

## Postdoctoral Position in ‘Regulation of immune cell death in plants’ Lab Núria S. Coll

We are looking for a motivated and talented scientist to join the “**Bacterial plant diseases and cell death team**” (Principal Investigator: Núria S. Coll) at the Centre for Research in Agricultural Genomics (Crag) in Barcelona (<https://www.cragenomica.es/research-groups/bacterial-plant-diseases-and-plant-cell-death>). Our research is mainly focused on the identification and mechanistic characterization of regulators of cell death triggered by bacterial pathogens with a particular interest in cell death proteases and their substrates.

This position is offered in the context of **Crag’s AGenT (Agricultural Genomics Transversal) postdoctoral program funded by H2020-MSCA-COFUND 2019**. This funding will allow Crag to hire **20** postdoctoral researchers with a very competitive salary. The program will provide ample opportunities for: secondments and research collaborations; training both in specific research areas and in transferable or transversal skills; and networking activities in both the academic and the industrial sectors; all in order to enrich the training of the fellows and enhance their professional development while conducting projects of research of excellence.

### Project offer:

The project that we offer is part of a collaborative effort with the Parker (<https://www.mpipz.mpg.de/parker>) and Kroj (<http://umr-bgpi.cirad.fr/equipes/equipe4-uk.htm>) labs to better understand the spatio-temporal dynamics of plant immune cell death regulators. In this project, we will comparatively study cell death immune regulation in dicots and monocots using Arabidopsis and rice as model plants. The main aim is to expand our understanding of how plants can limit immune cell death to a few cells, while reinforcing resistance in surrounding cells and tissues. In particular, we want to understand to what extent are proteolytic machineries and execution processes that control immune cell death conserved between Arabidopsis and rice.

### About Crag:

The Center for Research in Agricultural Genomics (Crag) is an independent organization established as a Consortium of four main research institutions: the Spanish National Research Council (CSIC), Institute of Agrifood Research and Technology (IRTA), Autonomous University of Barcelona (UAB), and University of Barcelona (UB). This innovative arrangement provides a unique nurturing ground for research and training in plant science. Crag is devoted to leading-edge research in the molecular basis of genetic characters of interest in plants, and in the applications of molecular approaches for breeding of species important for agriculture and food production. Research at Crag spans from primarily basic science to applied studies in close collaboration with Industry. The Center is organized into four different Scientific Programs: Plant Development and Signal Transduction, Plant Responses to Biotic and Abiotic Stress, Plant Metabolism and Metabolic Engineering, and Plant and Animal Genomics. These Programs are supported by several state-of-the-art technological platforms, that are also open to the wider scientific community. Crag has been recognized with the prestigious Severo Ochoa Award, which will continue fueling excellent research in the center for the 2020-2025 period. For more info about Crag, please visit: <https://www.cragenomica.es/>

### Specific Requirements of the applicants:

- PhD degree in plant molecular biology, plant genetics or plant biochemistry
- PhD must have been awarded in the last 5 years
- Applicants must not have resided in Spain for more than 12 months in the last 3 years

Members of the Consortium:

**Further reading on this topic from the group:**

- Pitsili E, Phukan UJ, Coll NS. **Cell Death in Plant Immunity**. *COLD SPRING HARB PERSPECT BIOL*. 2020
- Salguero-Linares J, Coll NS. **Plant proteases in the control of the hypersensitive response**. *J EXP BOT*. 2019
- Lema Asqui S, Vercammen D, Serrano I, Valls M, Rivas S, Van Breusegem F, Conlon FL, Dangl JL, Coll NS. **AtSERPIN1 is an inhibitor of the metacaspase AtMC1-mediated cell death and autocatalytic processing in planta**. *NEW PHYTOL*. 2018
- Olvera-Carrillo Y, Van Bel M, Van Hautegeem T, Fendrych M, Huysmans M, Simaskova M, van Durme M, Buscaill P, Rivas S, Coll NS, Coppens F, Maere S, Nowack MK. **A Conserved Core of Programmed Cell Death Indicator Genes Discriminates Developmentally and Environmentally Induced Programmed Cell Death in Plants**. *PLANT PHYSIOL*. 2015
- Coll NS, Smidler A, Puigvert M, Popa C, Valls M, Dangl JL. **The plant metacaspase AtMC1 in pathogen-triggered programmed cell death and aging: functional linkage with autophagy**. *CELL DEATH DIFFER*. 2014
- Coll NS, Epple P, Dangl JL. **Programmed cell death in the plant immune system**. *CELL DEATH DIFFER*. 2011
- Coll NS, Vercammen D, Smidler A, Clover C, Van Breusegem F, Dangl JL, Epple P. **Arabidopsis type I metacaspases control cell death**. *SCIENCE*. 2010

**Contact:**

If you are interested in the position, please contact Dr. Nuria S. Coll [nuria.sanchez-coll@cragenomica.es](mailto:nuria.sanchez-coll@cragenomica.es). Applications must include a one-page research statement and full CV including the contact information of 3 references.

**Application deadline:**

September 15<sup>th</sup>, 2020

**Our team:**

