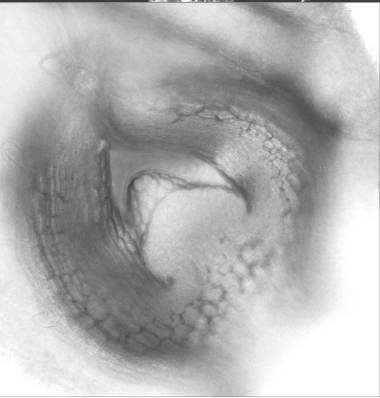
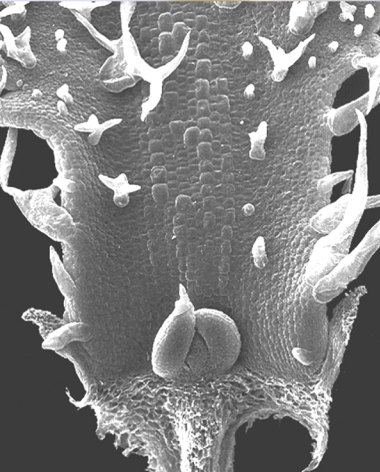
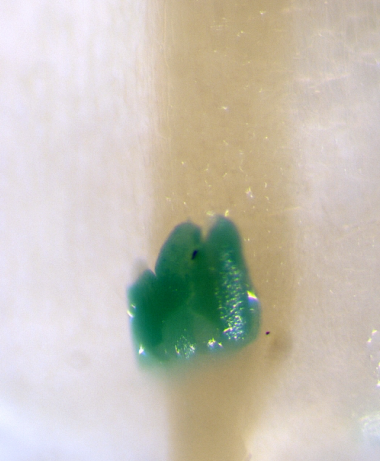


PhD position at CNB-CSIC, Madrid

In plant developmental genetics



The group of Pilar Cubas and Michael Nicolas at the National Centre of Biotechnology-CSIC (Madrid), is looking for a highly motivated student with strong interest in Plant Developmental Biology and Molecular Genetics. We offer a formation plan in a research project **funded with a 4-year PhD contract** associated to the MICIU project “*Potential pioneer factor activity of the complex BRANCHED1/NF-YB/NF-YC in axillary bud dormancy reprogramming*” (PID2023-151428NB-I00).

In our lab we are studying the molecular basis of a fundamental plant decision: **whether to let branches grow out** to form leaves, flowers, and fruits, **or to keep them small and dormant** at the base of leaves as **axillary buds**. This decision is tightly regulated by internal and external factors, and is crucial not only for shaping plant architecture, but also for plant survival under changing environmental conditions and for crop productivity.

The transcription factor BRANCHED1 (BRC1) is the master regulator of this process, and causes dramatic gene expression changes that promote axillary bud cells to become dormant. To better understand how BRC1 accomplishes the wide genetic reprogramming involved in the transition of bud cells from active to dormant, we are using multidisciplinary approaches encompassing plant molecular genetics, genome-wide analyses of chromatin marks, single nuclei-RNA-sequencing, ChIP-seq, ATAC-seq, confocal microscopy, CRISPR/Cas gene editing, systems biology, and generation of transgenic plants. *Arabidopsis thaliana* is one of our model systems but our ultimate goal is to apply our discoveries to optimize the architecture and yield of the crop species tomato and potato. Therefore, the candidate will perform research that bridges molecular genetics with real-world agricultural impact.

Preferred qualifications are a degree in Biochemistry, Biotechnology, Biology, Agronomical engineering, or related fields. Experience in molecular biology, Bioinformatics, and Proficiency in English will be highly valued.

Please send CV, brief description of your experience and names of two references to Pilar Cubas (pcubas@cnb.csic.es) and Michael Nicolas (michael.nicolas@cnb.csic.es)

Relevant Publications:

- Sánchez Martín-Fontecha et al. (2024) *J Exp Bot.*
- Van Es et al. (2023) *New Phyt*
- Li et al. (2022) *Plant Comm*
- Nicolas et al. (2022) *Nature Plants*
- González-Grandío et al. (2017) *PNAS*
- Nicolas et al. (2015) *Current Biology*
- Chevalier et al. (2014) *Plant Cell*
- González-Grandío et al. (2013) *Plant Cell*
- Martín Trillo et al. (2011) *Plant Journal*
- Aguilar-Martínez et al. (2007) *Plant Cell*