZIONE SCIENTIFICA NAZIONALE
PROFESSORE II FASCIA SETTORE CONCORSUALE 07/B2**

- **WORK EXPERIENCE**

05/2017 - 31/04/2022

Ricercatore universitario a t.d. t.pieno (art. 24 c.3-a L. 240/10)

Università degli Studi di FIRENZE - P.zza S. Marco, 4 - FIRENZE

Scienze delle Produzioni Agroalimentari e dell'Ambiente – DISPAA

07/2015 – 04/2017 Assegnista di ricerca - Post doc – DISPAA – Università degli Studi di Firenze

04/2013 – 03/2015 - Marie Curie IE Fellowship - The roots of plant productivity: how the rhizosphere interacts with the aboveground armament for indirect and direct defense against abiotic stressors. University of Florence Italy

The project aims at elucidating the signalling and communication ability of plant under environmental stresses. In particular: how roots signal the presence of stress to the shoots; the nature of the signal; and how plants signal the presence of stressful events to eavesdropping plants thanks to Volatile Organic Compounds (VOCs). The major focus is the integration of cell biology with electrophysiology and plant biochemistry.

03/2011 - 02/2013 – Research fellow. Advanced Concepts Team of the European Space Agency. Noordwijk - The Netherlands.

The aim of the team is to perform, monitor and foster research on advanced space systems, innovative concepts and working methods, by engaging in collaborative research with

academia. The team serves the function of a think tank providing decision makers the support of a highly multidisciplinary research group.

08/2010 – 02/2011 - Endeavour Research Fellowship. Stress Physiology Lab, University of Tasmania - Australia. Tackling the global climate changes: salinity and oxidative stress signalling and adaptation in corn (*Zea mais* L.)

03/2008 - 07/2010 - Post Doc at the DiPSA - University of Florence - Italy.

Main areas of research: gravitational physiology, stress physiology and plant tropisms. Among the principal advanced electrophysiological techniques, she is an expert in: (1) the Vibrating Probe technique, (2) the MIFE system, (3) the MEA System; (4) the Zeiss fluorescence inverted microscope (5) transmembrane potential measurements; (6) fabrication, validation and use of selective microelectrodes for specific ions.

10/2007 - 02/2008 Research Fellowship. Stress Physiology Lab, University of Tasmania – Australia

04/2004 - 03/2008 PhD in Gravitational plant physiology - University of Florence.

RESEARCH ACTIVITIES (Research sectors)

- Plant eco-physiology and plant stress physiology
- Plant-plant and plant-ant interactions
- Electrophysiology and chemical ecology
- Plant biomechanics and biomimetics
- Food chemistry

• ADVANCED TRAINING COURSES

2013 - PTR-MS-TOF Training course - IONICON Analytik, Innsbruck

2013 - National Instruments - LabVIEW RIO - Build Your Own Embedded Workshop

2011 - Space System Engineering Course - University of Southampton

• AWARDS

2013 Marie Curie – IEF - Fellowship

2010 Endeavour Research Award - Department of Education, Employment and Workplace Relations (DEEWR) Australia.

2009 Best Student Presentation in Life Science - ELGRA Biennal Symposium. Bonn.

• SUPERVISION OF STUDENTS AND POSTDOCTORAL FELLOWS

2014 - 2016 PhD Student Enrico Pezzola, Research subject: Kin recognition in Plants, University of Florence.

2013 – 2015 PhD Student Stefania Caparrotta. Subject :“Plant signalling and communication of abiotic stressors” – University of Florence

13/12/2021 MISURI GINEVRA

Corso di Laurea triennale: TECNOLOGIE ALIMENTARI (B024)

Titolo elaborato finale (Italiano): Analisi dell'impronta aromatica di campioni di caffè Arabica di alta qualità: discriminazione della loro provenienza in macro e microaree geografiche
Titolo elaborato finale (Inglese): Aromatic fingerprint analysis of high quality coffee samples: discrimination of their origin in macro and micro geographical areas
Correlatore: Diego Comparini; Massimo Battaglia

14/04/2021

TADDEI SABRINA

Corso di Laurea triennale: TECNOLOGIE ALIMENTARI (B024)

Titolo elaborato finale (Italiano): Effetto dell'altitudine sulla composizione dei composti organici volatili e sulla qualità della varietà Bourbon di Coffea arabica in El Salvador .

