

CURRICULUM VITAE (Summary)

Personal particulars

Name:	Mariani, Celestina	Place of birth:	Taranto, Italy
Address:	Groenestraat , 123 6531 HD Nijmegen The Netherlands	Date of birth:	07 /20 /1953
		Nationality:	Italian

Education: 1973-1979 School of Biological Sciences at the Faculty of Science, University of Naples.

1976-1979 Internship in the group of Molecular Genetics at the International Institute of Genetics and Biophysics, Naples (C.N.R.).

29.06.1979 Doctor in Biology, 110/110 with honors (University of Naples)
Thesis on 'The Genetic and Molecular Characterization of two *bobbed* loci in *D. melanogaster*'
Thesis Supervisors: Dr. F. Graziani and Prof. Edoardo Boncinelli

Present appointment:

1993-present: Full Professor of Botany, Dept of Molecular Plant Physiology IWWR, Radboud University, Nijmegen.
Head of the Department
Research areas: Genetic Diversity and Plants Physiological Adaptation to biotic and abiotic stress, Plant Reproduction

2005: Sabbatical leave (6months) at The Natural History Museum, London (Dept. of Botany)

2011: Sabbatical leave (4 months) at the Institute of Plant Genetics CNR (IGV-Firenze)

Previous appointments:

1985-1993: Senior Scientist and Group Leader of the 'Plant Reproduction' Unit at Plant Genetic Systems, Gent – Belgium.
In 1988 & 1992 Sabbatical leaves at UCLA, Los Angeles, USA

1981-1985: EMBL Fellow at the European Molecular Biology Laboratory, Developmental Biology Programme (*Drosophila* group, Dr. V. Pirrotta). Heidelberg – Germany

1980-1981: Post-doctoral fellow, Dept. of Genetics University of Nijmegen – The Netherlands

Teaching responsibilities:

- First year course of Botany for about 200 students of Biology (6 credits)
- Second year course of Integrated (plant and animal) Physiology for Molecular Life Science and Natural Science students (1 credit)
- Third year course of Plant Biotechnology (6 credits)
- Master course 'Molecular Physiology of Plant Stress Adaptation'
- Special courses and lectures for Master and PhD students at various national and international educational institutes/venues

Memberships and (recent/present) assignments:

- Elected Member of the European Molecular Biology Organization (EMBO)
- Elected Member of the Royal Dutch Academy of Arts and Science (KNAW)

- Vice-Dean and Dean of Biology, Faculty of Science, University of Nijmegen (2000-2004, about 300 staff members)
- Member of the Research Evaluation Committee for Biology at the University of Helsinki (Finland, 2005)
- Member of the Research Evaluation Committee for the Institutes of the Italian National Council of research (Italy, 2009)
- Member of the Expert panel BIO2 of Belgian Science Foundation (FWO, Brussels)
- Member of the Executive Board of the Graduate School Experimental Plant Sciences
- Member of the Executive Board of Dutch Science Foundation for Earth and Life Science (NWO-ALW, 2004-2010)
- Selected as Director of ITQB (Institute of Biotechnology and Biochemistry, Lisbon Portugal) (July 2006, position declined)
- Chairman of the Dutch Association for Plant Biotechnology and Tissue Culture (NVPW, till 2010)
- Vice Chairman of CoGem (a national Committee for Genetic Modification) section Agriculture (till 2005)
- Chairman of the Dutch Earth & Life Science (ALW) Platform Plant Science and
- Organizer of the Annual National Conference for Plant Science (2004- 2006)
- Consultant (contractor) for the Biotech company Synthon (The Netherlands, 2008)
- Director of the Experimental Garden and Gene Bank Nijmegen
- Organizer of the Symposium 'Flowers and Fruits of the Solanaceae', Nijmegen June 2008
- Member of the Advisory Board (BAC) for the Dutch Science Foundation (NWO-ALW, 2002-2004)
- Member of the SPIN (Scientific Programme Indonesia-Netherlands) committee, KNAW
- Member of numerous national and international selection committees, PhD defence committees and other *ad hoc* assignments; invited/key note speaker at several international meetings on Plant Science; co-editor of three journals in the field.

Synopsis of Research records

After several years of successful research on the genetics and molecular developmental biology of *Drosophila melanogaster* (1976-1984; see publication list 55-58) Titti Mariani took a position at Plant Genetic Systems in Gent, Belgium. Here she started her scientific career on Plant Science initiating projects on plant virus resistance and control of plant reproduction. The latter project was particularly successful, leading to the invention of a method to produce male sterile plants and restorers of fertility for the production of hybrid crops [3 Patents: De Beuckeleer, M., Herdies, L., Gossele, V. Mariani, C. (U.S.A., 12.31.1996) Stamen-specific promoters from corn; Mariani, C., Leemans, J., De Greef, W. (U.S.A., 11.18.1997) Plants modified with barstar for fertility restoration; Mariani, C., Leemans, J., De Greef, W. (U.S.A., 03.03.1998) Plants with modified flowers]. This approach and the original transgenic seed rape plants produced in that project are currently used in breeding programs of *B. napus* in Canada and Europe. In addition to the applied research for the Company, also projects for more fundamental research were obtained and funded by EU (1 PhD student and 3 post-doctoral fellows). Although only few papers could be published while working at the company (see publication list 49-54), the work experience at Plant Genetic Systems contributed greatly to the acquisition of competence in plant biology, physiology and genetics.

