

Bachelor's thesis at the Department of Neurology

Question: Ever wondered if it is possible to generate *in vitro* models for studying pain? Let's find out together! Join us in developing cutting-edge methods to measure sensory neuronal responses to various agonists in our engineered skin models.

Our goal: To measure sensory neurons response in fully human 3D skin models developed using cells from a patient who suffers from pain.

Some background: In our lab, we are pioneering innovative models for studying pain. To achieve this, we have developed engineered skin models using sensory neurons generated from patient-derived skin cells. These cells were reprogrammed to induced pluripotent stem cells (iPSC) and then differentiated to sensory neurons. We are now seeking an ambitious bachelor's student to help advance new methods for studying neuronal activity in these models using calcium imaging. You will have plenty of opportunities, along with expert guidance, to explore new ideas and push the boundaries of this exciting research!

Your tasks and learning opportunities:

- Cell culture: Culturing 3D innervated skin models
- Expression analysis: Immunohistochemistry and fluorescence microscopy
- Electrophysiology: Calcium-imaging

It is you, because: You are curious and willing to work on risky, but rewarding ideas! You are a student of Life Sciences or related faculty. Preferably, you already have some experience in cell culture. Come for science and stay for food!

Start and duration: earliest 10/24, flexible; duration: 3 months

Team of supervisors: Prof. Dr. N. Üçeyler, Vijay Medala, M.Sc. (Medala_V@ukw.de)
Please contact Vijay Medala, if you have any questions about the project.

Contact us: Ready to make a difference? We would love to hear from you—apply now and be part of the future of pain research! Please send your application documents (CV and motivation letter) to Prof. Dr. N. Üçeyler: ueceyler_n@ukw.de