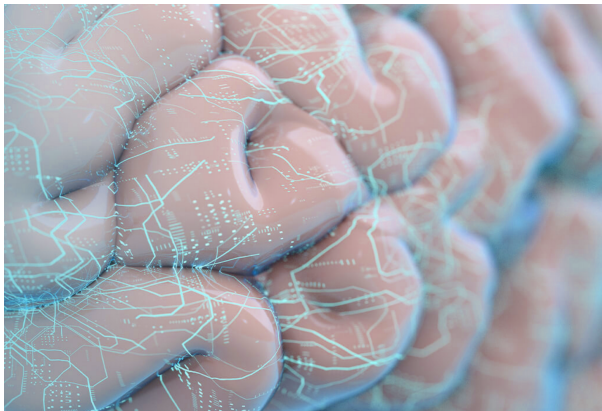


# PhD and Postdoc positions

human single-unit recordings and cognitive neuroprosthetics

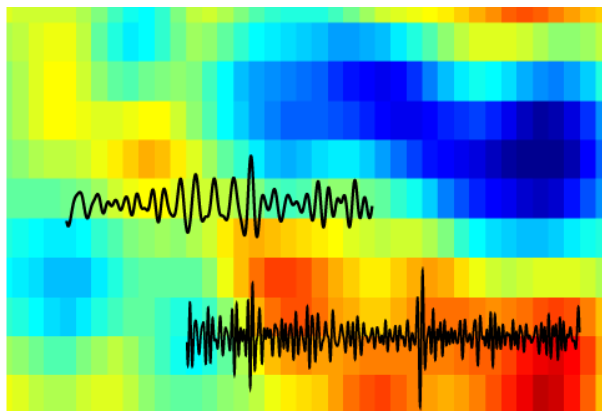


Technische Universität München



We are inviting applications for a **PhD student** and a **Postdoc position** - to be filled as soon as possible - funded by two **new transdisciplinary research collaborations** on neurotechnology for mental health (TUM NEUROTECH, 4 years, salary 65% TV-L E13) and on the neuronal mechanisms of prefrontal cognitive functions (DFG FOR 5159; 4 years, 100% TV-L E13).

The **Jacob laboratory** for **Translational Neurotechnology** at the Technical University of Munich (TUM) studies cognition at the level of individual neurons and their local and long-range networks. In a **unique transdisciplinary approach**, we are acquiring large-scale electrophysiological recordings with single-unit resolution from the frontoparietal association cortex of **human subjects** (neurosurgical patients) implanted with intracortical microelectrode arrays.



Our long-term goal is to develop **novel neuroprosthetic devices** that will allow patients with cognitive disorders to communicate and interact again with their environment.

Ideal candidates should have a strong **background in systems neuroscience** and ample **experience with extracellular electrophysiology** including state-of-the-art methods for processing and analysing large data sets. Participation in data collection via an established collaboration with the Department of Neurosurgery is welcome, but not mandatory. The successful candidates will explore the cellular and microcircuit mechanisms in the human association cortex that underlie context-dependent working memory, adaptive decision-making and cognitive multitasking, the hallmarks of **cognitive flexibility**, as well as the neuronal basis of **human linguistic cognition** (language and verbal communication).

TUM is one of the **leading academic institutions in Europe**. Munich offers a world-class international neuroscience environment and a superb quality of life. Contact Simon Jacob for more information or email your application incl. a letter of motivation, a CV and the names of two referees.

[simon.jacob@tum.de](mailto:simon.jacob@tum.de)

[www.neurochirurgie.mri.tum.de](http://www.neurochirurgie.mri.tum.de)

[www.simonjacob.de](http://www.simonjacob.de)