

## **THEODORA FARMAKI**

### **Present position**

2003- today: Researcher (Main Investigator). Institute of Applied Biosciences (IN.A.B.). Centre for Research and Technology -Hellas (CE.R.T.H.) Thessaloniki, Greece.

### **Postdoctoral research**

1999-2003: Department of Plant Molecular Genetics. National Centre of Biotechnology (CNB), Consejo Superior de Investigaciones Científicas (CSIC), Campus de Cantoblanco Universidad Autónoma de Madrid, SPAIN Subject: "Genetic Manipulation of Oxylipin Biosynthesis in Potato".

### **PhD degree**

1999: Department of Anatomy and Physiology, School of Life Sciences, Wellcome Trust Building/Medical Sciences Institute Complex, University of Dundee, UK. Thesis title: "Investigation of the Mechanism of Mitotic Golgi Membrane Depletion and Partitioning".

### **M.Sc. degree**

1995: University of London. Plant Biotechnology.

### **Current research interests**

- Study of the *A. thaliana* FKBP's ROF1 and ROF2 in relation to heat, salinity and osmotic stress. Structural analysis and co-crystallisation studies of ROF1 and ROF2 with phosphatidyl inositol phosphates.
- Study of the cold acclimation mechanisms in cotton (*G. hirsutum*).
- Study of Phospholipase D in cotton following mechanical wounding.
- Study of abiotic stress (temperature, drought and salinity) in wheat (both durum and aestivum).

### **Technical Skills**

- Molecular Biology
- Electron microscopy, immunocytochemistry using ultrathin cryosections.
- Confocal microscopy
- Biochemical techniques (protein purification for crystallography, lipid extraction, TLC for lipid species identification).
- Plant transformation (biolistics and Agrobacterium).
- Lipid dot blotting, liposome assays.

### **Awarded grants/fellowships**

1. Ph.D. studentship, University of Dundee. (1996-1999).
2. Marie Curie research training. European Commission. Directorate F, Human potential and mobility. (MCFI-1999-00988) (1999-2001).
3. Postdoctoral Fellowship. Natural Oxylipins and Defence in Ornamentals (NODO) (QLK5-CT-2001-02445) (2001-2003).
4. Short term EMBO fellowship, ASTF 395.00-2007 (2008).

### **Funded proposals**

1. Member of CANVAS: Cotton Varieties Classification and Identification. Research Cooperation for the Enhancement of the Competitiveness and for the Technological Improvement of Greek Cotton using Biotechnology and Integrated Cultivation Management Techniques. EPAN / Food, Agricultural Development and Aquaculture. GSRT. Programme ended 31-12-2006.
2. Coordinator "PENED 2003": Crop improvement under cold stress. The role of cell membrane and characterisation of phospholipid interacting proteins. Programme ended 30-6-2009.
3. Member of «Thalis»: Glutathione transferases: molecular tools for basic and applied research in the field of green and red biotechnology.

**Member:**

- COST ACTION BM1307 PROTEOSTASIS
- COST ACTION CA15138 TRANSAUTOPHAGY

**Recent Publications**

1. Bourtsala A., **Farmaki T.** and Galanopoulou D. Phospholipases D alpha and delta are involved in local and systemic wound responses in cotton (*G. hirsutum*). *Biochemistry and Biophysics Reports*. March 2017, pages 133–139
2. **Farmaki, T\***. Use of a Phosphatidylinositol phosphate Affinity Chromatography (PIP - chromatography) for the isolation of proteins involved in protein quality control and proteostasis mechanisms in plants. *Plant Proteostasis: Methods and Protocols*, 2016.
3. Maniatsi, S., **Farmaki, T\***, Abatzopoulos, T.J\*. The study of fkbp and ubiquitin reveals interesting aspects of Artemia stress history. *Comp Biochem Physiol B Biochem Mol Biol*. 2015 Aug;186:8-19
4. Taurino, M., Abelenda, J.A., Río-Alvarez, I., Navarro, C., Vicedo, B., **Farmaki, T.**, Jiménez, P., García-Agustín, P., López-Solanilla, E., Prat, S., Rojo, E., Sánchez-Serrano, J.J., Sanmartín, M\*. Jasmonate-dependent modifications of the pectin matrix during potato development function as a defense mechanism targeted by Dickeya dadantii virulence factors. *Plant J*. 2014 Feb;77(3):418-29.
5. Oxley, D., Ktistakis, N., **Farmaki, T\***. Differential isolation and identification of PI(3)P and PI(3,5)P2 binding proteins from Arabidopsis thaliana using an agarose-phosphatidylinositol-phosphate affinity chromatography. *J Proteomics*. 2013 Oct 8;91:580-94.
6. Karali, D., Oxley, D., Runions, J., Ktistakis, N., **Farmaki, T\***. The *Arabidopsis thaliana* immunophilin ROF1 directly interacts with PI(3)P and PI(3,5)P2 and affects germination under osmotic stress. *PLoS One*. 2012;7(11)