From 1993 to date, the research at the department of Molecular Plant Physiology (previously Plant Cell Biology) of the Radboud University (Nijmegen) focused more on fundamental processes in anther/pollen development, pollen-pistil recognition/rejection and on fruit development. Most of this research was carried out on Solanaceae species (Petunia, tomato, tobacco, and wild relatives), supported by the fact that the greenhouse in Nijmegen hosts the largest collection in the world of non-tuberous, wild Solanaceae.. The research on (inter)specific crosses and fruit development are of great interest for seed companies, and collaborations with Dutch companies, in particular, has led to the development of new projects and two patents applications in this field [see publication list 1-4, 8-11, 13, 15-19, 21-31, 33-48; Patent application: Vriezen, W., Mariani, C., De Jong M. (EP10005603.5; 28.05.2010) Plants with increased fruit size.]

After two sabbatical leaves, a new research line on plant genetic diversity and adaptive responses to biotic and a-biotic stresses were initiated to investigate the potential of plant's tolerance/adaptation to changing climatic conditions. This re-direction of the research focus was sought to fit within the research mission of the Institute for Water and Wetland Research (IWWR) of the faculty of Science in Nijmegen, and is at present a major and successful scientific track of the group (see publication list: 5-7, 12, 14, 20, 32).

A variety of approaches are used for these research programs, such as the study of genetic diversity and molecular systematics (genomic AFLP, SNPs, NGM), differential gene expression (microarrays, cDNA-AFLP, RNA-seq, in situ hybridizations), functional genomics (tagged mutants in *Petunia* and *Arabidopsis*, gene-silencing by RNAi), cytology (at the light and electron microscopy levels), proteomics, and development of (physiological) functional assays.

In Nijmegen, 25 graduate students and 4 post-doctoral fellows were supported by EU-Biotechnology projects, EU-Marie Curie Networks, NWO-ALW projects, Nuffic, KNAW and NGI (National Genomics Initiative) programs.

A selection out of 70 Publications.

Scopus

EXPORT DATE: 8 May 2012

1. D'Agostino, N., Golas, T., van de Geest, H., Bombarely, A., Dawood, T., Zethof, J., Driedonks, N., Wijnker, E., Bargsten, J., Nap, J.P., **Mariani, C.**, Rieu, I. (2013) Genomic analysis of the native European *Solanum* species *S.dulcamara*. *BMC Genomics* 14:356
2. Giorno, F., Guerriero, G., Baric, S., **Mariani, C.** Heat shock transcriptional factors in *Malus domestica*: 2 identification, classification and expression analysis (2012) *BMC Genomics*, 13, art no. 639 (IF 4,21)

Bitá, C.E., Zenoni, S., Vriezen, W.H., **Mariani, C.**, Pezzotti, M., Gerats, T. Temperature stress differentially modulates transcription in meiotic anthers of heat-tolerant and heat-sensitive tomato plants (2011) *BMC Genomics*, 12, art. no. 384. (IF: 4,21)
- 5 De Jong, M., Wolters-Arts, M., García-Martínez, J.L., **Mariani, C.**, Vriezen, W.H. The *Solanum lycopersicum* AUXIN RESPONSE FACTOR 7 (SIARF7) mediates cross-talk between auxin and gibberellin signalling during tomato fruit set and development (2011) *Journal of Experimental Botany*, 62 (2), pp. 617-626. (IF: 4,818)
- 6 Giorno, F., Wolters-Arts, M., Grillo, S., Scharf, K.-D., Vriezen, W.H., **Mariani, C.** Developmental and heat stress-regulated expression of HsfA2 and small heat shock proteins in tomato anthers (2010) *Journal of Experimental Botany*, 61 (2), pp. 453-462. (IF: 4,818)
- 7 De Jong, M., **Mariani, C.**, Vriezen, W.H. The role of auxin and gibberellin in tomato fruit set (2009) *Journal of Experimental Botany*, 60 (5), pp. 1523-1532. (IF: 4,818)
- 8 De Jong, M., Wolters-Arts, M., Feron, R., **Mariani, C.**, Vriezen, W.H. The *Solanum lycopersicum* auxin response factor 7 (SIARF7) regulates auxin signaling during tomato fruit set and development (2009) *Plant Journal*, 57 (1), pp. 160-170. (IF: 6.948)
- 9 Vriezen, W.H., Feron, R., Maretto, F., Keijman, J., **Mariani, C.** Changes in tomato ovary transcriptome demonstrate complex hormonal regulation of fruit set (2008) *New Phytologist*, 177 (1), pp. 60-76. (IF: 6.516)
- 10 Verhoeven, T., Feron, R., Wolters-Arts, M., Edqvist, J., Gerats, T., Derksen, J., **Mariani, C.** STIG1 controls exudate secretion in the pistil of *petunia* and tobacco (2005) *Plant Physiology*, 138 (1), pp. 153-160. (IF: 7.016)

