

Curriculum Vitae of Roberto Papa

PERSONAL INFORMATION

Family and First name: PAPA, Roberto
Researcher unique identifiers: 0000-0001-9598-3131(ORCID)-F-9510-2014(Researcher ID)-22935384500(Scopus Author ID)
Nationality: Italian

Contacts: Department of Agricultural, Food and Environmental Sciences (**D3A**),
Università Politecnica delle Marche (UNIVPM), via Brecce Bianche, 60131 Ancona,
IT. Phone: +39-071-2204984,
Email: r.papa@univpm.it
URL for web site: <http://publicationslist.org/r.papa>

CURRENT POSITIONS

2016 - Full Professor in Agricultural Genetics, D3A, UNIVPM, IT, Deputy Research Director of **D3A**

PREVIOUS POSITIONS

2010-2014 Director, Agricultural Research Council-Cereal Research Centre (CRA-CER), Foggia, IT
2010-2014 Director of the CRA-CER Experimental Farm
2002-2016 Associate Professor in Agricultural Genetics, D3A, UNIVPM, IT
2014- Guest Scientist, Forschungszentrum Jülich, DE
1994-2002 Researcher, D3A, UNIVPM, IT

PUBLICATIONS

I have 81 scientific publications in peer-reviewed indexed journals, and 11 book chapters. My total number of publications in indexed for international scientific journals in the last 5 years (2014-2019) is 24. According to Scopus, my total H-index is 31 with 2606 citations

RESEARCH INTERESTS

Key words: Genetic Resources, Plant Breeding, Legumes, Cereals, Crop Evolution, Sustainable Agriculture, Plant Adaptation, Abiotic Stresses

Main questions addressed:

1. Strategies for the conservation and use of genetic diversity and population structure of crop germplasm, with a main focus on crop domestication; 2. Identification of the genetic basis of phenotypic variation in crops; 3. Development of knowledge and genetic tools for plant breeding.

RESEARCH ACHIEVEMENTS

I contributed to elucidate different aspects related to the evolutionary history of crop species, such as legumes (particularly *Phaseolus* spp.), and cereals (wheat and barley). By applying genomics approaches, I contributed new knowledge of the effects on the current level and organisation of genetic diversity of crop germplasm of crucial processes such as crop domestication and adaptation to different environments with important implications for the management of genetic resources. I also contributed to the identification of genes/ genomic regions that control important agronomic and adaptive traits, which represent a useful tool for crop breeding.

EDUCATION

1989 Degree in Agricultural Sciences (BSc, MSc), University of Perugia, IT
1993 PhD in Mechanisms of adaptation to drought in herbaceous and woody crops, Agronomy Department, Università degli Studi di Sassari, IT

RESEARCH TRAINING and FELLOWSHIPS

1989 International Advanced course: "Strategies for crop improvements under abiotic stresses" 1989, Instituto Agronómico Mediterráneo de Zaragoza - CIHEAM-IAMZ Spain
1991 Research training 'Salt stress in barley', Centre for Arid Zone-University College of North Wales, Bangor, UK
1991 Research training 'Abiotic stress in barley', Cereal Programme, ICARDA, Aleppo, SY
1993-1994 Research Fellowship 'Genetics of the resistance mechanisms to biotic and abiotic stress', UNIVPM, Ancona, IT
1996-1997 Visiting Scientist at the Department of Agronomy and Range Science, University of California Davis, USA: 'Diversity and domestication in *Phaseolus* spp.'

AWARDS

2001 Awarded "Research Fellow of University of Ancona", academic year 2000-2001 UNIVPM, IT

SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

1998-2019 Supervisor of 15 MSs students, 13 PhD students, and 14 Postdocs at the Faculty of Agriculture, UNIVPM

2019 Visiting Scientist, from USDA (US) funded by the Organisation for Economic Co-operation and Development and the European Science Foundation

2016-2019 Supervisor of 4 Visiting Graduated Students from Brazil, Mexico, Tunisia and Turkey

2003-2005 Visiting Scientist, from INRA (France) funded by the Organisation for Economic Co-operation and Development and the European Science Foundation

2003-2005 Supervisor of 3 Visiting Students on Leonardo and Archimede Programmes, and the IPGRI Award at the Faculty of Agriculture, UNIVPM

TEACHING ACTIVITIES

1998-2010; 2014-2019 Teaching position for Bachelors, Masters and PhD courses: 'Plant genetics', 'Plant Biotechnology and Biodiversity', 'Advanced Plant Breeding', 'Conservation genetics', 'Quantitative and Population Genetics', and 'Statistics', at UNIVPM.

