Post-doctoral position available:

Molecular basis of the local and long distance signalling induced by local water deficit in maize roots

CNRS/INRAE, Montpellier, France

A position is open to work in the frame of an ERC advanced project named "HyArchi: Targeting Root Hydraulic Architecture to Improve Crops under Drought ". Research will be carried out under the supervision of Dr Philippe Nacry, in the group of Dr Christophe Maurel in the Biochemistry and Plant Molecular Physiology department (INRAE/CNRS/SupAgro, Montpellier, France). This institute and the host group have world-wide recognized records in transport and stress physiology (http://www1.montpellier.inra.fr/ibip/bpmp/) (Shahzad Z *et al.*, 2016, Cell 167:87; Tang *et al.*, 2018, Nat. Commun. 9: 3884, Rosales *et al.*, 2019 Plant Physiol. 180: 2198, Maurel and Nacry, 2020 Nature Plants 6: 744).
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 identify the hormonal and molecular components (genes, ncRNAs, peptides, hormones…) involved in local and systemic signaling in response to a locally applied water deficit. Based on a unique split root system already settled in the team, sap and root tissues will be sampled for metabolomics and transcriptomic analysis. A central computational approach will be to build regulatory gene networks to identify master regulators involved in local or systemic responses. The candidate genes will be characterized using functional genomics and molecular physiology in both maize and *Arabidopsis*.
The position is open for 2 years to citizens from all nationalities. Gross salary will be around 2800 € according to experience. We are seeking a highly motivated and independent scientist with a strong background in computational biology, plant genetics and molecular biology techniques.
Applications including a CV, a description of previous research experience and names and addresses of three possible referees should be sent Dr. Philippe Nacry (philippe.nacry@inrae.fr). The position will remain open until it is filled.