

Open PhD Position in PlantHUB

36 month, expected project start 01.05.2017

Boosting technology transfer and responsible research and innovation in plant sciences H2020-MSCA-ITN-2016

ESR9: DYNAMIC CONTROL SYSTEM FOR MULTI-CHANNEL LED ILLUMINATION SYSTEMS TO ENABLE NEAR-NATURAL PLANT GROWTH

Background

Since horticultural LED technology evolves rapidly and becomes more and more economical, an increasing number of growth facilities are installing LED grow light as replacement for conventional HPS lamps. The large choice in LED systems and the option to dim individual channels in a multi-channel system results in an immense variety of different spectra to be used. This challenges the comparability of observations in plants grown in different LED indoor facilities, especially since a universally agreed-on standard spectrum for LED plant growth chambers is missing. In a new project that will be jointly led by plant physiologists at the University of Basel in Switzerland and LED experts at Heliospectra in Göteborg, Sweden, we aim to develop optimized setups for different LED systems to enable near-natural plant growth and a better comparability among different LED-based growth chambers.

Job Description

We are looking for a highly motivated PhD candidate interested in working at the interface between plant physiology and LED lighting technology for plant growth. In a first phase of the project at the University of Basel, state-of-the-art computer controlled growth chambers equipped with a multi-channel LED lighting system will be used to establish species- and climate-specific LED-composition-setups for the most near-natural growth of different plant functional types. In the second phase of the project, which will be conducted at the R&D department of Heliospectra in Sweden, the PhD candidate will develop a dynamic control software for near-natural plant growth under different multi-channel LED systems. Finally, it is planned that this software will be implemented in a new hardware generation of LED lighting systems.

The successful candidate will be matriculated at University of Basel and work 18 months at the Department of Environmental Sciences at the University of Basel, Switzerland. The other 18 months at Heliospectra AB, Göteborg, Sweden. PD Dr. Günter Hoch, University of Basel and Daniel Bankestad, Heliospectra AB jointly supervise the successful candidate. The fellowship period includes frequent periods of trans-national mobility. The complete 36 months will be under 100% working contracts.

For further information please contact:

Günter Hoch (email: guenter.hoch@unibas.ch, phone: ++41 61 267 35 14)

Benefit

This project is part of the PlantHUB programme. The program offers a three year full-time position at varying employers and workplaces as researcher with a salary and allowances according to EU regulations for Marie Skłodowska-Curie Early Stage Researchers.

For further information on PlantHUB: <http://www.plantsciences.ch/research/fellowships/PlantHUB>

The successful candidate will have a M.Sc. degree in Biology or a related subject of natural sciences as well as strong analytical skills and excellent skills in plant ecophysiology and physics. Good knowledge of at least one common computer programming language is required. Proficient oral and written English skills are expected.

Eligibility

Early stage researcher in the first 4 years (full-time equivalent) of their research careers, including the period of research training, starting at the date of obtaining the degree which would formally entitle them to embark on a doctorate either in the country in which the degree was obtained or in the country in which the initial training activities are provided. The PlantHUB mobility regulations for this project require that the PhD candidate must not have resided or carried out her/his main activity (work, studies, etc.) in Switzerland for more than 12 months in the 3 years immediately before the start of the project. Compulsory national service and/or short stays such as holidays are not taken into account.

Application instructions

Interested candidates are requested to send their applications (including CV and a letter of motivation) via e-mail to Günter Hoch:
guenter.hoch@unibas.ch

Application deadline: 30. November 2016

www.unibas.ch

