Postdoctoral researcher position in plant molecular biology for 3 years at LBV (available from July 2022)

The Laboratory of Plant Biotechnology (LBV) from Université libre de Bruxelles (ULB) is located within the Biopark Charleroi Brussels South, a biotechnology excellence cluster which comprises a variety of organisations involved in scientific innovation. For more information on the Biopark Charleroi Brussels South and the organizations it hosts: http://www.biopark.be

The team has a long-standing interest in the characterization at the molecular level of the mechanisms involved in plant secondary growth process, such as vascular tissue development and formation of secondary cell wall. The postdoctoral fellowship (1 year renewable twice) is funded by the Belgian National Fund for Scientific Research (FNRS).

The role of PLATZ transcription factors in secondary cell wall formation

The deposition of secondary cell wall (SCW) is restricted both in time and in space to support precise cytological functions such as water conductivity or mechanical resistance. Cells with SCW make up different cell types, including xylem (parenchyma, fibres, vessels and tracheary elements) and sclerenchyma located near phloem conductive cells. Plants have designed a SCW regulatory system to, i) switch on its formation, and ii) fine-tune the biosynthesis and assemblage of its building blocks up to the final differentiation stage (such as programmed cell death in case of vessel and fibre differentiation).

Transcription factors (TFs) such as NAC and MYB are known to be part of this complex network amoung other TFs. PLant AT-rich sequence and Zinc-binding protein (PLATZ) are involved in the regulation of various plant developmental stages, such as maize endosperm filling, rice grain elongation and Arabidopsis leaf growth and senescence. In poplar, several PLATZs display a preferential expression in vascular tissues, and a PLATZ has been detected in a nuclear-enriched fraction proteome of developing xylem.

This project aims at understanding the function of selected PLATZ in the context of SCW formation in poplar and Arabidopsis through various functional studies at both genetic and protein levels. The postdoc position will cover the biochemical aspects of the project, including the study of the binding of PLATZ to DNA as well as protein-protein interaction. The expected results of this postdoc proposal will clarify the importance of PLATZ in the regulation of the complex process of secondary cell wall deposition within vascular tissues and consequently on wood formation in plants.

We are looking for a motivated candidate (maximum 2 years of postdoc experience) with a PhD degree in plant molecular biology, bioengineering and/or biochemistry. An experience in the study of TFs function, protein-DNA binding and protein-protein interaction is a clear advantage, as well the characterization of Arabidopsis mutants. He/She will be able to develop projects in interaction with the team and will be involved in the guidance of trainees, master and/or PhD students, in the presentation of results and in the writing of publications.

To apply (deadline 15 April 2022): send CV, list of publications and 2 letters of reference to Marie.Baucher@ulb.be. Selected candidates will be contacted for an on-site or video interview.