

# Post-Doctoral Position in Biomechanics at Graz University of Technology



BioTechMed-Graz is a cooperation between the University of Graz, the Medical University of Graz, and Graz University of Technology at the interface between bio-medical research, technological developments and medical implementation.

Sponsored by BioTechMed-Graz, a **postdoctoral position** is available at the Institute of Biomechanics, Graz University of Technology (Prof. Dr. GA Holzapfel), for 2 years, starting immediately.

Project title: ***Biomechanical and Microstructural Changes of the Aneurysmatic Aorta: Insights from Novel Imaging and Modeling Approaches***

## **Research topic:**

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.

## **Required 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.

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](mailto:holzapfel@tugraz.at). Deadline for applications is **October 15, 2014**.

## **Appointment: Full time appointment is for two years**

Salary (health insurance) is provided according to the standards of the Austrian Science Funds, FWF (<https://www.fwf.ac.at/en/research-funding/personnel-costs/>). All completed applications received by **October 15, 2014** will be given full consideration. Questions regarding this recruitment can be directed to Prof. Dr. Gerhard A. Holzapfel ([holzapfel@tugraz.at](mailto:holzapfel@tugraz.at))

Letters of reference may be requested from finalists. All letters will be treated as confidential.

Graz University of Technology is an Equal Opportunity/Affirmative Action Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, disability or age.

## **Contact:**

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