



IRTA is seeking a

## **PhD STUDENT (ANIMAL HEALTH)**

FOR the MSCA European Training Network (ETN)  
**INNOTARGETS**

## About IRTA

---

**IRTA** is a research institute owned by the Government of Catalonia ascribed to the Department of Agriculture and Livestock. It is regulated by Law 04/2009, passed by the Catalan Parliament on 15 April 2009, and it is ruled by private regulations. IRTA is one of the CERCA centers of excellence of the Catalan Research System.

IRTA's purpose is to contribute to the modernization, competitiveness and sustainable development of agriculture, food and aquaculture sectors, the supply of healthy and quality foods for consumers and, generally, improving the welfare and prosperity of the society.



## mission

To contribute to the modernization, improvement and promotion of competitiveness and sustainable development in the Agriculture, Food and Aquaculture sectors, providing safe, quality foods to the final consumer and generally contributing to the global improvement of human welfare.



## vision

To become the scientific reference and a force for innovation, and technology transfer. We aim to be the strategic partner of the food industry.agro-food sector.



## values

1. Commitment
2. Creativity
3. Learning
4. Innovation
5. Leadership
6. Respect
7. Service Vocation

## THE PROGRAM OF ANIMAL HEALTH

---

The Animal Health Research Program operates from the Animal Health Research Centre (CReSA) at the University of Barcelona (UAB) Campus. CReSA consists of a technologically advanced building with conventional laboratories, as well as biocontainment with Biosafety Level (BSL-3) laboratories and animal facilities. This program carries out fundamental and applied research on animal and public health, funded by national and international projects, services for public administrations and research contracts with agri-food and pharmaceutical companies. The three main areas of research include epidemiology and risk assessment, endemic diseases of livestock and transboundary diseases.

## DESCRIPTION of the POSITION

---

IRTA is currently seeking an Early Stage Researcher (ESR) to be enrolled as PhD student in the MSCA European Training Network (ETN) INNOTARGETS (INNOvative approaches to identification of metabolic TARGETS for antimicrobials, H2020 grant 956154). This ESR position is one of twelve offered in INNOTARGETS.

Antimicrobial resistance (AMR) is a major challenge to human health, and infections due to resistant bacteria are predicted to exceed cancer as the primary cause of human mortality by 2050, and negatively impacting on world economy and social stability. Prudent use of antimicrobials can slow down the development of AMR, but it cannot solve the challenges caused by multi-drug resistant bacteria (MDR), some of which are resistant to all of the current antimicrobials on the market. *This requires novel antimicrobials, or drugs that can re-sensitize MDR bacteria to the existing antimicrobials.* To address this problem, the EU-funded INNOTARGETS project will train early-stage researchers (ESRs) in the identification of novel metabolic drug targets in pathogenic bacteria. The project is a collaboration between 10 academia and industry partners in Denmark, Germany, Italy, Netherlands, Spain and UK, and it will guide early stage researchers to use innovative approaches to achieve their scientific goals.

*The aim of INNOTARGETS is to train a new generation of early stage researchers (ESRs) in highly innovative approaches to identify metabolic drug targets in pathogenic bacteria, with technical skills which are attractive to both industry and academia.* In addition to state of the approaches to target identification, they will be equipped with complementary skills deemed important for research team leaders. Each ESR will have an individual profile according to his/her own career dream, and they will be capable of life-long self-directed learning. Twelve ESRs will work closely together in the INNOTARGETS network solving scientific questions related to metabolism of bacteria in the host, mathematical modelling for target identification and toxicity

prediction, adaptation of resistant bacteria to treatment, spread of resistance and improved methods for target identification.

The ESR enrolled in IRTA will study metabolic aspects of *Streptococcus suis*. *S. suis* is an important porcine pathogen, which requires frequent use of antibiotics to prevent high morbidity and mortality in intensive pig production. It is also an emerging zoonotic pathogen associated with sepsis and meningitis in humans. MDR has recently become a global concern in this bacterium. The ESR recruited by IRTA will characterize the metabolism of this strictly fermentative, Gram positive bacterium growing in a model for the natural host, the pig, using a transposon-based approach (TraDis or TnSeq) with a view to identify essential metabolic targets. The ESR will be supervised by Dr. Virginia Aragón from IRTA and co-supervised by Dr. Jerry Wells from Wageningen University, which will be the PhD awarding institution. In addition, the ESR will benefit from secondments at Wageningen University (The Netherlands) and at NAICONS (Italy). The ESR will also participate in network-wide training activities.