Titolo elaborato finale (Inglese): Effect of altitude on volatile organic compounds composition and quality of Bourbon variety of Coffea arabica in El Salvador

Correlatore: Dott. Massimo Battaglia ; Dott. Cosimo Taiti ; Dott. Diego Comparini

15/06/2020 RICCERI FEDERICO

Corso di Laurea triennale: TECNOLOGIE ALIMENTARI (B024)

Titolo elaborato finale (Italiano): Indagine sulla shelf-life in oli extravergine di oliva: influenza di cultivar e filtrazione

Titolo elaborato finale (Inglese): Shelf-life investigation in extra virgin olive oils: influence of cultivars and filtration

Correlatore: Taiti Cosimo

16/07/2019 RAGGI IRENE

Corso di Laurea triennale: TECNOLOGIE ALIMENTARI (B024)

Titolo elaborato finale (Italiano): Rapida valutazione dell'olio extravergine di oliva mediante la tecnologia PTR-ToF-MS: il caso del comune di Calenzano.

Titolo elaborato finale (Inglese): Rapid evaluation of extravirgin olive oil with PTR-ToF-MS technology: the case of Calenzano district.

Correlatore: Cosimo Taiti

05/06/2020 - MACCHIAVELLI TANIA

Corso di Laurea magistrale: Scienze della Natura e dell'Uomo (B093)

Titolo Tesi (Italiano): Studio dei meccanismi fisiologici che determinano l'aumento delle rese nella coltivazione del riso in associazione con la felce Azolla ed il suo cianobatterio simbiote

Titolo Tesi (Inglese): Understanding rice productivity through the co-cultivation with the fern Azolla and its cyanobacterial symbiont

Correlatore: Ilaria Colzi

17/04/2019 - FONDELLI FEDERICO Corso di Laurea magistrale: Biologia (B092)

Titolo Tesi (Italiano): Lidocaina ed Etere Dietilico: Una panoramica degli effetti a livello della fisiologia vegetale

Titolo Tesi (Inglese): Lidocaine and Diethyl Ether: An overview of their effects on plant physiology

Correlatore: Elisa Azzarello, Ilaria Colzi

15/02/2019 DE FILIPPIS MATTEO - Corso di Laurea magistrale: Scienze della Natura e dell'Uomo (B093)

Titolo Tesi (Italiano): Kin recognition: effetti su trasporto auxinico e trascrizione genica in radici di *Pisum sativum*

Titolo Tesi (Inglese): Kin recognition: effects on auxin transport and gene expression in *Pisum sativum* roots

Correlatore: Gonnelli Cristina

11/04/2018 DIAMANTI ISMAEL - TECNOLOGIE ALIMENTARI (B024)

Titolo elaborato finale (Italiano): La coltivazione idroponica di *Spinacia oleracea* con acqua di mare, aspetti nutrizionali del prodotto fresco e processato.

Titolo elaborato finale (Inglese): The hydroponic cultivation of *Spinacia oleracea* with seawater, nutritional aspects of the fresh and processed products.

Correlatore: Caparrotta Stefania

2015 Master student Folco Masiero, Research subject: "Kin recognition in Plants," University of Florence.

2014 Undergraduate student Giacomo Santarlasci, Research subject : "Root swarming and gravitropism" University of Florence.

2014 Undergraduate student Sara Boni, Research subject : "Plant signalling and communication of salinity stress in *Vicia faba* var *minor*" University of Florence.

2013 Master student Viola Signorini. Subject : "Plant signaling and communication of salinity stress in *Eucalyptus gunnii*" University of Florence.