ORGANISATION OF SCIENTIFIC MEETINGS and COURSES

2005-2006 Scientific Committee of two SIGA Annual Meetings, Riva del Garda and Ischia, IT

2006-2013 Organiser and Scientific Coordinator of 3 national courses (SIGA: 'Bioinformatics' and 'Plant Breeding'; CRA-CER: 'Plant Breeding')

2012 Organiser and Scientific Coordinator of the International COST/CRA Course on 'Metabolomics and Plant Breeding', Foggia, IT

May 2013 Organising Committee of the International Symposium on Genetics and Breeding of Durum Wheat, Rome, IT

2013 Chair of the Organising Committee, SIGA Annual Meeting, Foggia, IT

May 2015 Scientific Committee, EUCARPIA International Symposium on Protein Crops Pontevedra, ES

May 2015 Scientific Advisory Board, Plant Genomics Congress, London, UK

Aug 2015 Organiser "BEAN_ADAPT meeting", Bonn, DE

Sep 2017 Scientific Committee, EUCARPIA Breeding Grasses and Protein Crops in the Era of Genomics, Vilnius (LT)

July 2018 Scientific Committee, Plant Genetics & Breeding Technologies IV – VISCEA, Vienna, Austria

July 2020 International Program Committee for the 8th International Crop Science Congress, Saskatoon

SCIENTIFIC MEETING COMMUNICATIONS

1991-2019 International Oral Presentations: >30 invitations to International Conferences

1991-2019 Others: >20 invited Oral Presentations (e.g., seminars)

1991-2019 Several national invited Oral Presentations

INSTITUTIONAL RESPONSIBILITIES AND BOARDS OF SCIENTIFIC SOCIETIES

2003-2018 Member of PhD Evaluation Committees for several Italian Universities

2005-2007 Member of Directory Board, Italian Society of Agricultural Genetics (SIGA)

2006-2007 Scientific Board, SIGA Annual Meetings, Riva del Garda and Ischia, IT

2007-2018 Member of the 'Agricultural Science' PhD School Committee and Member of the 'Vegetable Production and Environment' PhD Course, UNIVPM

2006-2014 Scientific Committee of two SIGA Courses (topics: Bioinformatics and Plant Breeding), Monsampolo del Tronto, IT, and two CRA-CER Courses (topics: Metabolomics and Plant Breeding), Foggia, IT

2010-2014 Member of CRA National Committee for the evaluation of Visiting Fellowship research activities

2014-2019 Coordinator for Research of the D3A

MEMBERSHIPS OF SCIENTIFIC SOCIETIES

Member of SIGA (Italian Society for Agricultural Genetics), SIBE (Italian Society for Evolutionary Biology), ESEB (European Society for Evolutionary Biology), GSA (Genetics Society of America), EUCARPIA (European Association for Research on Plant Breeding), EPSO (European Plant Science Organisation)

EDITORIAL BOARDS AND REVIEWER ACTIVITY

Associate Editor:

2019 Guest Editor of a Special Issue for *Genes*

2015- *Frontiers in Plant Science*

2014- *PLoS ONE*

2010- *BMC Genetics*

2010-2012 *Australasian Plant Pathology*

2002- Scientific Reviewer for more than 20 international peer-reviewed journals, including main interdisciplinary journals such as Nature, Nature Genetics, Nature Biotechnology, PNAS and Genome Biology.