## REQUIREMENTS AND QUALIFICATIONS

---

- Dedicated and skilled individual with an undergraduate degree and Master degree in Microbiology, Biochemistry, Biotechnology or related fields.
- Previous experience in Bioinformatics and/or Molecular Biology would be highly valued, albeit all candidates will be considered.
- Good **communication skills** in English. Spanish will be a plus.
- **Nationality**. The researcher may be a national of any country in the world.
- Candidates must comply with the **Mobility** rule:  
The fellow must not have resided or carried out his/her main activity (work, studies, etc) in the country of his/her host organisation (in this case Spain) for more than 12 months in the 3 years immediately prior to his/her recruitment.
- All fellows must be **Early-Stage Researchers**. At time of recruitment they must be in the **first 4 years** (full-time equivalent research experience) of their research careers.
- Candidates must not have been awarded a doctoral degree.

## DUTIES AND RESPONSIBILITIES

---

- The ones corresponding to a PhD student. The selected candidate will be enrolled at Wageningen University and will need to fulfill the academic requirements of the PhD program.
- Team working is a must. The ESR will develop his/her thesis in collaborations with other ESRs in the training network.
- Good communication skills (in English).
- Write a PhD thesis and publish scientific papers on the grounds of your project.

## TERMS OF APPOINTMENT

---

This is a full-time position with the successful candidate being contracted for three years as PhD student.

The gross salary will be: 2.183,71 euros gross salary/month, before taxes (12 payments).

**Candidates must send the following documents to Dr. Virginia Aragón ([virginia.aragon@irta.cat](mailto:virginia.aragon@irta.cat)):**

1. Motivated letter of application (max. one page)
2. CV incl. education, experience, language skills and other skills relevant for the position
3. Master of Science diploma and transcript of records. If not completed, a certified/signed copy of a recent transcript of records or a written statement from the institution or supervisor will do
4. Publication list (if possible)
5. Letters of recommendation

Selected candidates will be interviewed by a selection committee.

Deadline for applications: **January 25<sup>th</sup>, 2021**

*IRTA wishes to reflect the surrounding community and invites all regardless of personal background to apply for the position.*

**LOCATION: UAB - AUTONOMOUS UNIVERSITY OF BARCELONA**

---



CReSA-IRTA is located in the campus of the UAB. The UAB ranks 172 in the Performance Ranking of Scientific Papers for World Universities 2016 published by National Taiwan University (NTU). The UAB continues to be among the 200 best universities worldwide, and is the second university in Spain, after the UB and followed by the University of Valencia and the Autonomous University of Madrid.

In the rankings by subject, the UAB scores highest in Spain in Animal and Plant Science (occupying position 69 worldwide), and stands out in Agricultural Science (100 worldwide), Environmental Science (101), Mathematics (104), and Pharmacology and Toxicology (156).

---

## BARCELONA

---



### *A city with character*

Barcelona is an open, vibrant and creative city with a busy cultural, political, business and commercial life. It is a metropolis where every imaginable language can be heard, as well as a city that invites its residents and visitors alike to discover its Catalan culture and traditions.

### *The Catalan capital*

Barcelona is the capital of Catalonia, a country whose nation boasts a long history, enjoying self-government as an autonomous region in the Spanish State. It is situated on the north-east coast of the Iberian Peninsula, facing the Mediterranean Sea and bordered by Andorra and France along its north. Catalonia also has its **own language**, Catalan, which grew out of Latin, as did Spanish, French, Italian and Portuguese. **Catalan is its official language**, together with Spanish, and is used regularly in every walk of life. In addition, most of the people working in international trade and the country's main tourist areas speak English and other languages as well. Barcelona has always attracted people from all over the world, making it even more **multilingual and special**. It is the people living there, with their different backgrounds and cultures, who make it so **cosmopolitan, diverse and intercultural**.

## *Economic powerhouse of a prosperous region*

One of the biggest metropolitan areas in Europe has grown up around the capital, consolidating Barcelona as an **outstanding business, technological and industrial center, as well as a major economic powerhouse**. In fact, the city has always stood out for its intensive business and commercial activities and proved its ability to modernize and adapt itself to the new times. It has become such a magnet for global talent that it is now a European center for business creation, especially in **leading sectors** such as information and communication technologies, biotechnology, sustainability, design and aeronautics. The city also plays host to several of world's most important international trade fairs, such as the **Mobile World Congress** and the **Barcelona Meeting Point**. Innovation is another Barcelona's hallmarks: it is the number-one smart city in the Spanish State and the fourth in Europe. It is also one of the cities with the highest quality of life in the world and the life expectancy of its residents is among the highest in Europe.