2012 Master thesis: ``Study of the aerodynamics of biomimetic plumed seeds and their hypothetical dispersal on planets". Student: Vincent Casseau. Advanced Concepts Team - European Space Agency

• MEMBERSHIPS OF SCIENTIFIC SOCIETIES

Biomimicry Institute - AskNature (from 2011)

Botanical Society of American (since 2014)

Marie Curie Alumni Association (since 2013)

Australia Awards Alumni Network (since 2010)

Women in Aerospace Europe (since 2010)

European Low Gravity Research Association (since 2009)

Society of Plant Signalling and Behavior (since 2008)

• INTERNATIONAL CONFERENCES

- **Organizing committee** of "The First Symposium on Plant Neurobiology" 17 - 20 May 2005 - Firenze
- **Speaker** 2nd SYMPOSIUM ON PLANT NEUROBIOLOGY, PECHINO - CINA - relazione dal titolo: Effect of auxin inhibitors and glutamate on electrotopism of maize roots. C.PANDOLFI; E.AZZARELLO; S.MUGNAI; S.MANCUSO
- **Organizing committee** of the "5th Symposium on Plant Neurobiology" 25 to 29 May, 2009 Firenze
- **Invited speaker** for student competition - ELGRA Biennial Symposium, Bonn - Germany 1st-4th Sept 2009 "Pandolfi C., Masi E., Mugnai S., Azzarello E., Renna L., Stefano G., Mancuso S. Physiological response to temporary changes in gravity conditions on plants."

- **Speaker** - IX Giornate Scientifiche SOI, Firenze 10-12 maggio 2010 "Pandolfi C., Masi E., Pagano M., 2010. Valutazione dell'effetto dell'acclimatazione sulla riduzione dei danni da stress salino in due cultivar di *Olea europaea*."
- **Speaker** - 38th COSPAR Scientific Assembly 18-25 July 2010 Bremen Germany
- **Poster presentation** - Plant Membrane Biology 15th International Workshop, 20-25 Sept. 2010 Adelaide Australia
- **Speaker** - CAREX Conference on Life in Extreme Environments, 18-20 October 2011 - Dublin, Ireland
- **invited speaker** - Smart Solutions from the Plant Kingdom: Beyond the Animal Models, 24 October 2011, Accademia dei Georgofili Firenze
- **Scientific and organising committee** of the workshop "10 years of Advanced Concepts and Looking Ahead" 2-3 July 2012 - ESTEC, European Space Agency, Noordwijk The Netherlands
- **Poster presentation** - Living Machines: the international conference on biomimetic and biohybrid systems. Barcelona, 9-12 July 2012.
- **Speaker** - Annual Meeting of the Society of Plant Signaling and Behavior 2013, 8 - 10 July Vancouver Canada.
- **invited speaker** - Learning from the Plant Kingdom to Invent Smart Artificial Solutions, Workshop. 20 July 2013 , Londra, UK
- **Poster presentation** - Living Machines 2013: the international conference on biomimetic and biohybrid systems. London, 30 July - 2 Aug 2013.
- **invited speaker** - Marie Curie Actions: On the last lap to Horizon 2020 Florence, 26-27 November 2013
- **Speaker** - International Symposium on Plant Signaling and Behavior 2014, New Delhi, India 7-10 March.
- Design and Nature 2014, 9 - 11 July 2014. Opatija, Croatia.
- **Invited speaker** for the "Hello Tomorrow Challenge 2015 - food and agriculture track" during the HELLO TOMORROW CONFERENCE 2015, June 25th – 26th 2015 Cité des sciences et de l'industrie, Paris
- **Invited speaker** - Marie Skłodowska-Curie actions (MSCA) event "Mobility Takes Research Further" 11-12 maggio 2017, Malta
- **EDITORIAL EXPERIENCE**

Associate Editor - Acta Futura - European Space Agency - <http://www.esa.int/ACT/publications/ActaFutura/index.htm>

