

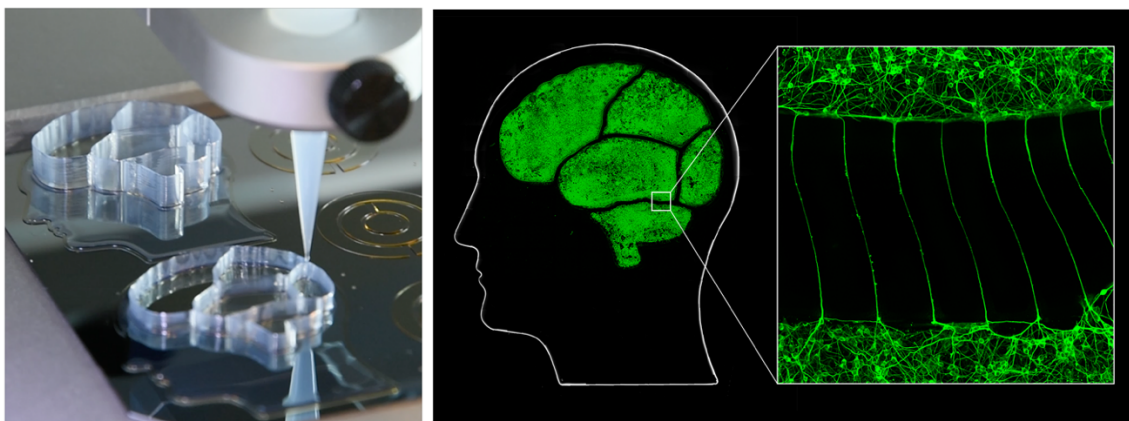
Master thesis project

## 3D printed axonal guidance devices for human stem cell-derived neuronal culture

**Duration:** 6-12 months

**Contact:** Janko Kajtez, Novo Nordisk Foundation Center for Stem Cell Research (reNEW), University of Copenhagen

**Description:** We are looking for a student interested in microfabrication and 3D-printing for neuroscience applications to join our team on a collaborative project aimed at developing novel microfluidic axonal guidance devices for the modeling of Parkinson's disease. This highly interdisciplinary project is led by Kirkeby group (reNEW, University of Copenhagen) in collaboration with groups of Jenny Emnéus (DTU Bioengineering) and Stephan Keller (DTU Nanolab). The work will be focused on further advancement and optimization of 3D-printed soft lithography method our team developed for the fabrication of compartmentalized axonal guidance devices. This includes creating novel device designs, optimization of silicone ink rheology, and scaling up device fabrication towards high-throughput formats. The student will work closely with other members of our team on optimizing culturing conditions of human stem cell-derived dopaminergic neurons, astrocytes, and microglia in 3D-printed devices.



**Relevant publications:**

- Kajtez et al. "3D-Printed Soft Lithography for Complex Compartmentalized Microfluidic Neural Devices." (2020) *Advanced Science*
- Nolbrant et al. "Generation of high-purity human ventral midbrain dopaminergic progenitors for in vitro maturation and intracerebral transplantation." (2017) *Nature Protocols*

**Application:** Please e-mail your CV and motivation letter to [janko.kajtez@sund.ku.dk](mailto:janko.kajtez@sund.ku.dk)