



Tübingen, 11.03.2019

HiWi Job in Device Design & Development

Primary workplace in Tübingen or Stuttgart possible

We currently have an opening for an exciting HiWi Job: the design and construction of an MRI-compatible wrist positioning device. This will form part of ongoing research into upper limb biomechanics, with a focus on the wrist (Fig. 1). This is a joint project between the Multi-Level Modeling in Motor Control and Rehabilitation Robotics research group at the Hertie-Institute and the Institut für Arbeitsmedizin, Sozialmedizin und Versorgungsforschung.

The main tasks of the job are:

- Design a device that can position the wrist within the RF-coil (Fig. 2) at different flexion-extension angles during scanning.
- Construct the MRI-compatible device using 3D printing, laser cutting, or traditional manufacturing techniques (woodwork/carpentry).
- Test device capabilities and assist with MRI testing.

Ideally, you should have an interest in rapid prototyping, (biomechanical) device design & development, and/or medical imaging. Experience with one or several of the following is beneficial:

- Computer aided design (FreeCAD/SolidWorks/Inventor).
- Technical drawing/drafting.
- 3D printing or laser cutting rapid prototyping.

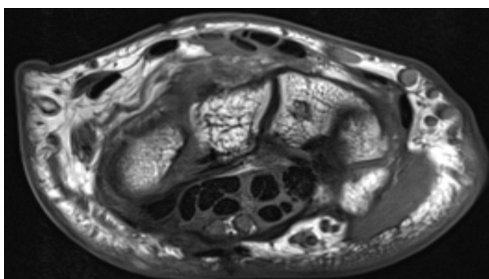


Figure 1: Carpal tunnel cross-section^[1]



Figure 2: RF-coil

In addition, there is scope for the analysis of the MRI data after it has been collected. This would entail the 3D bone segmentation and the identification of muscle parameters (e.g. muscle origin and insertion).

If you are interested, please contact

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For more information about our research group, please visit

<https://www.hih-tuebingen.de/mocom>

Vorstand:

Prof. Dr. Thomas Gasser
Neurologie mit Schwerpunkt
Neurodegenerative Erkrankungen

Prof. Dr. Mathias Jucker
Zellbiologie Neurologischer
Erkrankungen

Prof. Dr. Holger Lerche
Neurologie mit Schwerpunkt
Epileptologie

Prof. Dr. Hans-Peter Thier
Kognitive Neurologie

Prof. Dr. Ulf Ziemann
Neurologie mit Schwerpunkt
neurovaskuläre Erkrankungen
und Neuroonkologie

Geschäftsführung:

Dr. Astrid Proksch

Kuratoriumsvorsitzender:

Prof. Dr. Hans-Jochen Heinze

Aufsichtsratsvorsitzender:

Prof. Dr. Michael Madeja

Gefördert durch die



[1] <https://www.healthcare.siemens.com/magnetic-resonance-imaging/magnetom-world/clinical-corner/protocols/neurology-neurography/neurography/carpal-tunnel>