PhD-Position „Thrombus mechanics and growth“

within the Lead project

Mechanics, Modeling and Simulation of Aortic Dissection

at Graz Center of Computational Engineering – GCCE
Graz University of Technology, Austria

Brief Description of the Lead Project

Graz University of Technology (TU Graz) is funding the joint research project ***“Mechanics, Modeling and Simulation of Aortic Dissection”*** as a Lead project of the university. A consortium of scientists from biomechanical-, civil-, electrical-, and mechanical engineering, computer science, mathematics, and physics has been formed to cooperate on refining the scientific profile of TU Graz.
Aortic dissection (AD) is a defect of the aortic wall tissue with life-threatening consequential damage. The goal of the project is to develop computational tools and advanced algorithms based on noninvasive medical imaging and to quantify the underlying cardiovascular mechanics in patient-specific anatomical and fluid-structure interaction models for AD. The computational framework will be capable of investigating wall stresses, the hemodynamics, false lumen propagation, exchange of blood between true and false lumina, thrombus formation and growth, at any stage of the disease. This will help to better understand the mechanobiological event and to finally assist clinicians with the diagnosis, treatment and management of AD patients – computational results will be visualized by advanced virtual reality techniques.
The Lead project finances 10 positions for PhD candidates. There is still one position available in the sub-project

Thrombus mechanics and growth

For more details, please see the website:
www.biomechaorta.tugraz.at > Open Positions > (viii) Thrombus mechanics and growth

Requirements for the Candidate and Opportunities

The successful candidate should have a **qualified Master** in biomedical engineering, mechanical or civil engineering, applied mathematics or mechanics. Good knowledge in continuum mechanics is required. The ideal candidate should be enthusiastic to work in medical-related research and in a multidisciplinary team. We offer academic supervision at a high level and a comprehensive education in engineering sciences. Throughout the project, the candidate will gain experience in working with research teams worldwide. Required language is English. The goal for the candidates is to write a Doctoral Thesis.

Employment	Full-time, 40 hours per week, gross salary: € 2.731,- per month (14 times per year)
Starting Date	As soon as possible
Duration	3 years, with a possibility of extension
Location	Graz University of Technology, Austria

How to apply

We look forward to receiving your online application at m.schanz@tugraz.at including a cover letter, CV, a scan of academic transcripts, two academic reference letters, a sample of written work (e.g., Master Thesis, scientific paper).

Further information

See the website www.biomechaorta.tugraz.at. If you have any questions please contact
Martin Schanz with e-mail m.schanz@tugraz.at .