GRANT PANELS

2011-2013–2015-2017 European Research Council (ERC) Advanced Grants, LS8 Panel Member
2017-2016-2015 French National Research Agency (ANR; SEC20), Panel Member
2016-2017 ERA-CAPS panel member
2016 "POLONEZ", National Science Centre, PL, Panel Member
2015-2018 Member of Research Oversight Committee (ROC) for Genome Canada Genome Prairie, project AGILE on lentil genomics
2008-2015 Evaluation Panel FIRB, SIR, PRIN Projects of Italian Ministry of Universities (MIUR).
2008-2010 Italian-German Evaluation Committee for research projects, 'Programme Vigoni'
2008 Evaluation Panel for Ministry of Research and Innovation, Toronto (CA), ORF-RE programme research projects
2012 Evaluation Panel Agropolis Foundation 2012 Call for Proposals, Open Science

CURRENT and PREVIOUS RESEARCH GRANTS, as COORDINATOR (Project Leader) or Principal Investigator/Project Partner (PI)

2015-2019 Project Leader, ERA-CAPS Call2014, 'BEAN_ADAPT: Evolution in a changing environment: the genetic architecture of adaptation outside centres of domestication of *Phaseolus vulgaris* and *P. coccineus*'
2019-2021 PI, Enhancing the nutrition and health of smallholder farmers in East Africa" Funded by The African Union Commission, Grant No: AURG II-2-087-2018.
2018-2022 PI, BRESOV 'Breeding for Resilient, Efficient and Sustainable Organic Vegetable Production', Horizon 2020; WP leader
2018-2020 Project Leader "Nutritional and quality diversity in lentils and chickpea" Barilla SPA (Industrial Research)
2018-2020 PI, Cariverona Foundation, Call for Scientific Research 2017: 'The toxicity of ancient and modern grain from different wheat species in not celiac patients with gluten susceptibility'
2018-2020 PI, Agri-food-chain integrated project - PSR Marche 2014-2020: 'BIODiversity 2Food'
2010-2012 Project Leader, Italian National MIUR Project N20083PFSXA_001, '*Phaseolus vulgaris* adaptation during domestication and introduction into Europe'
2005-2007 Project Leader, CARIVERONA Foundation Project, '*Zea mays*: GMOs and local varieties'
2005-2007 Project Leader, Italian National MIUR Project N2005071310, 'Genetic structure and linkage disequilibrium in domesticated and wild *Phaseolus vulgaris* L.'
2004–2007 PI, SIGMEA Project N.SSPE-CT-2004-501986, 'Sustainable introduction of GMOs into European Agriculture' Strengthening the Foundation of ERA, VI Framework Programme
2003-2005 PI, Italian National MIUR Project N2002075423_002, 'Beans in Europe: development of molecular markers linked to domestication traits for the analysis of population structure and genetic diversity of European germplasm of common bean'
2000-2001 PI, Italian National MURST Project NMM11041447_005, 'The *in-situ* conservation of landraces'
1999-2000 PI, Italian National MURST Project N9907384522_003, '*Hordeum vulgare* L. landraces *in-situ* conservation in the Mediterranean region'
1998-1999 PI, Italian National MURST Project N9811044470_004, 'Geographical distribution and genetic structure of landrace populations in the Sibillini Mountains region'

Other Grants

2018-2020 PI, ERASMUS+ AdaptNET: Strengthening education, research and innovation for climate smart crops in India
2012 Research infrastructure programme: PI, PONA3_00053 Project PIASS - Platform for Agrofood Science and Safety

Technological transfer and Public Engagements

2012-2015 Member of the board of directors of the D.A.Re. Distretto Agroalimentare, a consortium among public research institutions and private companies for the technological transfer and for R&D on for agri-food sector
2010-2014 As Director of CRA-CER coordination of the breeding program and seed production in durum wheat and establishment on numerous public-private research partnership and R&D services to public and private subjects on a contract basis.
2016 Organization and coordination of the initiative promoted by the Vice President of the Chamber of Deputies, On. Marina Sereni, to celebrate the international year of pulses
http://sito.entecra.it/portale/public/documenti/convegno_legumi_07102016.pdf
2017- Promoting the Coordination of Italian stakeholders on Food Legumes Roma, that developed the first meeting at FAO the 9-10 of Dicembre 2017 more information at the website <http://www.italianpulses.it/>

2018 – participation as invited expert to preparatory meetings for the development of the European Plant Protein Plan, including the final meeting "The Development of Plant Proteins in the European Union" , Orangerie of Schloss Schönbrunn (Vienna, Austria) on 22-23 November 2018.

