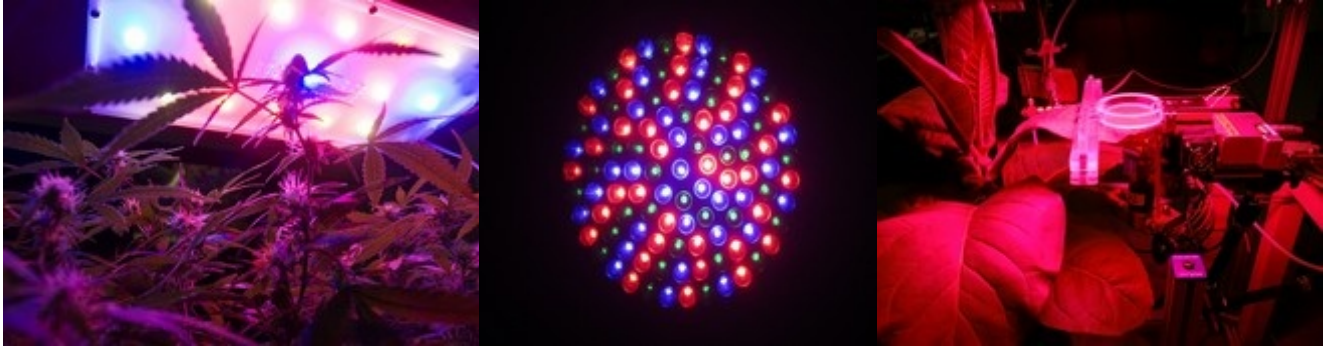




# Master Project: Improving Plant Growth using LED Boosters



Plant growth and development depends on the spectral composition (color) and intensity of the available light. A uniform light intensity of a desired spectral composition is required in many plant growth applications for commercial and research purposes. Light-emitting diodes (LED) provide a flexible approach to create efficient, high-intensity light sources with a desired spectral composition for a given application.

The focused light output found in many LED fixtures can maximize radiation transfer to plant leaves, however, edge effects result in a very heterogeneous light. Careful spacing of LED fixtures may alleviate this problem, this comes at the cost of more wasted radiation.

We are looking for an interested Master student, who will examine new ways of optimizing the light environment for plant growth using optical measures (LED boosters such as light steering foils and reflectors). A background in plant physiology, horticulture or related studies is advantageous, but not required.

In collaboration with an industry partner, you will setup a growth room with several LED panels. In this room, plants can be exposed to different light environments. After the growth period, you will analyze plant growth and photosynthesis with state-of-the-art equipment available in our lab. Goal is to identify how optical measures and LEDs can help create a more energy-efficient light environment for in-door grown plants.

Project start: November or December 2016

Financial support: up to € 5000,-

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