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

**MSCA-ITN**

MiRA: Microbe induced Resistance to Agricultural pests

**PROJECT:**

ESR10: Effect of resistance-inducing mycorrhiza on natural enemies of aphids in tomato.

**PhD SUPERVISOR(S):**

Emilio Benítez and Maria J. Pozo

**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 Netherlands and Switzerland

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

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

**WEBSITE OF THE ITN-MSCA**

www.miraitn.eu

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

www.eez.csic.es

**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 ecology, statistical analysis.
Relevant skills: plant biochemistry, microbiology, insect biology, multitrophic interactions.
**PhD PROJECT**

The aim of the project is to determine the role of arbuscular mycorrhizal (AM) fungi in inducing both direct and indirect plant defences in tomato plants, assessing the tri-trophic role of microbes-induced resistance on bottom-up regulation of herbivores. The position will involve experiments aimed to characterize the hormonal signal routes mediating microbes-induced resistance in different tomato lines and the plant-mediated effects of below-ground AM fungi on third trophic level organisms (biocontrol agents) and their aphid prey. Results will be integrated with parallel experiments done by other ESRs to evaluate context dependency of microbe-induced plant resistance. Candidates should have a strong background in plant, soil microorganisms, and/or insect ecology and 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](http://www.miraitn.eu).