Associate Editor - Advances in Horticultural Science

Elenco completo delle pubblicazioni scientifiche su riviste internazionali

2022

1. M Masi, WG Nissim, C Pandolfi, E Azzarello, S Mancuso (2022) Modelling botanical biofiltration of indoor air streams contaminated by volatile organic compounds Journal of Hazardous Materials 422, 126875 2 2022
2. J Khattar, P Calvo, I Vandebroek, C Pandolfi, F Dahdouh-Guebas (2022) Understanding interdisciplinary perspectives of plant intelligence: Is it a matter of science, language, or

subjectivity? Journal of Ethnobiology and Ethnomedicine 18 (1), 41

2021

3. WG Nissim, E Palm, C Pandolfi, S Mancuso, E Azzarello (2021) Relationship between Leachate Pollution Index and growth response of two willow and poplar hybrids: Implications for phyto-treatment applications Waste Management 136, 162-173 2021
4. D Comparini et al. (2021) Comparison of wild and domesticated hot peppers fruit: volatile emissions, pungency and protein profiles. Advances in Horticultural Science 35 (3)2021
5. M Dolfi, C Dini, S Morosi, D Comparini, E Masi, C Pandolfi, S Mancuso (2021) Electrical signaling related to water stress acclimation Sensing and Bio-Sensing Research 32, 100420 2021
6. W Guidi Nissim, E Masi, C Pandolfi, S Mancuso, G Atzori (2021) The response of halophyte (*Tetragonia tetragonioides* (Pallas) Kuntz.) and glycophyte (*Lactuca sativa* L.) crops to diluted seawater and NaCl solutions: A comparison between two ... Applied Sciences 11 (14), 6336 1 2021
7. WG Nissim, E Palm, C Pandolfi, S Mancuso, E Azzarello (2021) Willow and poplar for the phyto-treatment of landfill leachate in Mediterranean climate Journal of Environmental Management 277, 111454 9 2021

2020

1. D Comparini, E Masi, C Pandolfi, L Sabbatini, M Dolfi, S Morosi, ... (2020) Stem electrical properties associated with water stress conditions in olive tree. Agricultural Water Management 234, 106109 2020
2. E Pezzola, C Pandolfi, S Mancuso (2020) Resource availability affects kin selection in two cultivars of *Pisum sativum* Plant Growth Regulation 90 (2), 321-329 2020
3. G Atzori, W Nissim, T Macchiavelli, F Vita, E Azzarello, C Pandolfi, E Masi, ... (2020) *Tetragonia tetragonioides* (Pallas) Kuntz. as promising salt-tolerant crop in a saline agricultural context Agricultural Water Management 240, 106261 5 2020

2019

1. C Taiti, C Pandolfi, S Caparrotta, M Dei, E Giordani, S Mancuso, ... (2019) Fruit aroma and sensorial characteristics of traditional and innovative Japanese plum (*Prunus salicina* Lindl.) cultivars grown in Italy. European Food Research and Technology 245 (12), 2655-2668 1
2. S Caparrotta, E Masi, G Atzori, I Diamanti, E Azzarello, S Mancuso, Pandolfi (2019) Growing spinach (*Spinacia oleracea*) with different seawater concentrations: Effects on fresh, boiled and steamed leaves Scientia horticultruae 256, 108540 2019

2018

1. H Wu, L Shabala, E Azzarello, Y Huang, C Pandolfi, N Su, Q Wu, S Cai, et al. (2018) Na⁺ extrusion from the cytosol and tissue-specific Na⁺ sequestration in roots confer differential salt stress tolerance between durum and bread wheat. Journal of experimental botany 1
2. S Caparrotta, S Boni, C Taiti, E Palm, S Mancuso, C Pandolfi (2018) Induction of priming by salt stress in neighboring plants. Environmental and Experimental Botany 147, 261-270

