

PERSONAL INFORMATION

Family and First name: BALESTRINI, Raffaella Maria

Researcher unique identifiers:

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CURRENT POSITIONS

1st March 2024- Director of the Institute of Biosciences and Bioresources of the CNR

PREVIOUS POSITIONS

1st Oct. 2019- Research Director at CNR-IPSP (on leave until the Feb. 2028)

2007–2019 Senior Researcher (II level) at IPSP-CNR

1998-2006 Researcher (III level) at IPP-CNR

1996–1998 Post-Doc Research assistant, Plant Biology, Department, Turin Univ., IT

1992-1995 PhD Course in Fungal Biology and Biotechnology, Turin Univ., IT

1991-1992 CNR scholarship for research activity at CSMT-CNR, Torino, IT

EDUCATION

1996 PhD in Fungal Biology and Biotechnology, Turin Univ., IT

1991 Degree in Biological Sciences, Turin Univ., IT

PUBLICATIONS

161 scientific publications + 5 editorials, in peer-reviewed indexed journals, and 19 book chapters. Total number of publications in indexed for international scientific journals in the last 5 years (2020-2024) is 77. According to Scopus, total H-index is 43 (more than 7000 citations).

RESEARCH INTERESTS

Main objective is to study the mechanisms at the basis of plant-soil microorganism interactions, with particular attention to mycorrhizal symbioses. Current research interests: Biology of plant interactions mainly with mycorrhizal fungi (arbuscular, ecto- and orchid mycorrhizal fungi); Plant response to biotic and abiotic stresses mediated by the AMF symbiosis; Response to mycorrhizal symbioses in diverse plant genotypes; Genomics/transcriptomics of symbiotic fungi; Transcriptomic profiles in mycorrhizal plants/homogeneous cell-type populations. Competence sectors: Plant Biology, Plant-Microbe Interactions, Plant nutrition, Mycorrhizal symbioses, Soil microorganisms.

RESEARCH ACHIEVEMENTS

I contributed to elucidate different aspects related to the interface creation and nutritional exchanges in mycorrhizal symbioses. Through a laser microdissection (LMD) approach, I contributed to obtain new knowledge on the cell-specificity in arbuscular mycorrhizal (AM) roots. The first manuscript on the application of LMD to AM symbiosis (Balestrini et al. 2007 MPMI 20:1055-1062) was recommended by Susan Barker (F1000 Factor 3.0 Recommended), F1000Prime «Article recommendations». Thanks to the participation at diverse international consortia, I have contributed to highlight the genome features of different mycorrhizal fungi (Martin et al. 2010 – Nature (*Tuber melanosporum*, ECM); Tisserant et al. 2013 – PNAS (*Rhizophagus irregularis*, AMF); Murat et al. 2018 - Nature Ecology & Evolution (*Tuber* spp., ECM). In the last ten years, I also contributed to

obtain novel information on the mechanisms involved in AM symbiosis-mediated plant tolerance to abiotic stresses and on the nutrient transport in orchid symbiosis.

VISITING POSITIONS

1992, 1993, 1996 Short Research Training (3), Dep. de Genética Molecular, CID-CSIC, Barcelona, ES

1991-1993 Short Research Training (2), Universität Konstanz, Fakultät für Biologie, Konstanz, DE

EDITORIAL BOARDS AND REVIEWER ACTIVITY (SELECTION)

2024 External Editor for PNAS (1 manuscript)

2020- Editor-in-Chief of the Section Fungi-plant interactions, *Frontiers in Fungal Biology* (1st IF in 2024 = 2.1).

2020- Associate Editor, *Plant Stress* (1st IF in 2023 = 5.0, IF2024 = 6.8)

2019- EB member for *Scientific reports*

2015- EB member, *BMC Genomics*, section Eukaryote microbial genomics

2013- EB member, *Plos ONE*

2009- EB member, *Biology & Fertility of Soils*

2006- Scientific Reviewer for several international journals

TEACHING ACTIVITIES

2020, 2022, 2024 Teaching activity for the “Cellular and Molecular aspects of Biological Interactions” course, PhD in Biology and Applied Biotechnology (4 hours in 2020, 4 hours in 2022, 4 hours in 2024)

2006-2023 Supervision of 4 PhD students

2006-2018 Seminars at summer schools (3)

