Technische Universität München

Doctoral position available at the Department of Biomechanics in Sports, Technical University of Munich

Muscle-tendon interaction in stretch-shortening cycles:
Influence of serial elastic components and stretch-induced force enhancement

In a DFG funded interuniversity project together with the University of Stuttgart (Prof. T. Siebert) and the Ruhr-University Bochum (Prof. D. Hahn), we are interested in “Contractile, elastic, and neural mechanisms of muscular performance enhancement during stretch-shortening-cycles”. The aim of this research project is to provide a holistic analysis of contractile, biomechanical, and neuromechanical factors contributing to the increased performance during stretch-shortening cycles.

Research at the Technical University of Munich

The experiments on human *m. triceps surae* are designed to transfer the findings from the fiber experiments to the level of the *in vivo* muscle-tendon-complex. Main focus in the **TUM** laboratory is to analyze the interaction between the contractile and series elastic elements of in vivo human triceps surea muscle action during and after stretch-shortening cycles.

Position at the TUM

- **3 year PhD candidate (65% research assistant position)**
- **Membership at the local faculty graduate school**
- **Aimed project start January 2018**

We are looking for highly motivated and enthusiastic PhD students with an excellent MSc. or diploma degree in the fields of kinesiology, biomechanics or sports science.

Candidates must have **methodological skills** in

- **Ultrasound imaging (muscle tendon complex)**
- **Dynamometric measures (isokinetic strength tests)**
- **Electromyography**
- **electrical muscle stimulation**
- **Data processing in MATLAB**

With your electronic application, please submit:

1) Motivation letter for the position (max 2 pages)
2) Up-to-date vita in English including relevant documents (e.g. certificates, diploma, references)

Please submit your e-application materials with the subject line “SSC TUM” to biomechanik.sp@tum.de by no later than **20th of October, 2017**.

TUM is an equal opportunity employer. Therefore, women are especially encouraged to apply. Disabled persons with equivalent qualifications will be preferentially employed.

Dr. Wolfgang Seiberl, Biomechanics in Sports (Chair Prof. A. Schwirtz)
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