



**Ana García-Villaraco Velasco** earned her degree in Biology Sciences (Biotechnology) at Complutense University, Madrid in 2001.

In 2003 she got a grant from San Pablo CEU University to do PhD studies in the Rhizosphere Biotechnology group (Plant physiology and Ecology). She defended the study: "Study of the effect of fire and retardants on metabolic diversity and activity of Mediterranean pastures soil microorganisms" to obtain the **DEA (Diploma in Advanced Studies)**.

In 2007 she got her Doctor degree (**PhD European mention**) at San Pablo CEU University with the study entitled "Microbial ecology in the rhizosphere of transgenic lines of *Arabidopsis thaliana* (L.) Heynh. and *Zea mays* L."

Among her postgraduate courses are "Retraining and use of urban waste" (Centro de Ciencias Medioambientales, CSIC) and "Materials biodamage" (Escuela Técnica Superior de Ingenieros Industriales, Universidad Politécnica de Madrid).

During her PhD training she has participated on 7 research projects, 3 R+D projects with companies, 17 conference communications (2 oral communications) and has written three articles (submitted). She has been twice in the Netherlands Institute of Ecology, Centre for Terrestrial Ecology (The Netherlands) learning DGGE technique and improving her multivariate analysis knowledge. In this way, she attended the Workshop "Multivariate Analysis for Environmental Biologists" (BBVA. Madrid).

As regards to teaching experience, she obtained the Pedagogic Aptitude Certificate (CAP) at Complutense University, Madrid in 2003.

She has lectured seminars on:

- Successive editions of the *Science Week* of organized by Comunidad de Madrid.
- Successive editions of the PhD course "Natural Resources from Plants:" San Pablo CEU University in the subject: Microbial Ecology in the Soil-Plant Ecosystem, Structure, Function and their Effects on Plant Production".
- Successive editions of the PhD course "Plant Biology: Molecular, Physiological and Biotechnological Aspects" (with excellence doctorate mention) coordinated by Prof. Dr. Ildefonso Bonilla, Autónoma University, Madrid, in the subject: "Rhizosphere Systems, Structure and Functioning"
- Successive years in the subject: Microbial Ecology, Environmental Sciences degree at San Pablo CEU University.

She has participated as teaching assistant in the laboratories of Plant Physiology (1<sup>st</sup> year Pharmacy degree), Plant Biology (2<sup>nd</sup> year Environmental Sciences degree) and Ecology (3<sup>rd</sup> year Environmental Sciences degree) at the Faculty of Pharmacy of San Pablo CEU University.

She has also participated teaching in the subject Bioremediation (Environmental Sciences degree, San Pablo CEU University)

She has taught the lab practicals to 1<sup>st</sup> and 2<sup>nd</sup> year of Bachillerato (3<sup>rd</sup> and 4<sup>th</sup> high school levels) at San Pablo CEU School in 2005-2006.

She has co-tutored the final degree project for Environmental Sciences degree entitled: "Rhizosphere Microbial Community characterization (culturable and non-culturable) from different genotypes of *Arabidopsis thaliana* throughout fatty acids profiles comparisons (PLFA)".

Within the group she actively participates in many research lines and mainly in the study of microbial communities associated to plant roots in natural conditions and their evolution after a perturbation with biological or contaminant agents. The objectives within this line of rhizosphere microbial ecology goes towards metagenomics studies of rhizosphere microbial communities in order to

study from a structural, functional and even as a gene source, bacteria (culturable or not) of the rhizosphere.

### **Laboratory skills**

#### **Molecular**

DNA isolation, PCR, Random amplified polymorphic DNA (RAPD), *Denaturing Gradient Gel Electrophoresis* (DGGE), *Temperature Gradient Gel Electrophoresis* (TGGE), cloning, bacteria mutant production, *quorum sensing* detection.

#### **Microbial communities study**

*Phospholipid Fatty Acids* (PLFA), radioactively labelled thymidine and leucine incorporation technique, BIOLOG.

#### **Bioinformatics**

Database searches, Sequence alignment, Tree reconstruction.

#### **Multivariate statistics**

Ordination (PCA, CA, PCoA, etc.), Canonical (CCA, RDA, etc.), Clustering (UPGMA).