1999-2020 Seminars and practical lessons for Bachelors and Masters courses

GRANT EVALUATION/PANELS

2015-2017 Group of experts for evaluation (GEV), Area 5-Biological Sciences, Research Quality Evaluation 2011-2014

2020-2024 Scientific evaluation of CNR bilateral projects

European Projects

2024 ERC panel member

2017-2018-2019-2020-2021-2022

Panel Marie Curie fellowships (expert and rapporteur)

Referee: ERC Advanced Grant (2015) and ERC Starting Grant (2013) LS9 Panel

Evaluation Panels

2024, Member of a HCERES panel

2022, 2023 (online) National Science Centre, Poland (NSC), Expert Panel evaluating the proposals submitted within the scheme “OPUS” in the Life Sciences NZ9 Panel

2021, 2022, 2023 ESF, Shota Rustaveli National Science Foundation of Georgia (SRNSFG) Grant Call Fundamental Research State Grants

2020 ESF, Large-scale Research Programmes «Grands programmes de Recherche (GPR)», Bordeaux Univ.

2019 Novo Nordisk Foundation Committee, Challenge Programme—Modern Plant Science—towards a sustainable world

Grant evaluation

2005-2024 Italian (Universities, Regional Institutions, MIUR, MISE) and International institutions/programs

SCIENTIFIC COMMUNICATIONS (SELECTION)

2024 Seminar for the INRAE Network about root symbiosis, 23/09/2024 (online)
2024 Year's keynote, 4th EUCARPIA Workshop on Implementing Plant-Microbe Interactions in Plant Breeding (Tulln)
2024 Invited talk, miCROPe 2024 conference - Microbe-assisted crop production – opportunities, challenges and needs (Vienna)
2024 Plenary Speaker, XVII Reunión Biología Molecular de Plantas, Castellon de la Plana, Spain (3 July to 5 July 2024)
2024 Seminar, BioGeoKolloquium event (online)
2024 Oral presentation, Workshop Root Phenotyping – Jülich (DE)
2023 Keynote talk, Workshop "Growing Greener – Exploring Sustainable Agricultural Approaches", Fundação Dr. António Cupertino de Miranda (Porto, Portugal)
2023 Keynote lecture, Plant Biology Europe 2023
2023 Oral presentation, Desertification & Drought Day (DD-day 2023) “Her Land. Her rights”
2023 Seminar, Saclay Plant Sciences network (Online Seminar series)
2023 Oral presentation (invited), Bioconnect Day –UniLaSalle (France)
2022, 2016 Speaker at the Gordon Research Conference on Salt & Water Stress in Plants (selected posters)
2022 Seminar, Institute for Microbiology - University of Innsbruck (Institute Seminar)
2017 Oral presentation: Sustainable soil management to reduce agricultural inputs: what is the role of soil microorganisms?, Side Event, 5th GSP Plenary Assembly, 22 June 2017, FAO
2005-2021 Invited Lectures at Conferences/Summer Schools, Seminars, Inspirational Talks (13)
1994-2024 Other National and International Oral Presentations (22)

ORGANISATION OF SCIENTIFIC MEETINGS and COURSES

2024 miCROPe 2024 conference - Microbe-assisted crop production – opportunities, challenges and needs (Vienna). Session chair: “Plant breeding for beneficial plant-microbe interactions”
2023 Plant Biology Europe. Session chair: “Interfaces with plant and soil microbiota”
2019 Special session “New strategies for a crop sustainable management: microorganisms, biostimulants and gene silencing” at the CNR DiSBA conference.
2018-2019 Organizing committee, iMMM2019 (international Molecular Mycorrhiza Meeting), 7-8 Feb. 2019, Torino-IT
2016 Scientific Committee, XXI Convegno Nazionale di Micologia, 12-13 Sep. 2016, L’Aquila-IT
2016 Co-organizer, courses on optical and confocal microscopy at CNR-IPSP (Torino 4-5 May 2016; Genova Nikon-IIT, 2-3 Feb. 2017)
2015 Organizing Committee, Tuber Genomics Meeting, 16-17 Oct. 2015, Alba-IT
2006 Organizing Committee, INTEGRAL Workshop on cell biology applied to plant microbe interactions, 7-10 June 2006, Torino-IT

