



BioTechMed-Graz is a cooperative initiative between the University of Graz, the Medical University of Graz and the Graz University of Technology at the interface of basic biomedical research, technological developments and medical applications with the goal of conducting joint health research.

Within the cooperative project BioTechMed-Graz, the three partner universities are pursuing the goal of joining the forces of their existing competences within the four major research areas of 'Molecular Biomedicine', 'Neurosciences', 'Pharmaceutical and Medical Technologies' and 'Quantitative Biomedicine and Modelling' through the establishment of a joint cooperative platform.

BioTechMed-Graz is – besides other projects – focusing on the Postdoc-Pool, which aims at promoting young scientists with international background and integrating them in the framework of BioTechMed-Graz in order to support innovative research in Graz.

For the project

“Biomechanical and Microstructural Changes of the Aneurysmatic Aorta: Insights from Novel Imaging and Modeling Approaches” the [Institute of Biomechanics](#) at the Graz University of Technology is seeking to appoint a

Postdoc

(fixed-term employment for the period of 2 years; position to be filled as of now)

Contact person

Univ.-Prof. DI. Dr. Gerhard A. Holzapfel, Head of the Institute of Biomechanics, Graz University of Technology, E-mail: holzapfel@tugraz.at, Phone: +43 (0)316 873-1625

Research partners

Univ.-Prof. Dr.-med. Tina U. Cohnert, Department for Vascular Surgery, Medical University of Graz
Univ.-Prof. DI. Dr. Sepp D. Kohlwein, Institute of Molecular Biosciences, Biolmaging Graz, University of Graz

Research topics

This project aims to assess 3D micro-structural information on the collagen fiber organization of aneurysmatic human aortas. The method of choice is second-harmonic generation (SHG) imaging; a straightforward approach was established by the consortium on non-atherosclerotic human abdominal aortic tissue samples (Schriebl et al. 2012; <http://www.ncbi.nlm.nih.gov/pubmed/23269845>).

Preliminary results on an abdominal aortic aneurysm sample suggest that its collagen structure is significantly altered compared to healthy arteries: the collagen fibril structure is partially lost in diseased arteries, and the dispersion along the thickness of the aortic wall becomes much more pronounced. A thorough structural analysis of healthy and diseased arteries serves the basis for biomechanical modeling and simulation.

We seek highly motivated applicants with the courage and passion to transcend boundaries in biomechanics and biomedicine. The ideal candidate will be creative, has a strong background in biomechanics, and enjoy working independently as well as collaboratively. The BioTechMed-Graz network (<http://biotechmedgraz.at>) provides a very rich scientific environment, including extensive resources and opportunities for collaboration.

Professional qualifications

Doctoral training in experimental physics (nonlinear optics), experimental biomechanics and/or biomedical engineering. Knowledge and practical training within the area of experimental biomechanics and experience with mechanical investigations of soft biological tissues are expected.

Personal profile

- Communicative and organizational skills
- Ability and interest to work in an interdisciplinary team
- High level of motivation and goal orientation

The minimum salary as stated in the collective agreement for universities and according to the classification scheme (B1) is EUR 3,483.30 gross/month (Postdoc).

Application Deadline: **November 15, 2014**

Please send your CV, list of publications and a brief statement of past achievements and research experience as well as names and contact details of three references to GA Holzapfel, holzapfel@tugraz.at. Letters of reference may be requested from finalists. All letters will be treated as confidential.

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If you have any questions, please contact Univ.-Prof. DI. Dr. Gerhard A. Holzapfel, Institute of Biomechanics, Graz University of Technology, E-mail: holzapfel@tugraz.at, Phone: +43 (0)316 873-1625.

Further information can be found at www.biotechmedgraz.at