
PhD position in Biophysics



The project

Via the Innovative Training Network "Solar Energy to Biomass – Optimisation of light energy conversion in plants and microalgae" (www.uni-frankfurt.de/se2b) we offer a challenging Ph.D. position in the Laboratory of Biophysics of Wageningen University.

Photosynthesis is essential for life on earth: Sustained solely by solar energy, photosynthesis is one of the most important biosynthesis pathways on earth. It is responsible for all oxygen production and for a global net primary production of about 105×10^{15} grams of carbon per year. The primary processes involve the harvesting of solar energy, the conversion of this captured light energy into chemical energy, and protecting the organism against photodamage. These processes lead to the synthesis of ATP and NADPH at the thylakoid membrane of all oxygenic photosynthetic organisms, and ultimately to the assimilation of CO_2 .

Photosynthesis is strongly regulated: The conversion of solar energy to biomass incorporates extremely fast reactions, such as excitation energy transfer on the femtosecond timescale and slower biochemical and physiological reactions occurring on the timescale of milliseconds or more. This process is tightly regulated in order to optimise the use of the absorbed solar energy and at the same time to prevent damage to the organism under constantly changing light conditions. This is extremely important for photosynthetic efficiency, and thus for biomass accumulation in out-door or only semi-regulated greenhouse cultures used for food supplies, but also increasingly for algal mass culture, and has served as a driving force in the evolution of plants and (micro)algae.

The aim of this PhD project is to understand how plants and algae adjust their photosynthetic machinery to function optimally under various light conditions. Resulting changes in the excitation-energy flow will be measured on the picosecond to nanosecond time-scale. To this end you will use ultrafast fluorescence and microspectroscopy techniques to perform *in vivo* measurements on plants and algae.

The organisation

Wageningen UR (University and Research Centre) employs 6,500 people from a wide range of nationalities and is an international leader in education and research with a focus on food and environment to improve the quality of life. The laboratory of Biophysics (www.bip.wur.nl/UK/) makes use of the

microspectroscopy center (www.mscwu.wur.nl/UK/), which gives access to advanced spectroscopy equipment and confocal lifetime imaging microscopes.

We offer

You will participate in an exciting research programme together with 14 other PhD students spread over 8 European countries and receive a strongly interdisciplinary training in all scientific areas involved as well as in complementary skills. The program also includes extended stays in partner laboratories (secondments). You will be employed for 48 months with a gross monthly salary increasing from € 2174 per month initially, to € 2779 in the fourth year. Assistance with visa and finding of accommodation can be given.

We ask

We are looking for a talented highly motivated candidate with an MSc degree in (bio)physics, optics, physical chemistry or related fields. You are an ambitious and enthusiastic team player with a fundamental interest in photosynthesis research and (micro)spectroscopy. Research experience is required, preferably in the fields of photosynthesis and/or spectroscopy. A good command of the English language is essential.

You are eligible for the position if you finished your MSc degree (or equivalent) less than four years before the date of appointment. At the time of the employment, applicants must not have resided or carried out their main activity (work, studies, etc.) in the Netherlands for more than 12 months in the 3 years immediately prior to the starting date of employment. Researchers can be nationals of any country.

Application

Applications shall be addressed to Herbert van Amerongen (Herbert.vanAmerongen@wur.nl). Please provide a filled in application form ([download](#)), CV, motivation letter (outlining why you are suitable for the position), contact information of two referees and a list of grades of your masters studies.

Deadline: as soon as possible. The position will be filled when a suitable candidate is found.

More information

For more information about this position please contact Prof. dr. H. van Amerongen, tel (+31)317482634, herbert.vanamerongen@wur.nl, or Dr. IE Wientjes, emilie.wientjes@wur.nl.