

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.

ORCID: <https://orcid.org/0000-0002-4455-6321>

SCOPUS ID: 36015671000

Co-author of 58 publications in Peer-Review journals, 10 book chapters, and more than 50 Communications to National and International Conferences

Editorial Activity

Editorial Board Member:

- Genes (MDPI, Basel) Plant Genetics and Genomics
- http://www.mdpi.com/journal/genes/sectioneditors/p_g_g
- Frontiers in Plant Science <https://loop.frontiersin.org/people/82004/overview>

- BMC Plant Biology <https://bmcpantbiol.biomedcentral.com/about/editorial-board>

Guest Topic Editor: Agronomy (MDPI) Special Issue: Effective Methods for Improving Seed Germination and Seed Quality.

https://www.mdpi.com/journal/agronomy/special_issues/seed_germination_and_quality

Guest Topic Editor: Plants (MDPI) Special Issue: Transcriptional Regulation in Plants: From Basic to Applied Research,

https://www.mdpi.com/journal/plants/special_issues/transcriptional_regulation_plants

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>

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-Portuga), M Donà (GMI, Vienna-Austria). <https://www.frontiersin.org/research-topics/8617/microrna-signatures-in-plant-genome-stability-and-genotoxic-stress>

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

Co-editor: *Genes* (MDPI, Basel). Special Issue and e-book on Research Topic: *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). https://www.mdpi.com/journal/genes/special_issues/genetic_regulation

Co-Editor: *Frontiers in Plant Science*. Special Issue and e-book on Research Topic: *Maintenance of genome integrity: DNA damage sensing, signaling, repair and replication in plants*. Topic Editors: A Balestrazzi (University of Pavia, Italy), VM Achary (ICGEB, New Delhi-India), **A Macovei** (IRRI-Philippines), KO Yoshiyama (Kyoto Sangyo University, Kyoto-Japan), AN Sakamoto (Japan Atomic Energy Agency, Takasaki-Japan).

http://www.frontiersin.org/plant_physiology/researchtopics/dna_damage_signaling_a/1612

Research grants

2012. *MicroRNAs targeting helicases from rice: validation and response to abiotic stress*. Finaced 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*. Finaced 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/>

RECUPEVO - *Recupero e valorizzazione dell'ecotipo lombardo "peperone di Voghera (RECUPEVO)" (2021-2022)*. Progetto Finanziato Regione Lombardia, FEASR (Fondo Europeo Agricolo per lo Sviluppo Rurale)-Programma di Sviluppo Rurale 2014-2020. Ruolo: Membro di Unità Operativa UNIPV.

la RAVA E la FAVA - *Conservazione, valorizzazione e caratterizzazione morfologica e genetica di varietà ortive "minori" locali (la RAVA E la FAVA) (2021-2022)*. Progetto Finanziato Regione Lombardia, FEASR (Fondo Europeo Agricolo per lo Sviluppo Rurale)-Programma di Sviluppo Rurale 2014-2020. Ruolo: Membro di Unità Operativa UNIPV.

PNRA18_00015 - E - Programma Nazionale di Ricerca in Antartide - *Exploring the diversity of soil microbes and their biomolecules in Victoria Land (2019-2021)*. Coordinatore: Prof. S. Tosi (Università degli Studi di Pavia). Ruolo: Membro di Unità Operativa.

iPLANTA COST Action CA15223 - Modifying plants to produce interfering RNA (<https://www.cost.eu/actions/CA15223>). Membro *Working Group 1 (RNAi technology)*.

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 (6 CFU-BIO/04), LM-Advanced Biotechnology, University of Pavia
- Plant Molecular Biology and Biotechnology (5 CFU-BIO/04), LM-Molecular Biology and Genetics, University of Pavia