2017

1. Pandolfi Camilla, Bazihizina Nadia, Giordano Cristiana, Mancuso Stefano, Azzarello Elisa (2017). Salt acclimation process: a comparison between a sensitive and a tolerant *Olea europaea* cultivar. *TREE PHYSIOLOGY*, p. 380-388, ISSN: 1758-4469, doi: 0.1093/treephys/tpw127
2. Stefania Caparrotta, Sara Boni, Cosimo Taiti, Emily Palm, Stefano Mancuso, Camilla Pandolfi (2017). Induction of priming by salt stress in neighboring plants. *ENVIRONMENTAL AND EXPERIMENTAL BOTANY*, vol. 147, p. 261-270, ISSN: 0098-8472, doi: 10.1016/j.envexpbot.2017.12.017
3. A Baldi, C Pandolfi, S Mancuso, A Lenzi (2017) A leaf-based back propagation neural network for oleander (*Nerium oleander* L.) cultivar identification. *Computers and Electronics in Agriculture* 142, 515-520
4. C Taiti, E Marone, M Lanza, E Azzarello, E Masi, C Pandolfi, E Giordani, Nashi or Williams pear fruits? Use of volatile organic compounds, physicochemical parameters, and sensory evaluation to understand the consumer's preference. *European Food Research and Technology* 243 (11), 1917-1931 2 2017
5. E Marone, E Masi, C Taiti, C Pandolfi, N Bazihizina, E Azzarello, P Fiorino, ... Sensory, spectrometric (PTR-ToF-MS) and chemometric analyses to distinguish extra virgin from virgin olive oils. *Journal of food science and technology* 54 (6), 1368-1376
6. C Pandolfi, N Bazihizina, C Giordano, S Mancuso, E Azzarello (2017) Salt acclimation process: a comparison between a sensitive and a tolerant *Olea europaea* cultivar. *Tree physiology* 37 (3), 380-388 1
7. C Taiti, C Costa, WG Nissim, S Bibbiani, E Azzarello, E Masi, C Pandolfi, ... Assessing VOC emission by different wood cores using the PTR-ToF-MS technology. *Wood science and technology* 51 (2), 273-295

2016

1. Pandolfi C., Bazihizina N., Giorsano C., Mancuso S., Azzarello E. Salt acclimation process: a comparison between a sensitive and a tolerant *Olea europaea* cultivar. Accepted for publication *Tree Physiology*
2. Shabala L., Zhang J., Pottosin I.I., Bose J., Zhu M., Fuglsang A.T., Velarde-Buendia A., Massart A., Hill C.B., Roessner U., Bacic A., Wu H., Azzarello E., Pandolfi C., Zhou M., Poschenrieder C., Mancuso S., Shabala S., (2016) Cell-type specific H⁺-ATPase activity enables root K⁺ retention and mediates acclimation to salinity. *Plant Physiology*, pp. 01347.2016
3. Atzori G., Guidi Nissim W., Caparrotta S., Masi E., Azzarello E., Pandolfi C., Vignolini P., Gonnelli C., Mancuso S. (2016) Potential and constraints of different seawater and freshwater blends as growing media for three vegetable crops. *Agricultural Water Management* 176 (2016) 255–262
4. Pandolfi C., E Azzarello, S Mancuso, S Shabala (2016) Acclimation improves salt stress tolerance in *Zea mays* plants. *Journal of Plant Physiology* 201, 1-8
5. Taiti C., E Marone, N Bazihizina, S Caparrotta, E Azzarello, AW Petrucci, C. Pandolfi, E. Giordani (2016) Sometimes a little mango goes a long way: A rapid approach to assess how different shipping systems affect fruit commercial quality. *Food Analytical Methods* 9 (3), 691-698
6. Vivaldo G, E Masi, C Pandolfi, S Mancuso, G Caldarelli (2016) Networks of plants: how to measure similarity in vegetable species. *Scientific Reports* 6(27077)
7. Taiti C., C. Costa, W. Guidi Nissim, S. Bibbiani, E. Azzarello, E. Masi, C. Pandolfi, F. Pallottino, P. Menesatti, S. Mancuso (2016) Assessing VOC emission by different wood cores using the PTR-ToF-MS technology. *Wood Science and Technology* · September 2016 DOI: 10.1007/s00226-016-0866-5

2015

8. Wu H., L Shabala, M Zhou, G Stefano, C Pandolfi, S Mancuso, S Shabala (2015) Developing and validating a high-throughput assay for salinity tissue tolerance in wheat and barley. *Planta* 242 (4), 847-857

