

Cecilia Brunetti (CNR-IPSP)

WORK EXPERIENCE and EDUCATIONAL QUALIFICATIONS

- 2021- Senior Researcher, National Research Council (CNR), Institute for Sustainable Plant Protection (IPSP)
- 2018-2021 Researcher, National Research Council (CNR), Trees and Timber Institute (IVALSA)
- 2015-2018 Postdoctoral fellow, National Research Council (CNR), Trees and Timber Institute (IVALSA)
- 2015 PhD, Agricultural Science, University of Florence
- 2011 Fellowship for graduate students, University of Florence, Department of Agriculture, Environment, Food and Forestry
- 2011 BSc, Agricultural Sciences, University of Florence
- 2000 MSc, Pharmaceutical Chemistry and Technology, University of Florence

INTERNATIONAL INTERSHIPS

- 2012 (Feb) Short-Term Mobility at the Centre de Recherche Public Gabriel Lippmann, Belvaux – Luxembourg
Advisor: Dr. Jenny Renaut.

TEACHING EXPERIENCE

- 2020-2021: Course of Arboriculture and Urban Forestry/Green Infrastructures for the Urban Environment – Master's degree in "Landscape Architecture", University of Florence (48 h/year)
- 2018: Invited lesson on "Plant Volatiles" at the Global Changes Symposium, University of Trieste, PhD program in Environmental Life Sciences.
- 2017: Invited lesson on the "Role of Biogenic Volatile Organic Compounds (BVOCs) in Plant- Environment Interactions" at the University of Milan, PhD program in Agriculture, Environment and Bioenergy.
- 2015: Two invited lessons on "Plant secondary metabolism" at the Bulgarian Academy of Sciences, Institute of Plant Physiology and Genetics, invited by Prof. Violeta Velikova.
- 2014: Two invited lessons "Bottom up vs Free-scale approach: assessing the functional roles of flavonoids in photo-protection" at University of Ostrava, Department of Physics (Faculty of Science), Czech Republic - Project OP Education for Competitiveness BioNetWork, invited by Prof. Vladimír Špunda.
- 2014-2020: Supervisor of several visiting PhD students and post-docs at the University of Florence.
- 2016- Tutor of 3 PhD students and of 5 undergraduate and master's degree students.

EDITORIAL ACTIVITY

- 2020- Associate Editor, BMC Plant Biology
- 2019- Review Editor of Tree Physiology
- 2019- Review Editor of Frontiers in Microbiology
- 2018- Review Editor of Flora
- 2018- Review Editor of Frontiers in Plant Science
- 2018- Associate Editor of Advances in Horticultural Science (ISSN 1592-1573)
- 2017- Guest Editors of several Special Issues (Environmental and Experimental Botany, Frontiers in Plant Science, Plants, IJMS, Applied Sciences, Metabolites)
- 2015- Reviewer for several international journals

PROFESSIONAL AFFILIATIONS

- 2017- Italian Society of Plant Biology (SIBV)
- 2016- Italian Society of Horticultural Science (SOI)
- 2015- Italian Society of Botany (SBI)
- 2012- Society for Experimental Biology (SEB)

ROLE AS PROJECT REFEREE AND PhD TRIBUNAL MEMBER

- 2022 External examiner for PhD thesis: "ADJUSTMENT OF OPTICALLY MEASURED LEAF TRAITS TO PATTERNS OF SOLAR SPECTRAL IRRADIANCE IN PLANT TAXA FROM HIGH ELEVATIONS AND FROM FOREST UNDERSTOREYS". Candidate: Ms. Saara M. Hartikainen, University of Helsinki, Finland

INSTITUTIONAL ROLES

- 2019 Member of the National Land Degradation Neutrality (LDN) working group, in the frame of the UNCCD program against desertification "Land Degradation Neutrality (LDN) Target Setting Programme"

AWARDS AND HONOURS

- 2018 Award “Giovani Biologi Vegetali” by SIBV for the valuable contribution in plant physiology.
- 2011-2018 several Travel Grants by SEB, EPSO and European Science Foundation (ESF) to participate to international congresses and meetings as well as for short-term mobility for scientific campaigns.

CURRENT RESEARCH INTERESTS

The main objective of my research is to study physiological and biochemical responses of plants to environmental stresses, in particular to investigate the mechanisms of drought-induced tree mortality. Current research interests are:

- Effects of climate change on photosynthesis and plant primary metabolism
- Emission of biogenic volatile organic compounds (BVOCs) under abiotic and biotic stresses
- Impact of drought on plant water relations and hydraulic traits
- Use of leaf proximal sensors to measure leaf water content
- Plant metabolomics to investigate chemical footprints in plant tissues and fruits under different environmental conditions

KEYWORDS:

Environmental stress; Metabolomics; Plant/soil interaction; Photosynthesis; Plant ecophysiology; Plant secondary metabolism

BIBLIOMETRIC INDEXES

- Total number of publications in peer-review journals: 82 (Scopus 18/11/2022)
- Total number of citations: 3023 (Scopus 18/11/2022)
- H index: 29 (Scopus 18/11/2022)

CONGRESSES AND CONFERENCES

ORGANIZATION OF SCIENTIFIC MEETINGS

- 2018 Organizer of the Plant Biology session “Climate change impact on urban and natural forests” at the SEB (Society for Experimental Biology) meeting, 3-6 July, Florence, IT.

