



PhD STUDENT POSITION NOW OPEN!

Centre for Research in Agricultural Genomics (CRAG). Barcelona, Spain.

PhD supervisor: Núria Sánchez Coll

Lab: [Bacterial plant diseases and cell death](#)

Position offered: We are looking for a PhD student to join the project "**Towards a characterization of aggregate dynamics during pathogen-triggered cell death and aging in plants**". We offer you a four-year PhD Fellowship financed through the "Severo Ochoa Programme for Centres of Excellence in R&D" 2016-2019. For more info on our PhD program click and conditions to apply click [here](#). We are looking for a highly talented and motivated candidate with a strong background in molecular biology/biochemistry.

The **Centre for Research in Agricultural Genomics (CRAG)**, located in the Barcelona Area, is a partnership of excellence among four institutions: the Spanish National Research Council (CSIC), the Institute for Agri-Food Research and Technology (IRTA), the Autonomous University of Barcelona (UAB) and the University of Barcelona (UB). CRAG's research spans from basic research in plant and farm animal molecular biology, to applications of molecular approaches for breeding of species important for agriculture and food production in close collaboration with industry. CRAG has been recognized as "Centro de Excelencia Severo Ochoa 2016-2019" by the Spanish Ministry of Economy and Competitiveness.

Research topic and PhD Project: Maintaining a functional balance within the proteome (proteostasis) requires tight coordination of a complex network involving protein synthesis, folding and degradation. Accumulation of misfolded and aggregated proteins accelerates aging and is the cause of certain human pathologic states (Alzheimer's, Huntington's and Parkinson's diseases). Compared to yeast or animals, in plants the proteostasis machinery is mechanistically very poorly defined, although it has an essential role in plant health, aging and yield.

We have recently shown that the death metacaspase AtMC1 (PMID: [21097903](#), [21475301](#)) has an additional role in protein quality control, helping with the clearance of protein aggregates through an unknown mechanism that acts in parallel to autophagy (PMID: [24786830](#)). This non-death, homeostatic activity of metacaspases might reflect an ancient function that represents the evolutionary origin of this family of proteins, later diversified to both pro- and anti-death functions. In this PhD project we will determine the mechanism by which AtMC1 exerts protein quality control during pathogen-triggered cell death and aging, beginning the systematic dissection of the cytosolic proteostasis machinery.

Deadline: The position is open from May 2016 onwards and applications will be accepted until the vacancy has been filled. The selected candidate is expected to join the CRAG during winter 2016-2017.

Further information: Contact Núria Sánchez Coll nuria.sanchez-coll@cragenomica.es