9. Casseau V., De Croon G., Izzo D., Pandolfi C. (2015) Morphologic and Aerodynamic Considerations Regarding the Plumed Seeds of *Tragopogon pratensis* and Their Implications for Seed Dispersal. *PloS one* 10 (5), e0125040
10. Masi E., Ciszak M., Comparini D., Monetti E., Pandolfi C. Azzarello E., Mugnai S., Baluška F., Mancuso S. (2015) The Electrical Network of Maize Root Apex is Gravity Dependent. *Scientific reports* 5
11. Vidoni R., Mimmo T., Pandolfi C. (2015) Tendril-Based Climbing Plants to Model, Simulate and Create Bio-Inspired Robotic Systems. *Journal of Bionic Engineering* 12 (2), 250-262
12. Grasso D., Pandolfi C., Bazihizina N., Nocentini D., Nepi M., Mancuso S. (2015) – Extrafloral-nectar based partner manipulation in plant-ant relationship. *AoB PLANTS*. plv002 doi: 10.1093/aobpla/plv002
13. Wu H., Shabala L., Liu X., Azzarello E., Pandolfi C., Zhou M, Chen Z, Bose J., Mancuso S. and Shabala S. (2015) Linking salinity stress tolerance with tissue-specific Na⁺ sequestration in wheat roots. *Front. Plant Sci.* 6, 71 | doi: 10.3389/fpls.2015.00071

2014

14. Masi E., Romani A., Pandolfi C., Heimler D., Mancuso S. (2014) – PTR-TOF-MS analysis of volatile compounds in olive fruits. *Journal of the Science of Food and Agriculture* doi:10.1002/jsfa.6837
15. Pandolfi C., Voigt B., Masi E., Mugnai S., Volkman D., Mancuso S. (2014) – Effect of gravity on the closure of traps in *Dionea muscipula*. *BioMed Research International*. Article ID 964203, dx.doi.org/10.1155/2014/964203
16. Mugnai S., Pandolfi C., Masi E., Azzarello E., Monetti E., Comparini D., Voigt B., Volkmann D., Mancuso S. (2014) - Oxidative Stress and NO Signalling in the Root Apex as an Early Response to Changes in Gravity Conditions. *BioMed Research International*. Article ID 834134 dx.doi.org/10.1155/2014/834134

2013

17. Pandolfi C., Izzo D. (2013) Biomimetics on seed dispersal: survey and insights for space exploration. *Bioinspiration and biomimetics* 8 (2), 025003
18. Pandolfi C., T Mimmo, R Vidoni (2013) Climbing plants, a new concept for robotic grasping. *Biomimetic and Biohybrid Systems*, 418-420

2012

19. Pandolfi C., Mancuso S., Shabala S. (2012) Physiology of acclimation to salinity stress in pea *Pisum sativum*. *Environmental and Experimental Botany*. 84, 44–51
20. Azzarello E., Pandolfi C., Giordano C., Rossi M., Mugnai S., Mancuso S. (2012) Ultramorphological and physiological modifications in *Paulownia tomentosa* induced by zinc. *Environmental and Experimental Botany*. 81, 11–17
21. Svobodova E., Pandolfi C., Hlasna Cepkova P., S. Mancuso (2012) Discrimination of grapevine varieties cultivated in the Czech Republic by Artificial Neural Networks. *Adv. Hort. Sci.*, 26(3-4): 187-192
22. Pandolfi C., D Comparini, S Mancuso (2012) Self-burial mechanism of *erodium cicutarium* and its potential application for subsurface exploration. *Biomimetic and Biohybrid Systems*, 384-385
23. Pandolfi, V Casseau, TP Fu, L Jacques, D Izzo (2012) *Tragopogon dubius*, considerations on a possible biomimetic transfer. *Biomimetic and Biohybrid Systems*, 386-387

2011

24. Pavlovic A., Slovakova L., Pandolfi C., Mancuso S. (2011) On the mechanism underlying photosynthetic limitation upon trigger hair irritation in the carnivorous plant *Venus flytrap* (*Dionaea muscipula* Ellis). *Journal of Experimental Botany* 62: 1991–2000
25. Azzarello E., Pandolfi C., Pollastri S., Masi E., Mugnai S., Mancuso S. (2011) The use of trees in phytoremediation. *CAB Reviews: Perspectives in Agriculture, Veterinary Science, Nutrition and Natural Resources*, 6, 037, 1-15

