

The Charité – Universitätsmedizin Berlin is a joint institution of the Freie Universität Berlin and the Humboldt-Universität zu Berlin. The Charité is one of the largest university hospitals in Europe. Here, 3700 doctors and scientists treat patients, perform research and teach at the highest international level. The Charité also has an international reputation for excellence in training, with certifications in the medical, clinical and management fields.

The following position is currently available in the workgroup “Musculoskeletal Biomechanics” **within the Julius Wolff Institute (JWI)** under the direction of Prof. Dr. Georg Duda:

## **PostDoc**

### **“Imaging Tissue Straining *in vivo*”**

(ID: DM.132.17)

#### **Background:**

Within this project, we aim to develop method to characterize the *in vivo* strains noninvasively in soft tissues, with a specific interest in the knee joint. At the Julius Wolff Institute of the Charité, we have a long-standing history of characterizing the kinematics, laxity, and musculoskeletal loads in the pathological knee. We plan to combine this knowledge with *in vivo* imaging methods to develop a deeper understanding of how altered mechanical properties in soft tissues influence movement in activities of daily living (ADL). For this purpose, patients with an anterior cruciate ligament rupture or patella luxation will be assessed.

#### **Tasks:**

Conducting *in vivo* mechanical analyses of patellar strains in pathological and healthy subjects using ultrasonography and comparing these to dynamic MRI measurements. Quantification of kinematics and joint loading in patients during ADL with particular attention to knee stability and gait adaptations. Combined use of this knowledge to understand the relevance of ligamentous and tendinous tissue properties within the context of altered ADL.

#### **Your profile:**

- PhD related to clinical biomechanics, including but not limited to kinesiology, physiotherapy, rehabilitation technology, or engineering with a focus on rehabilitation or physical therapy
- extensive experience with handling patients in a clinical and/or research setting
- strong experience with ultrasonography, motion capture systems (VICON Nexus), and dynamometry (BIODEX)
- some experience in programming (MATLAB / R / python) would be appreciated
- strong evidence of a contribution to research, including publications in peer-reviewed journals

Salary will be according to the TV-Charité structure (E13 scale) with 39 hours/week. The position is offered for a duration of 36 months, with an option for extension.

The Charité – Universitätsmedizin Berlin hires based on the suitability, competence and professional performance of applicants. We actively promote equality of all employees. We therefore welcome applications from women and men, regardless of their cultural and social background, age, religion, belief, disability or sexual orientation. Applicants with a disability will be given preferred consideration if equally qualified.

Please send your complete application within 14 days, with reference to the ID DM.132.17 above to the following address:

**Charité – Universitätsmedizin Berlin,  
Julius Wolff Institute, Sekretariat, Augustenburger Platz 1, 13353 Berlin, Germany**

You can also submit your application via email: [georg.duda@charite.de](mailto:georg.duda@charite.de)

The application material will only be returned if a stamped addressed envelope is enclosed. Unfortunately, travel costs for an interview cannot be covered.