

## Bachelor/Master Thesis

### Light Pollution in Urban Areas – When is Bright Too Bright?



#### Motivation

Light and illumination are integral parts of our lives. Adequate lighting ensures that we feel comfortable indoors, particularly at home. Outdoor areas, such as public spaces or streets, are perceived as safer, especially at night and during the evening hours, when the surroundings are bright and well-lit.

However, more light is not always better. The light from outdoor illumination can, directly or indirectly through reflections, unintentionally enter living spaces. This is referred to as light pollution. Affected residents may be disturbed or, in the worst case, experience adverse health effects.

This disturbance needs to be investigated and quantified.

#### Task

Your task is to familiarize yourself with the basics of light pollution after conducting a brief literature review on lighting and light measurement technology. Existing measurement methods and regulations should be critically questioned. An appropriate measurement setup must be used to check how the incident light can be characterised. A subject study will verify the previously collected measurement data with subjective data. The final step involves deriving recommendations based on the results.

#### Requirements

An independent and creative approach to work

Manual skills and enjoyment in interacting with people is advantageous

#### We Offer

Comprehensive support in getting started and during the project

A positive work environment with friendly colleagues

#### General Lighting

#### Alignment

practical

#### Field of studies

Electrical Engineering  
Mechatronics

#### Starting date

As from now

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