List of 10 selected publications of the last ten years

(for the complete list visit: <http://publicationslist.org/r.papa>)

1. Rau D, Murgia M, Rodriguez M, Bitocchi E, Bellucci E, Fois D, Albani D, Nanni L, Gioia T, Santo D, Marcolungo L, Delledonne M, Attene G, **Papa R. (2019)** Genomic dissection of pod shattering in common bean: mutations at non orthologous loci at the basis of convergent phenotypic evolution under domestication of leguminous species. **The Plant Journal**, doi: 10.1111/tpj.14155. (0)
2. Mousavi-Derazmahalleh M, Bayer PE, Hane JK, Valliyodan B, Nguyen HT, Nelson MN, Erskine W, Varshney RK, **Papa R**, Edwards D. (2019) Adapting legume crops to climate change using genomic approaches. **Plant, cell & environment**, 1-14, doi: 10.1111/pce.13203 (3)
3. Iannucci A, Fragasso M, Beleggia R, Nigro F, **Papa R. (2017)** Evolution of the crop rhizosphere: Impact of domestication on root exudates in tetraploid wheat (*Triticum turgidum* L.). *Frontiers in Plant Sciences*, 8, doi: 10.3389/fpls.2017.02124 (4)
4. Bitocchi E, Rau D, Bellucci E, Rodriguez M, Murgia ML, Gioia T, Santo D, Nanni L, Attene G, **Papa R. (2017)** Beans (*Phaseolus* spp.) as a model for understanding crop evolution. *Frontiers in Plant Science*, 8:722, doi: 10.3389/fpls.2017.00722. (12)
5. Beleggia R, Rau D, Laido G, Platani C, Nigro F, Fragasso M, De Vita P, Scossa F, Fernie AR, Nikoloski Z, **Papa R. (2016)** Evolutionary metabolomics reveals domestication-associated changes in tetraploid wheat kernels. *Molecular Biology and Evolution*, 33:1740-1753. (20)
6. Gioia T, Nagel KA, Beleggia R, Fragasso M, Ficco DBM, Pieruschka R, De Vita P, Fiorani F, **Papa R. (2015)** Impact of domestication on the phenotypic architecture of durum wheat under contrasting nitrogen fertilization. **Journal of Experimental Botany**, 66, doi: 10.1093/jxb/erv289 (17)
7. Bellucci E, Bitocchi E, Ferrarini A, Benazzo A, Biagetti E, Klie S, Minio A, Rau D, Rodriguez M, Panziera A, Venturini L, Attene G, Albertini E, Jackson SA, Nanni L, Fernie AR, Nikoloski Z, Bertorelle G, Delledonne M, **Papa R. (2014)** Decreased nucleotide and expression diversity and modified coexpression patterns characterize domestication in the common bean. **The Plant Cell**, 26: 1901-1912. (38)
8. Bitocchi E, Bellucci E, Giardini A, Rau D, Rodriguez M, Biagetti E, Santilocchi R, Spagnoletti Zeuli P, Gioia T, Logozzo G, Attene G, Nanni L, **Papa R. (2013)** Molecular analysis of the parallel domestication of the common bean in Mesoamerica and the Andes. **New Phytologist**, 197(1), 300-313. (87)
9. Bitocchi E, Nanni L, Bellucci E, Rossi M, Giardini A, Spagnoletti Zeuli P, Logozzo G, Stougaard J, McClean P, Attene G, **Papa R. (2012)** The Mesoamerican origin of the common bean (*Phaseolus vulgaris* L.) is revealed by sequence data. **Proceedings of the National Academy of Science**, 109(14), E788-E796. (111)
10. Bitocchi E, Nanni L, Rossi M, Rau D, Bellucci E, Giardini A, Buonamici A, Vendramin GG, **Papa R. (2009)** Introgression from modern hybrid varieties into landrace populations of maize (*Zea mays* ssp. *mays* L.) in Central Italy. **Molecular Ecology**, 18: 603-621. (33)