TRANSLATIONAL SENSORY & CIRCADIAN NEUROSCIENCE UNIT

TUMCREATE

STUDENT RESEARCH PROJECT

Darkness as a dose

How does time spent in darkness alter subsequent physiological responses to light?

Tübingen / Munich · English · Master's thesis · Research internship · Erasmus+ research placement

The question

Does darkness change how we respond to the next light we encounter? Understanding the influence of prior darkness could help explain why the same light exposure does not always have the same physiological effect.

The project

Investigate light history as part of a controlled human photobiology study. The project connects carefully documented lighting conditions with physiological measurements and quantitative analysis of individual responses. The specific exposure design will be discussed with prospective students.

What you will do

- Read the literature on light adaptation and circadian photoreception.
- Contribute to study preparation, measurement quality checks and supervised data collection, subject to approvals and training.
- Build a reproducible analysis of response variability and communicate the limits of the evidence.

Possible scope

A thesis could connect experimental work with physiological data analysis. An internship or Erasmus+ placement could focus on measurement quality, a defined dataset or one stage of study delivery. Interest in human experiments and careful quantitative work is especially useful.

Suitable backgrounds

Neuroscience · Psychology · Health science · Medicine

General expectations

You should be able to analyse data in R or Python, use Git and GitHub, and work reproducibly. Independent reading, careful documentation and increasing responsibility are expected. Previous sleep or circadian research experience is not generally required.

Funding

No salary or stipend from the research group unless explicitly stated. Master's theses are generally unpaid. Mention external funding or mobility programmes when applying.

Suggested backgrounds are not formal programme approval. Confirm requirements with your home institution.

How to apply

Send a short motivation, CV, relevant skills, preferred project, dates, format and location. Mention external funding. Contact Prof. Manuel Spitschan using the address below.

Munich: manuel.spitschan@tum.de
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