- 11 Nieuwland, J., Feron, R., Huisman, B.A.H., Fasolino, A., Hilbers, C.W., Derksen, J., **Mariani, C.** Lipid transfer proteins enhance cell wall extension in tobacco (2005) *Plant Cell*, 17 (7), pp. 2009-2019. (IF: 10,648)
- 12 Bots, M., Vergeldt, F., Wolters-Arts, M., Weterings, K., Van As, H., **Mariani, C.** Aquaporins of the PIP2 class are required for efficient anther dehiscence in tobacco (2005) *Plant Physiology*, 137 (3), pp. 1049-1056. (IF: 7.016)
- 13 Sanchez, A.M., Bosch, M., Bots, M., Nieuwland, J., Feron, R., **Mariani, C.** Pistil factors controlling pollination (2004) *Plant Cell*, 16 , pp. S98-S106. (IF: 10,648)
- 14 Weterings, K., Pezzotti, M., Cornelissen, M., **Mariani, C.** Dynamic 1-aminocyclopropane-1-carboxylate-synthase and -oxidase transcript accumulation patterns during pollen tube growth in tobacco styles (2002) *Plant Physiology*, 130 (3), pp. 1190-1200. (IF: 7.016)
- 15 Wolters-Arts, M., Van Der Weerd, L., Van Aelst, A.C., Van Der Weerd, J., Van As, H., **Mariani, C.** Water-conducting properties of lipids during pollen hydration (2002) *Plant, Cell and Environment*, 25 (4), pp. 513-519. (IF: 6.15)
- 16 Bosch, M., Knudsen, J.S., Derksen, J., **Mariani, C.** Class III pistil-specific extensin-like proteins from tobacco have characteristics of arabinogalactan proteins (2001) *Plant Physiology*, 125 (4), pp. 2180-2188. (IF: 7.016)
- 17 **Mariani, C.**, Wolters-Arts, M. Complex waxes. (2000) *Plant Cell*, 12 (10), pp. 1795-1798. (IF: 10,648)
- 18 Vriezen, W.H., Hulzink, R., **Mariani, C.**, Voeselek, L.A.C.J. 1-Aminocyclopropane-1-carboxylate oxidase activity limits ethylene biosynthesis in *Rumex palustris* during submergence (1999) *Plant Physiology*, 121 (1), pp. 189-195. (IF: 7.016)
- 19 De Martinis, D., **Mariani, C.** Silencing gene expression of the ethylene-forming enzyme results in a reversible inhibition of ovule development in transgenic tobacco plants (1999) *Plant Cell*, 11 (6), pp. 1061-1071. (IF: 10,648)
- 20 Wolters-Arts, M., Lush, W.M., **Mariani, C.** Lipids are required for directional pollen-tube growth (1998) *Nature*, 392 (6678), pp. 818-821. (IF: 36,101)
- 21 Vriezen, W.H., Van Rijn, C.P.E., Voeselek, L.A.C.J., **Mariani, C.** A homolog of the *Arabidopsis thaliana* ERS gene is actively regulated in *Rumex palustris* upon flooding (1997) *Plant Journal*, 11 (6), pp. 1265-1271. (IF: 6.948)
- 22 Goldman, M.H.S., Goldberg, R.B., **Mariani, C.** Female sterile tobacco plants are produced by stigma-specific cell ablation (1994) *EMBO Journal*, 13 (13), pp. 2976-2984. (IF: 10,124)
- 23 Goldman, M.H.D.S., Pezzotti, M., Seurinck, J., **Mariani, C.** Developmental expression of tobacco pistil-specific genes encoding novel extensin-like proteins (1992) *Plant Cell*, 4 (9), pp. 1041-1051. (IF: 10,648)
- 24 **Mariani, C.**, Gossele, V., De Beuckeleer, M., De Block, M., Goldberg, R.B., De Greef, W., Leemans, J. A chimaeric ribonuclease-inhibitor gene restores fertility to male sterile plants (1992) *Nature*, 357 (6377), pp. 384-387. (IF: 36,101)
- 25 **Mariani, C.**, De Beuckeleer, M., Truettner, J., Leemans, J., Goldberg, R.B. Induction of male sterility in plants by a chimaeric ribonuclease gene (1990) *Nature*, 347 (6295), pp. 737-741. (IF: 36,101)

IMPACT OF RESEARCH

Source: Scopus, May 2012

- h-index: 28;

- h-index (excluding self-citation): **27**;
- Total citations: **2506**;

Patents:

- De Beuckeleer, M., Herdies, L., Gossele, V. Mariani, C. (U.S.A., 12.31.1996) Stamen-specific promoters from corn.
- Mariani, C., Leemans, J., De Greef, W. (U.S.A., 11.18.1997) Plants modified with barstar for fertility restoration.
- Mariani, C., Leemans, J., De Greef, W. (U.S.A., 03.03.1998) Plants with modified flowers
- Vriezen, W., Mariani, C., De Jong M. (EP10005603.5; 28.05.2010) Plants with increased fruit size