



**Post-doctoral position available:**

## **Genetics of maize root water transport**

**CNRS/INRAE, Montpellier, France**

A position is open to work in the frame of an ERC advanced project named “HyArchi: Targeting Root Hdraulic Architecture to Improve Crops under Drought“. Research will be carried out in the group of Dr Christophe Maurel in the Institute for Plant Sciences of Montpellier (CNRS/INRAE/University of Montpellier, France). This institute and the host group have world-wide recognized records in transport and stress physiology (<https://www1.montpellier.inra.fr/wp-inra/bpmp/>) (Shahzad *et al.*, 2016, *Cell* 167:87; Tang *et al.*, 2018, *Nat. Commun.* 9:3884, Maurel and Nacry, 2020, *Nat. Plants* 6:744; Boursiac *et al.*, 2022, *Plant Physiol.* 190:1289).

The HyArchi project focuses on maize roots under water stress with the ultimate goal of optimizing water uptake. It explores novel aspects of their plasticity and provides a multidimensional understanding of their water transport function, by considering the integration of hydraulic, growth and signaling processes within root architecture.

The aim of the post-doctoral researcher will be to characterize novel genetic components that determine the root hydraulic architecture of plants under water deficit. The unique capacities of the host laboratory to perform root hydraulic phenotyping was used to conduct genome wide association studies and identify several genes of interest. Genome editing using CRISPR-Cas9 is ongoing to knock down these genes. Molecular and physiological characterization of the mutant plants will be performed. Soil-grown plants with these or other engineered genotypes will be evaluated for their response to drought using high resolution phenotyping facilities that are present on-site.

The position is open for 2 years to citizens from all nationalities. Gross salary will be around 2800 €/month according to experience. We are seeking a highly motivated and independent scientist with a strong background in plant physiology and genetics. Previous experience in cereals and/or high-throughput phenotyping will be appreciated.

Applications including a CV, a description of previous research experience and names and addresses of three possible referees should be submitted preferentially before the end of November 2022, through the CNRS web portal at:

<https://emploi.cnrs.fr/Offres/CDD/UMR5004-CECABA-040/Default.aspx?lang=EN>

The position will remain open until it is filled. Please contact Dr. Christophe Maurel ([christophe.maurel@cnrs.fr](mailto:christophe.maurel@cnrs.fr)) for specific enquiries.