

Anca Macovei - Curriculum Vitae

Born in Copsa-Mica (Romania), 17 January 1982. Degree in Biology at the 'Babes-Bolyai' University in Cluj-Napoca (Romania) in 2004. Master Degree in Plant Genetic Engineering at the 'Babes-Bolyai' University in Cluj-Napoca (Romania) in 2005. PhD Degree in Genetics and Molecular Biology at the University of Pavia in 2011.

Scientific activity

2005-2007. *Research Fellowship Program*: Department of Plant Breeding and Genetics, University of Agricultural Sciences and Veterinary Medicine (USAMV), Cluj-Napoca, Romania. Project: Genetic determination of qualitative and quantitative traits in potato hybrids. *Socrates-Erasmus Scholarship* in Plant Molecular Genetics, Faculty of Life Sciences, University of Copenhagen, Copenhagen, Denmark. Project: Genetic mapping of wheat 2BL chromosome using SSR markers

2008-2010. *PhD Fellowship*, Plant Biotechnology Laboratory, Department of Biology and Biotechnology 'L. Spallanzani', University of Pavia, Italy. Project: Identification and molecular characterization of novel genes modulated by oxidative stress in *Medicago truncatula* Gaertn. *Three months Exchange Program* within the Plant Cell Biotechnology Laboratory, Instituto de Tecnologia Química e Biológica (ITQB-Universidade Nova de Lisboa), Oeiras, Portugal. Project: Trehalose metabolism in *Medicago truncatula*: role in osmoprotection

2011. *Post-Doctor Fellowship*, Plant Biotechnology Laboratory, Department of Biology and Biotechnology 'L. Spallanzani', University of Pavia, Italy. Project: Conservation, characterization and variability induction in *Rosa* spp. for improving hybridization protocols.

2012-2013. *Post-Doctor Fellowship*, Plant Molecular Biology Group, International Center for Genetics and Biotechnology (ICGEB), New Delhi, India. Projects: MicroRNAs targeting helicases from rice: validation and response to abiotic stress; Low-dose rate gamma radiation as a tool for the study of DNA damage and repair mechanisms in rice: role of transcription factors and microRNAs.

2013-2015. *Post-Doctor Fellowship*, Genetic Transformation Laboratory, International Rice Research Institute (IRRI), Los Baños, Philippines. Project: Development of cutting edge rice transformation platform for complex traits: multigene transformation system and genome editing using TAL Effector Nucleases (TALENs).

2016. *Visiting Researcher* at University of Pavia, Italy. Scholarship for research activity: Plant Biotechnology Lab, Department of Biology and Biotechnology "Lazzaro Spallanzani" - Università degli Studi di Pavia.

2017-2020. RTDA – Assistant Professor at University of Pavia, Italy.

From 1.04.2020. RTDB - Assistant Professor at University of Pavia, Italy.

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Co-author of 51 publications in Peer-Review journals, 10 book chapters, and more than 30 Communications to National and International Conferences

Editorial Activity

2014-2015. Frontiers in Plant Science - Research Topic: *Maintenance of genome integrity: DNA damage sensing, signaling and repair and replication in plants*. Topic Editors: A Balestrazzi, VMM Achary (ICGEB, India), A. Macovei (IRRI, Philippine), KO Yoshiyama (Kyoto Sangyo University, Giappone), AN Sakamoto (Japan Atomic Energy Agency).

2017. Genes, Section: Plant Genetics and Genomics – Special Issue: Genetic regulation of abiotic stress responses; Topic Editors: SS Gill (MD University, India), NA Anjum (University of Aveiro, Portugal), A Macovei, JF Jimenez-Bremont (IPICYT, Mexico), N Tuteja (Amity University, India)

2019-2020. Special Issue Editor: Genes (MDPI, Basel). Research Topic: Abiotic stress in plants: Current challenges and perspectives.

https://www.mdpi.com/journal/genes/special_issues/abiot_stress_plants

2019-2020. Topic Editor: Frontiers in Plant Science. Research topic: MicroRNA signatures in plant genome stability and genotoxic stress. Lead Editor - A Macovei, Co-Editors: I Rubio-Somoza (CRAG, Barcelona-Spain), JAP Paiva (PAN, Poznań-Poland), S Araújo (ITQB-NOVA, Oeiras-Portugal), M Donà (GMI, Vienna-Austria).

<https://www.frontiersin.org/research-topics/8617/microrna-signatures-in-plant-genome-stability-and-genotoxic-stress>

Guest Associate Editor: Frontiers in Plant Science - Plant Cell Biology, Technical Advances in Plant Science. Review Editor: Frontiers in Plant Science - Crop and Product Physiology. <https://loop.frontiersin.org/people/82004/overview>

Editorial Board Member: Genes (MDPI, Basel) - Plant Genetics and Genomics. http://www.mdpi.com/journal/genes/sectioneditors/p_g_g

Reviewer Activity: Frontiers in Plant Science, Molecules, Journal of Experimental Botany, BMC Plant Biology, PlosOne, Plant Physiology and Biochemistry, Plant Signaling and Behavior, Protoplasma, BioMed Research International, Plant Breeding and Crop Science, Molecular Genetics and Genomics

Research grants

2012. *MicroRNAs targeting helicases from rice: validation and response to abiotic stress*. Financed by ICGEB, Trieste (Italia) and performed at the ICGEB, New Delhi (India)-Plant Molecular Biology Group (Dr. N Tuteja).

2012-2013. *Low-dose rate gamma radiation as a tool for the study of DNA damage and repair mechanisms in rice: role of transcription factors and microRNAs*. Financed by ICGEB, Trieste (Italia) and performed at the ICGEB, New Delhi (India)-Plant Molecular Biology Group (Dr. N Tuteja).

2017. INROAd-TAPPingHIDE. TDPs (Tyrosyl-DNA-phosphodiesterases), Alternative DNA repair Pathways in Plants: integrating established networks in mammals with HIDdEn 'green' trails.

2019. Universitiamo Crowdfunding: The other side of the seed <https://universitiamo.eu/campaigns/the-other-side-of-the-seed/>

Main Research Topics

- Role of DNA repair in the plant response to abiotic stress.
- MicroRNAs in the context of DDR
- Genome editing and its applications in plants
- Molecular profile of seed quality

Teaching activity

Since 2017. Assistant Professor

Plant Biotechnology (Module I, 3 CFU-BIO/04), LM-Advanced Biotechnology, Università degli Studi di Pavia

Plant Molecular Biology and Biotechnology (Module II, 3 CFU-BIO/04), LM-Molecular Biology and Genetics, Università degli Studi di Pavi