

PhD position in Inner Ear Research

Employment Start Date: 1 October 2023 or later

Department: Otolaryngology

Description:

In a collaborative project, the research teams of the Technical University Munich (TUM) and Medical University of Innsbruck (MUI) will work together to improve the function of cochlear implants. The German/Austrian (DFG/FWF) funded project “Fine-Structure-Based Models for Cochlear implant Advancement (FineCIModel)” gathers data on morphometries and molecular components of various human inner ears to compute the current spread with electrical stimulations and predict the neural response.



You will work with high-resolution X-ray tomography, advanced optical imaging techniques as well as histology at light- and electron microscopic level. Quantifications of staining from fully automated immunohistochemistry and in situ hybridization you will do with image analysis tools. You will analyze pathological and age-related neural changes of adult human inner ears and compare with animal models. Together with TUM you will work on simulation models of normal and pathological auditory neurons. The goal of the project is to find individualized electrical stimulation algorithms adapted to the neural health status of the patient’s cochlear nerve.

Applicants are encouraged to join the Neuroscience PhD program at MUI. Starting date is any time after 30.09.2023, the position is offered for at least 3 years, 30 hours per week. Salary is according to the FWF guidelines (<https://www.fwf.ac.at/en/research-funding/personnel-costs>).

Education/ Requirements

The project aims to advance cochlear implant function, so a basic interest in translational research and the function of hearing is important. Previous experience in histological methods, imaging & data analysis would be beneficial. The applicant has a Master’s degree in Biology ideally in Neuroscience, Molecular Medicine or a related field. Students from other fields (biochemistry, Engineering, IT) are welcome to apply. Fluency in English is a prerequisite; knowledge of German is an advantage.

Application

The application documents should include a curriculum vitae, a brief statement of research interest and copies of your Bachelor and Master’s degree. Questions & your application send to rudolf.glueckert@i-med.ac.at.