2010

26. Pandolfi C., Prismall L., Pottosin I., Cuin T., Mancuso S. and Shabala S. (2010) Specificity of Polyamine Effects on NaCl-induced Ion Flux Kinetics and Salt Stress Amelioration in Plant. *Plant and Cell Physiol.* 51(3): 422–434

2009

27. Pandolfi C., Messina G., Mugnai S., Azzarello E., Dixon K., Mancuso S. (2009) *Banksia integrifolia* (Proteaceae): discrimination and identification of morphotypes by an ANN (Artificial Neural Network) based on digital morphological and fractal characterization of leaves and flowers. *Taxon* 58: 925–933.
28. Masi E., Ciszak M., Stefano G., Renna L., Azzarello E., Pandolfi C., Mugnai S., Baluška F., Arecchi F.T., Mancuso S. (2009) Spatiotemporal dynamics of the electrical network activity in the root apex. *PNAS* vol. 106 no. 10 4048-4053
29. Messina G., Pandolfi C., Mugnai S., Azzarello E., Dixon K., Mancuso S. (2009) Identification of eighty-four accessions belonging to *Banksia* genus by phyllometric parameters and Artificial Neural Networks. *Australian Systematic Botany*, 22, 31–38.
30. Pandolfi C., Mugnai S., S. Bergamasco, Azzarello E., Masi E., Mancuso S. (2009) Artificial neural networks as a tool for the assessment of genetic diversity: a case study on vietnamese tea accessions. *Euphytica* 166: 411-421.
31. Azzarello E., Mugnai S., Pandolfi C., Masi E., Marone E., Mancuso S. (2009) Comparing image (fractal analysis) and electrochemical (impedance spectroscopy and electrolyte leakage) techniques for the assessment of the freezing tolerance in olive. *Trees* 23: 159–167

2008

32. Masi E., Mugnai S., Azzarello E., Ciszak M., Pandolfi C., Renna L., Stefano G., Voigt B., Volkmann D., Mancuso S. (2008) – Electrical network activity in plant roots under gravitychanging conditions. *Journal of Gravitational Physiology.* 15 (1) 167-168.
33. Mugnai S., Pandolfi C., Azzarello E., Masi E., Renna L., Stefano G., Voigt B., Volkmann D., Mancuso S. (2008) Root apex physiological response to temporary changes in gravity conditions: an overview on oxygen and nitric oxide fluxes. *Journal of Gravitational Physiology*, 15 (1) 163-164.
34. Mugnai S., Pandolfi C., Azzarello E., Masi E., Mancuso S. (2008) - *Camellia japonica* L. genotypes identified by an artificial neural network based on phyllometric and fractal parameters - *Plant Systematics and Evolution*, 270: 95-108
35. Mugnai S., Azzarello E., Pandolfi C., Salamagne S., Briand X., Mancuso S. (2008) Enhancement of ammonium and potassium root influxes by the application of marine bioactive substances positively affect *Vitis vinifera* plant growth. *J. Appl. Phyc.*, 20:177-182, doi:10.1007/s10811-007-9203-6

2007

36. Mugnai S., Azzarello E., Masi E., Pandolfi C., Mancuso S. (2007) - Investigating the possibility of peat substitution in olive nurseries by green compost - *Adv. Hort. Sci.*, 2007 21(2): 96-100.
37. Mugnai S., T. Pasquini, E. Azzarello, Pandolfi C., S. Mancuso (2007) - Evaluation of composted green waste in ornamental container-grown plants: effects on growth and plant water relations. *Compost Science and Utilization*, 15:283-287

2006

38. Mancuso S., Mugnai S., Pandolfi C., Azzarello E. (2006) Some preliminary observations on the zinc and cadmium accumulative capacity of four woody species (*Celtis australis*, *Quercus ilex*, *Syringa reflexa* and *Viburnum tinus*). *Agr. Med.* Vol. 136:3/4 158-166.

39. MUGNAI S, AZZARELLO E, PANDOLFI C, MANCUSO S (2006). Zinc and cadmium tolerance of *Hyssopus officinalis* L. and *Satureja montana* L. plants. ACTA HORTICULTURAE, vol. 723, p. 361-366, ISSN: 0567-7572