OTHER WORK EXPERIENCE

2020-2022 Italian Spatial Agency (ASI) thematic table “Biological Systems Supporting the Life”
Oct. 2019-June 2021 Manager Turin Unit, CNR-IPSP
2016-2017 CNR contact point for the organization of an event on soil within the CNR/CREA/ENEA/FAO MoU, Seminar series (22 June 2017, FAO)
2016-2017 Participation to the Joint Steering Committee within the MoU CNR and Helmholtz
2017 Evaluation Panel Member for a CNR III level Researcher
2014 Participation at the bilateral Conference on Innovative Technologies for the Agriculture in Desert and Dry Environments “Greening the World”, 2 June 2014, TAU, Tel Aviv, Israel (DiSBA and INRIM delegation)
2014-2017 Manager of the IPSP (formerly IPP) Torino Unit

2011-2014 Responsible for the IPP-CNR research line Biodiversity in agricultural and forestry systems: genetic, molecular and epigenetic basis

2010-2011 Evaluation Panel Member for 4 CNR III level Researchers

Since 2006 Member of several evaluation committees (temporary hiring of research personnel)

MEMBERSHIPS OF SCIENTIFIC SOCIETIES

EPSO (European Plant Science Organization) Supporting Scientist for CNR, EWG-NUE (Expert Working Group–Nutrient Use Efficiency in wheat), SIBV, International Mycorrhizal Society (IMS). Past memberships: American Society Plant Biology (ASPB), MPMI

AWARDS

2015 Marcello Sgarlata Award, upon designation by CNR President, for her research activities in the plant biology field

2010 DAA2009 award (research area: plant and animal genomics) for the project Insight into the symbiotic life-style of the black truffle *Tuber melanosporum*: a Laser MicroDissection (LMD) approach

CURRENT and PREVIOUS RESEARCH GRANTS, as Principal Investigator/Project Partner (PI/PP)

2024-2026 Spoke 1 Leader and CNR referent for the Italian PNRR project AGRITECH

2024-2026 PP, ASI, progetto SPACE- μ gMF (coordinato dall'Università di Torino); Unit Leader

2023-2025 PP, PRIN 2022 PNRR, DecipherIng early Signals in wheaT-mycorrhizal fungi communIcatioN and their role in myCorrhiza-induced resisTance - DISTINCT; Unit and WP Leader

2022-2026 PP, Horizon Europe project, Root phenotyping and genetic improvement for rotational crops resilient to environmental change (Root2Res), Unit Leader and co-WP Leader

2021-2023 PI, @CNR project, Vertical farming: development of a prototype to produce high value horticultural crops enriched by bioactive molecules (VertiGrow)

2021-2024 PP, PRIMA call 2020 section 2-MULTI-TOPIC (RESCHEDULE-RESilient to Climate CHange Extremes MeDiterranean AgricUltural Systems: LEveraging the Power of Soil Health and Associated Microbiota); Unit and WP Leader

2021-2024 PP, PRIMA call 2020 section 2-MULTI-TOPIC (OPTIMUS PRIME-OPTIMAl USage of natural product and biological PRIMing agents to improve rEsilience of agrosystems to climate change); Unit and WP Leader

2020-2023 PP, Fonds de Soutien à l'Obtention Végétale–FSOV, Phosphorus use efficiency and genetics of bread wheat; Unit Leader

2020 PI CNR-FOE 2019, Green and Circular Economy Project; WPL

2019-2022 PI, EU Project UIA (Prato Urban Jungle); inserted in the CNR Unit

2014-2015 PI, MIUR-Progetto Premiale, Sustainable Agricultural Water management (AQUA); TL

2008-2010 PP, Italian National MIUR project (PRIN2007), FUNGENTm; UR2 leader

2007-2010 PI, Regione Piemonte Project, Integrated technology platform supporting the quality and safety of typical wines of Piedmont–Italy (Tech4Wine); WPL

Consapevole delle responsabilità, anche penali, derivanti da dichiarazioni mendaci, ai sensi e per gli effetti degli Artt. 46 e 47 del D.P.R. 445/2000, dichiaro che le informazioni contenute nel presente curriculum vitae corrispondono al vero.

Autorizzo al trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003 n. 196 "Codice in materia di protezione dei dati personali.

Li 03/11/2024

Firma

