



**Beatriz Ramos Solano**, obtained her degree in Biology by Universidad Complutense de Madrid (1991), Master degree in Enology and Viticultura by Escuela Técnica Superior de Ingenieros Agrónomos, Universidad Politécnica de Madrid (1992). She is a Doctor in Pharmacy by Universidad San Pablo CEU (1999).

Since september 2007 she is **Profesora Agregada a Cátedra in Plant Physiology** at the Faculty of Pharmacy, Universidad San Pablo CEU, where she develops teaching, management and research activity simultaneously. She has been awarded as a private university teacher by the nacional organisms ANECA in 2003. She teaches in plant physiology and pharmacognosy for pharmacy students and for the doctorate programmes in Universidad San Pablo CEU “Recursos Naturales de origen vegetal: salud y medioambiente” and Universidad Autónoma de Madrid “Biología vegetal: aspectos moleculares, fisiológicos y ecológicos”, awarded as a quality programme by the Comunidad de Madrid.

In terms of management, she is the Secretary of the department “Environmental sciences and natural resources” from 2004. She coordinates the Socrates/Erasmus programme at the Faculty of Pharmacy and she has launched the bilingual degree in Pharmacy in collaboration with The university of Chicago with a specialization on “Clinical trials management”.

Among the research interests in the group focused in the **rhizosphere**, she is involved to a greater extent in the study of secondary metabolism of plants dealing with **plant’s defense** in agriculture and studying changes in **bioactives** in food products and health implications. Study of secondary metabolic pathways, bacterial elicitors, **elicitation** with PGPRs, *priming* and environmental impact of PGPR application in agriculture are among the research lines of the group. This research has been continuously funded by public bodies on competitive calls, and has resulted in over 39 peer-reviewed papers and book chapters with more than 70 communications to congresses.

Further perspectives of the group are identification of genes involved in systemic induction of plant’s secondary metabolism, identification of elicitors, and metabolic engineering of plants to enhance levels of phytopharmaceuticals and bioactives, and also metabolic engineering of bacteria, for biotechnological production of target metabolites. And last but not least, our research has lead us to study the role of bacterial communication on their beneficial effect on plants that appears as an encouraging target for biotechnological purposes.

#### **Outstanding papers.**

\*Barriuso Maicas, J., Ramos Solano, B., J., Gutierrez Mañero, F.J., 2008. **Protection against pathogen and salt stress by four PGPR isolated from *Pinus* sp. on *Arabidopsis thaliana*** . Phytopathology. *en prensa*

\*Barriuso, J., Ramos Solano, B., Fray, R. G., Cámara, M., Hartmann, A., Gutiérrez Mañero, F.J., 2008. **Transgenic tomato plants alter *quorum sensing* in Plant Growth Promoting Rhizobacteria**. Plant biotechnology Journal (en prensa)

\*Barriuso, J., Ramos Solano, B., Santamaría C, Daza, A, Gutiérrez Mañero, F.J., 2008. **Effect of inoculation with putative PGPR isolated from *pinus* sp on *Pinus pinea* growth, mycorrhization and rhizosphere microbial communities** Journal of Applied Microbiology *en prensa*

\***Ramos Solano, B.**, Barriuso Maicas, J., Pereyra de la Iglesia, M.T., Domenech, J., Gutiérrez Mañero, F.J. Systemic disease protection elicited by plant growth promoting rhizobacteria

strains: relationship between metabolic responses, systemic disease protection and biotic elicitors. *Phytopathology* (EN PRENSA)

\***Ramos Solano, B.**, Pereyra de la Iglesia, T. Probanza A, Lucas García, JA., Megías M, Gutierrez Mañero F.J., 2007. "Screening for PGPR to improve growth of *Cistus ladanifer* seedlings for reforestation of degraded mediterranean ecosystems. *Plant and Soil* 287:59-68

\*J. Domenech, M. S. Reddy, J. W. Kloepper, **B. Ramos** And J. Gutierrez-Mañero, 2007. Combined application of the biological product LS213 with *Bacillus*, *Pseudomonas* or *Chryseobacterium* for growth promotion and biological control of soil-borne diseases in pepper and tomato. *Biocontrol* 51:245-258

\*Doménech J, **Ramos Solano, B.**, A. Probanza, J.A. Lucas García, F.J. Gutierrez Mañero, 2007. Elicitation of Systemic resistance and growth promotion of *Arabidopsis thaliana* by PGPRs from *Nicotiana glauca*. A study of the putative induction pathway. *Plant and Soil* 290:43-50

\*Ruiz Palomino, M., J.A. Lucas García, **B. Ramos**, F.J. Gutierrez Mañero and A. Probanza, 2005. Seasonal diversity changes in alder (*Alnus glutinosa*) culturable rhizobacterial communities throughout a phenological cycle. *Applied Soil Ecology* 29 (3):215 -224

\*J. Barriuso Maicas, M.T. Pereyra de la Iglesia, J.A. Lucas García, M. Megías, F.J. Gutierrez Mañero, **B. Ramos Solano**, 2005. Screening for PGPR to improve establishment of the symbiosis *Lactarius deliciosus-Pinus* sp. *Microbial Ecology* (en prensa)

\*García J.A.L., Probanza A., **Ramos, B.**, Barriuso J, Gutierrez Mañero F.J., 2004. Effects of inoculation with Plant Growth Promoting rhizobacteria (PGPRs) and *Sinorhizobium fredii* on Biological Nitrogen Fixation, Nodulation and Growth of *Glycine max* cv. Osumi. *Plant and Soil* 267:143-156

\*Jezabel Domenech, Agustin Probanza, José Antonio Lucas-García, **Beatriz Ramos**, Juan José Colón and Francisco Javier Gutiérrez-Mañero, 2004. *Bacillus* spp. and *Pisolithus tinctorius* effect on oak: Study on plant growth, rhizosphere community structure and mycorrhizal infection. *Forest Ecology and Management*. 194:293-303

\*Lucas García, J.A., Probanza, A., **Ramos B**, Ruiz Palomino, M., Gutiérrez Mañero FJ. 2004. Effects of inoculation with a plant growth promoting rhizobacterium of *Bacillus* genus (*Bacillus licheniformis*) on the growth, fruit production and induction of systemic resistance of different pepper and tomato varieties. *Agronomy* 24:69-76

\***Beatriz Ramos**\*, Jose A. Lucas García, Agustín Probanza, M. Luisa Barrientos, F. Javier Gutierrez Mañero, 2003. Influence of an indigenous european alder (*Alnus glutinosa* (L.) Gaertn) rhizobacteria (*Bacillus pumilus* CECT 5105) on its growth and in the rhizosphere community structure, in two different soils. *New Forest*. 25:149-159

Gutierrez Mañero, F.J., **Ramos B**, Lucas García, J.A., Probanza, A., Barrientos Casero, M.L., 2003. Stimulation of cardenolides biosynthesis in *D.lanata* by rhizobacteria. *J.Plant Physiology* 160/2:105-113

\***Ramos, B.**, Lucas García, JA., Probanza, A., Barrientos, M.L., Gutierrez Mañero, F.J. 2002. Alterations in the rhizobacterial community associated with European alder growth when inoculated with PGPR strain *Bacillus licheniformis*. *Environ. Exp. Bot.* 49:61-68

\*Gutiérrez Mañero, F.J., **Ramos, B.**, Mehrouachi, J., Tadeo, F.R., Probanza, A., Talón, M., 2001. The plant-growth-promoting rhizobacteria *Bacillus pumilus* and *Bacillus licheniformis* produce high amounts of physiologically active gibberellins. *Physiologia plantarum*. 111(2):206-211