

## **Prof. Gianni Barcaccia, PhD: Curriculum vitae**

### **Personal information**

Date and Place of Birth: 27 July, 1965 – Perugia, Italy

Professional Website: [www.giannibarcaccia.com](http://www.giannibarcaccia.com)

### **Current position**

Full Professor of Plant Genetics (Scientific-Disciplinary Sector AGR/07)

Head of the Laboratory of Genomics for Plant Breeding

Director of the Department of Agronomy, Food, Natural resources, Animals and Environment – DAFNAE

University of Padova, Italy

### **Education**

1991 – M.Sc. in Agricultural Science with Magna cum Laude, Plant Breeding Institute, Faculty of Agriculture, University of Perugia, Italy

1995 – Ph.D. in Crop Science, Genetics of Plant Reproductive Systems, Faculty of Agriculture, University of Padova, Italy

### **Postdoctoral Research Training**

1996 – 1997 Post Doctoral Fellow in Plant Population Genetics, University of Perugia, Italy

### **Academic Positions**

1998 – 2003 Researcher, University of Padova, Italy

2004 – 2016 Associate Professor, University of Padova, Italy

2017 – present: Full Professor of Plant Genetics, School of Agriculture Sciences and Veterinary Medicine, University of Padova, Italy ([www.unipd.it](http://www.unipd.it)) and Adjunct Professor of Plant Breeding, University of Georgia, Athens, USA ([www.uga.edu](http://www.uga.edu))

### **Main University Roles and Services**

1999 – present: Member of the Doctorate Board in Crop Science, Representative of the Section of Plant Biotechnology, University of Padova

2012 – 2016 Vice Director of the School of Doctorate in Crop Science, University of Padova ([www.sciproveg.com](http://www.sciproveg.com))

2015 – 2019: Vice Director of Department, Representative of the Third Mission Board and Coordinator of the Scientific Commission of Department, University of Padova

From 1 October 2019 – present: Director of the Department of Agronomy Food Natural resources Animals and Environment, DAFNAE ([www.dafnae.unipd.it](http://www.dafnae.unipd.it))

### **Teaching Activities**

2001 – present: Professor of Plant Genetics, also in charge of Applied Genomics, Genetic Traceability of Food Products and Plant Breeding, School of Agriculture Science and Veterinary Medicine, University of Padova ([www.agrariamedicinaveterinaria.unipd.it/en](http://www.agrariamedicinaveterinaria.unipd.it/en))

### **Research Topics**

- 1) Plant reproductive systems, mainly genetic control of fertilization barriers (male-sterility and self-incompatibility) and seed formation (i.e. apomixis) in crop and model species
- 2) Genome analysis by means of PCR-derived molecular markers aimed at the construction of genetic linkage maps, identification of genes and marker-assisted selection (MAS)
- 3) Transcriptome analysis by means of NGS technologies, gene expression studies, and structural, bioinformatic and functional analysis of genes
- 4) Analysis of genetic diversity and marker-assisted breeding (MAB): characterization of varieties and natural populations belonging to crops, trees and livestock species
- 5) Development of molecular diagnostic assays for the genetic traceability of crop plants and fish derivatives using DNA fingerprinting and DNA barcoding

### **Research Funding and Main Projects**

In the last 10 years, scientific collaborations have been developed and maintained with several Italian and International groups. Among the research programs coordinated, it is worth mentioning several Projects of Relevant National Interest funded by the Ministry of University and Research, the Ministry of Agriculture Food and Forest Policies and the so-called Strategic Research Projects funded by the University of Padova.

Furthermore, research contracts have been regularly stipulated with Italian Seed Companies, mainly dealing with horticulture crops, and with Veneto Agriculture, the regional agency dealing with agriculture, forestry and food (for more information, see [www.giannibarcaccia.com/research/](http://www.giannibarcaccia.com/research/))

2008 – present: Research Leader of the Laboratory of Genomics for Plant Breeding, University of Padova. The laboratory has been performing R&D experiments through internal and external fund raising. In particular, since 2012 – year of the constitution of DAFNAE, the total research budget administrated as PI amounts to about 700.000 euro, of which 40% derived from institutional funds for basic research and 60% acquired from commercial contracts for applied research

2006 – 2007: Coordinator of the RU working on Apomixis PRIN 2005 (MIUR Project N. 2005071321\_002)

2009 – 2013: Member of the COST Action FA0903 – Harnessing Plant Reproduction for Crop Improvement

2010 – 2011: Principal Investigator of the RU working on Olive self-incompatibility of the Strategic Project OLEA – MiPAAF (DM 27011/7643/10)

2010 – 2013: Member of the local RU of the Project AGER – SERRES on Grapevine breeding (N. 01/07/2010)

2012 – 2015: Principal Investigator of the Strategic Research Project on Apomixis funded by the University of Padova (Project N. CPDA128282/12)

2013 – 2014: Chair of the WP Cereals and Member of the Executive Committee of the PSR Misura 214H: Regional Network on Biodiversity – BIONET (DGR 1604/2012)

2016 – 2020: Scientific Representative of the Department Research Agreement with Blumen SpA for developing F1 hybrids in Radicchio using male-sterility (Protocol N. 2055/2016)