ORAL PRESENTATIONS

- 2019 “Dynamic changes in ABA content in water-stressed *Populus nigra*: effects on carbon fixation, soluble carbohydrates and hydraulic recovery”, 4th Xylem International Meeting, Padova, Italy.
- 2018 “Absciscic acid dynamics in leaves, shoot and roots of *Populus nigra* exposed to drought: relationships with water relations and carbohydrate status”, XII Giornate Scientifiche SOI 2018, Bologna, Italy.
- 2018 “A possible role for absciscic acid in restoring water transport in embolized vessels”, 41st New Phytologist Symposium ‘Plant sciences for the future’ Présidence de l’Université de Lorraine, Nancy, France.
- 2013 “Flavonoids counter photo-oxidative stress in plants exposed to multiple abiotic stresses” 25th Congress of the Scandinavian Plant Physiology Society (SPPS), Copenhagen, Denmark.
- 2012 “Localization-functional relationship of phenylpropanoids: new evidence for an old issue” Plant Environmental Physiology Group, Ecophysiology Techniques Workshop, Lisbon, Portugal.

PARTECIPATION TO NATIONAL AND INTERNATIONAL PROJECTS

- 2020-ongoing: Task leader in the project “NUTR-AGE”, funded by MIUR-FOE-2019.
- 2019-ongoing: Head of the CNR unit in the project “AURUMFOLIUM”, funded by Regione Toscana GO PEI - AGRI (PS-GO) – Sottomisura 16.2 – annualità 2017 – 8/2017.
- 2019-ongoing: Participation to the project Eni-CNR “Acqua” di Metaponto, Ipazia D’Alessandria: “Advanced technologies for water use optimization in agriculture”, funded by Eni-CNR.
- 2018: Participation to the project “Defense priming using β -aminobutyric (BABA): an alternative attempt for the fast development of resistance in forest trees”, funded by Waldklima Fonds (2010-2018): ‘Defensine zum Monitoring und zur Charakterisierung der Vitalität von Laubwäldern unter sich ändernden Klimabedingungen’ (DeMoVit), coordinated by Dr. Andrea Ghirardo.
- 2018: Participation to the project “Investigating the plant response to VOCs and NO_x fumigation by non-target metabolomics”, funded by the Deutsche Forschungsgemeinschaft (DFG) as part of SFB924 and by the German Federal Ministry of Education and Research as part of the German Plant Phenotyping Network (DPPN, no. 031A053C), coordinated by Dr. Andrea Ghirardo.
- 2016-2018: Participation to the project “SEMIA - INDIRIZZI DI SANITÀ, SOSTENIBILITÀ ED ECCELLENZA DELLA OLIVICOLTURA MEDITERRANEA” funded by Regione Toscana, Progetto PIF16/2015.
- 2015-2018: Participation to the project “CROPSTRESS, System performance of non-food crops to drought stress: development of a plant ideotype (RBS14VV35)”, funded by MIUR (Ministero dell’Istruzione, dell’Università e della Ricerca).

- 2014-2018: Participation to the project “Biogenic volatile organic compounds, global climate change, and plant adaptation potential to changing environment”, funded by the National Science Fund, Bulgaria, B02/8, coordinated by Prof. Violeta Velikova.
- 2013-2015: Participation to the bilateral project CNR-BAS (Bulgarian Academy of Sciences) “Manipulation of light quality to optimize photosynthesis and production of secondary metabolites of interest for plant protection”.
- 2013-2016: Participation to the project “Training and capacity building in sustainable agricultural water management: Addressing food security and social instability in Pakistan (SaWaM-Pak)”, funded by Ministero degli Affari Esteri - Direzione Generale Cooperazione allo Sviluppo (MAE/SEDE/DGCS 4015).
- 2013-2017: Participation to the European project WatBio (Development of improved perennial non-food biomass and bioproduct crops for water stressed environments) funded by European Community’s Seventh Framework Programme (FP7/2007-2013).
- 2012-2015: Participation to the European project MOMEVIP (Molecular and metabolic bases of volatile isoprenoid-induced resistance to stresses), EuroCores EuroVOL (Ecology of Plant Volatiles, from Molecules to the Globe) funded by ESF (European Science Foundation).
- 2012-2015: Participation to the project “Tree City”, funded by MIUR (Ministero dell’Istruzione, dell’Università e della Ricerca) PRIN 2011.
- 2011-2015: Participation to the European project “Effects of Climate Change on Air Pollution Impacts and Response Strategies for European Ecosystem (ECLAIRE)”, Project ID: 282910, funded by European Community’s Seventh Framework Programme (FP7/2007-2013). FP7-ENVIRONMENT – Programma specifico “Cooperazione”: Ambiente (incl. cambiamenti climatici).

