OPEN PHD POSITION FOR MARIE SKŁODOWSKA-CURIE INNOVATIVE TRAINING NETWORKS (MSCA-ITN) AT CSIC

**MSCA-ITN**

MiRA: Microbe induced Resistance to Agricultural pests

**PROJECT:**

ESR6: Signaling in induced resistance by beneficial soil fungi (AMF/ *Trichoderma*) against chewing and sucking insects in tomato

**PhD SUPERVISOR(S):**

Maria J. Pozo and Emilio Benítez

**SCIENTIFIC AREA:**

Agriculture

**HOST INSTITUTION:**

Estación Experimental del Zaidín (EEZ-CSIC)

**DURATION:**

3 years

**FIXED START DATE:**

Application deadline: **14.01.2018**  
Start date: **01.04.2018**

**PLANNED SECONDMENT(S):**

Ten months total in Denmark, Netherlands and Spain

**EMAIL OF THE PhD SUPERVISOR(S)**

mariajose.pozo@eez.csic.es; emilio.benitez@eez.csic.es;

**WEBSITE OF THE ITN-MSCA**

www.miraitn.eu

**WEBSITE OF THE RESEARCH GROUP OR CENTRE/INSTITUTE**

www.eez.csic.es; www.eez.csic.es/mycorrhizaandbioticstresslab

**APPLICATION SITE**

ESSENTIAL CANDIDATE REQUIREMENTS

E1. Early Stage Researchers (ESRs) must, by definition, have less than 4 years research experience at the date of signing the contract (measured from the date of award for their most recent taught degree).
E2. ESRs must not yet have a PhD or be enrolled on one.
E3. ESRs must not have resided, or undertaken employment (main activity) within the host country of the ESR for which they apply for more than 12 months in the last 3 years immediately prior to the reference recruitment date (14.01.2018).
E4. Eligibility according to EU regulations.
E5. BSc (minimum 2i grade equivalent).
E6. Masters degree in the subject.
E7. BSc or Masters-level degree in Biology or a related discipline.
E8. Excellent command of the English language (oral, writing).
E9. Excellent numeric skills (data analysis &/or statistics &/or modelling).
E10. Demonstrable ability to conduct research in line with the objectives of the project.
E11. Evidence of planning skills to contribute to the research project.
E12. Ability to work alone and also as part of a multidisciplinary team.
E13. Willingness to work across complementary subject areas within the topic, and within public-facing media engagement.
E14. Willingness to travel within Europe.

DESIRABLE CANDIDATE REQUIREMENTS

Primary skills: experimental experience with plants, soil microorganisms, and/or insects, plant biotic interactions, plant physiology and biochemistry, plant molecular biology
Relevant skills: microbiology, insect biology, multitrophic interactions, statistical analysis
PhD PROJECT

The aim of the project is to determinate the main defense signalling pathways mediating the impact of beneficial soil fungi (arbuscular mycorrhizal (AM) fungi and Trichoderma spp) on insect pests in tomato plants, and how the abiotic context (drought, light, nutrient availability) shape the interactions. The position will involve experiments aiming to characterize the range of effectiveness of soil borne-induced resistance on insect herbivores, the signals involved in the process and how different abiotic factors affect the production and transport of these signals. Results will be integrated with parallel experiments done by other ESRs to evaluate the context dependency of microbe-induced plant resistance. Candidates should have a strong background in plant physiology, plant biotic interactions and preferably experience in plant biochemistry and/or molecular biology, soil microorganisms, and/or insect experimentation.

The PhD position is associated to a larger European training network “MiRA: Microbe induced Resistance to Agricultural pests”, with 14 other PhD positions at other participating institutions. We strongly encourage candidates to also apply for other similar positions within the MiRA network, see www.miraitn.eu.