2018 – 2021: Principal Investigator of the UNI-IMPRESA Project – University of Padova/Blumen Group SpA

2020 – 2022: Coordinator of the local RU in the MAD project on Mechanisms of Apomictic Developments: MSCA-RISE-2019 (EU project 872417)

2020 – 2022: Principal Investigator of the Project “Regional Innovative Networks” (FA&AF – Primary Production and Functional Food) – Veneto POR-FESR 2014-20 Azione 1.1.4

### **Experiences as Academic Administrative**

2015 – 2019: Vice Director of DAFNAE – University of Padova, Department that has administrated a average budget for research and development for an economic value of about 10.000.000 euro per year

2015 – 2019: Coordinator of the Scientific Commission of Department that annually manages and allocates internally funds for research projects and grants (DAFNAE – University of Padova, total budget 1.330.000 euro)

2019 – 2022: Principal Investigator of the MIUR Project “Department of Excellence” (CASA – Center for Agricultural and Environmental Sustainability, DAFNAE – University of Padova, total budget 8.675.000 euro)

2020 – 2023: Principal Investigator of the POR-FESR Project “Regional Innovative Networks” (FA&AF – Primary Production and Functional Food, DAFNAE – University of Padova, total budget 1.915.000 euro, Project ID 10288429/DGR N. 822/2020)

2020 – present: Regional representative in the national technical-scientific Committee for biodiversity of agri-food crops

2019 – present: Director of DAFNAE – University of Padova for the academic years 2019 – 2023, a Department that currently administrates a total budget for research and development for an economic value of more than 12.000.000 euro per year

### **Responsibilities of Service Laboratories**

2007 – present: Founder and Holder of BreedOmics, Services of Genomics for Plant Breeding and Food Traceability, c/o DAFNAE – University of Padova

Principal Investigator of advanced services laboratories of genomic analyses based on the use of molecular markers for breeding and protecting plant varieties, and for genetic traceability of food products and derivatives, where specific programs of research and development, including molecular tools and diagnostic assays, are also implemented for seed companies and food industries. The annual turnover is about 75.000 euro

### **Academic and Scientific Supervision**

Scientific Supervisor of 4 Post-doc students, 14 Ph.D. students and more than 50 M.Sc. and B.Sc. students belonging to the Doctorate in Crop Science and to the School of Agricultural Sciences, including Biotechnology courses, of the University of Padova

Academic Representative of a Post-doc student winner of a biennial Project for Young Scholars (PGS year 2010, UNIPD) and a fixed-term Researcher winner of a triennial Project for the Scientific Independence of young Researchers (SIR year 2014, MIUR)

### **Seminars and Lectures**

Seminar activities in domestic meetings and foreign countries. In particular, many oral communications as selected or invited lectures have been given in national and international conferences and congresses (e.g. Plant and Animal Genome, Sexual Plant Reproduction, Intl Botanical, Intl Apomixis, Eucarpia, Intl Society of Plant Reproductive Biologists, Italian Society of Agriculture Genetics, etc.)

### **Publications**

About 130 in extenso articles (119 and 124 records are available in both the Web of Science and Scopus databases, respectively, and 70 records in the NCBI PubMed database)

Scientific publications in international, peer-reviewed journals: about 130 papers of which 70% as first or last author, and/or corresponding author

Books and Book Chapters: 3 academic books (1st and 2nd editions) and 8 book chapters

Scientific publications in Italian journals: about 30 articles on national journals and 2 monographs

### **Research Impact Metrics**

Citations and Scientific production statistics: more than 2.400 citations with H-index=28 in Scopus (37 in Google Scholar and 38 in Research Gate), total IF: nearly 250

### **Selected Patents**

Discovery and analysis of nuclear male sterility in leaf chicory (*Cichorium intybus* L). International Patent Application PCT/EP2011/058765 and European Patent EP2713705-B1

(<https://encrypted.google.com/patents/EP2713705B1>)

New male sterile *Cichorium* spp. mutant, parts or derivatives, where male sterility is due to a recessive nuclear mutation linked to a polymorphic molecular marker, useful for producing F1 hybrids. EU Patent WO2012163389-A1

New male sterile *Cichorium* spp. mutant used to produce chicory plants and seeds, with traits such as male sterility exhibiting cytological phenotype with shapeless, small and shrunken microspores in dehiscent anthers. USA Patent US20140157448-A1

### **Editorial and Reviewer Activities**

Reviewer for several indexed scientific journals dealing with plant genomics, genetics and breeding.

Academic Editor of Scientific Reports (NATURE publishing group), Member of the Editorial Board of Scientifica, section Genomics (HINDAWI publishing corporation) and Plants and Genes (MDPI Publisher of Open Access Journals)

### **Publications of Special Issues**

Several original research articles and reviews were recently published in a Research Topic of Frontiers of Plant Science ([www.frontiersin.org/research-topics/8183/genetics-and-genomics-of-plant-reproduction-for-crop-breeding](http://www.frontiersin.org/research-topics/8183/genetics-and-genomics-of-plant-reproduction-for-crop-breeding))

**Padova, 1 July 2021**

**Prof. Gianni Barcaccia**

