

## **Maria Manuela Antunes Gomes da Silva**

**Place of birth:** Lisbon

**Date of birth:** 7th November 1964

**Institutional address:** Instituto Superior de Agronomia (ISA)  
Centro de Botânica Aplicada à Agricultura  
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### **Academic degrees:**

PhD in Agriculture Engineering, Instituto Superior de Agronomia (ISA), UTL, 1999;

Master degree in Plant Production, ISA, UTL, 1993;

Graduation in Agriculture Engineering, specialization in Systematic Botany and Phytopathology, ISA, UTL, 1991.

### **Teaching activity:**

Collaboration in theoretical and practical lectures - Plant Functional Genomics, 2nd Cycle Master degree in Functional Biology, ISA, UTL, 2008/09.

Collaboration in theoretical and practical lectures - Biology Laboratory Techniques, Graduation in Biology, ISA, UTL, 2005/09.

Coordination and theoretical lectures - Plant Biology, Graduation in Pharmaceutical Sciences, Universidade Lusófona de Humanidades e Tecnologias, 1999/2000.

### **Supervising experience**

2008/09 – João Miguel Rodrigues da Silva Brazão, BII 2008, Centro de Botânica Aplicada à Agricultura (CBAA, ISA)

2008 – Diana Raquel dos Santos Tomás, Graduation in Biology internship, ISA.  
Since 2007 - Miguel Ângelo Oliveira Bento, PhD in Biology (SFRH/BD/28657/2006), ISA.

2007 – Stella Tatiana Lihuca de Esteves, Graduation in Biology internship, ISA.

2006/07 - Miguel Ângelo Oliveira Bento, Scientific research fellowship (POCTI/BIA-BDE/57575/2004), CBAA, ISA.

### **Research positions**

Since 2008 – CBAA Researcher (Programa Ciência 2007).

2006/08 - Postdoctoral fellowship, FCT (SFRH/BPD/20320/2004), CBAA, ISA.

2001/05 – Postdoctoral fellowship, FCT (BPD/3542/2000), Secção de Genética e Engenharia Biológica, DBEB, ISA.

1998/99 – Scientific research fellowship, CBAA, ISA.

1994/97 - Doctoral fellowship, JNICT (BD/2792/93-IE), Secção de Genética e Engenharia Biológica, DBEB, ISA.

1992/93 - Master fellowship, JNICT (BM/1317/91-IE), DBEB, ISA.

1990/91 – Young Researcher fellowship, JNICT (PMCT/BJI/45/90), DBEB, ISA.

### **Research activity:**

Since 2004 – Member of coordination commission of Centro de Botânica Aplicada à Agricultura (CBAA), ISA.

Research project coordination “Polyploidization as an evolutive driving force: genomic restructuring and nuclear topology remodeling”. POCTI/BIA-BDE/57575/2004.

Since 1990 - collaboration in 8 Research projects in Secção de Genética, ISA, (POCI – FCT, POCTI - FCT, PRAXIS XXI – FCT, AGRO - MAP).

### **Area of scientific activity:**

Polyploidization as an evolutionary driving force.  
The role of repetitive sequences in plant evolution and speciation.  
Epigenetic markers involvement in gene silencing modulation.  
Influence of environmental stress in genomic interaction processes.  
Functional compartmentalization of interphasic nuclei.  
Gene expression in polyploid plants: cytogenetic and molecular analysis of introgressed genes.

**Recent publications:**

- Silva M, Pereira HS, Bento M, Ana-Paula Santos, Shaw P, Delgado M, Neves, N., Viegas W. 2008. Interplay of Ribosomal DNA Loci in Nucleolar Dominance: Dominant NORs Are Up-regulated by Chromatin Dynamics in the Wheat-Rye System. *PLoS ONE* **3**(12): e3824.
- Bento M, Pereira HS, Rocheta M, Gustafson P, Viegas W, Silva, M. 2008. Polyploidization as a Retraction Force in Plant Genome Evolution: Sequence Rearrangements in Triticale. *PLoS ONE* **3**(1): e1402. doi:10.1371/journal.pone.0001402.
- Pontes O, Lawrence RJ, Silva M, Preuss S, Costa-Nunes P, Earley, K., Neves, N., Viegas, W. Pikaard, C.S. 2007. Postembryonic Establishment of Megabase-Scale Gene Silencing in Nucleolar Dominance. *PLoS ONE* **2**(11): e1157. doi:10.1371/journal.pone.0001157.
- Bento, M.; Pereira, H.-S.; Rocheta, M.; Gustafson; P.; Viegas, W.; Silva, M. 2007. Polyploidization as a plant genome evolutionary force: repetitive related sequence rearrangements in triticale. *Chromosome Research* **15** Supplement 2:9.
- Earley, K.; Lawrence, R.J.; Pontes, O.; Reuther, R.; Enciso, A.J.; Silva, M.; Neves, N.; Gross, M.; Viegas, W.; Pikaard, C.S. 2006. Erasure of histone acetylation by Arabidopsis HDA6 mediates large-scale gene silencing in nucleolar dominance. *Genes and Development* **20**:1283-1293.
- Neves, N.; Delgado, M.; Silva, M.; Caperta, A.; Morais-Cecílio, L.; Viegas, W. 2005. Ribosomal DNA heterochromatin in plants. 2005. *Cytog. Genome Res.* **109**; 104-111 .
- Pontes, O.; Neves, N.; Silva, M.; Lewis, M.S.; Madlung, A.; Comai, L.; Viegas, W.; Pikaard, C.S. 2004. Chromosomal locus rearrangements are a rapid response to formation of the allotetraploid Arabidopsis suecica genome. *PNAS* **101**: 18240-18245.
- Lawrence, R.J.; Earley, K.; Pontes, O.; Silva, M.; Chen, Z.J.; Neves, N.; Viegas, W.; Pikaard, C.S. 2004. A concerted DNA methylation/histone methylation switch controlling rRNA gene dosage control and nucleolar dominance. *Molecular Cell* **13**: 599-609.