



UNIVERSITY of LIMERICK
OLLSCOIL LUIMNIGH

PhD Student Position

Development of a constitutive model for the abdominal aorta tissue

Materials and Surface Science Institute (MSSI)/Centre for Applied Biomedical Engineering Research (CABER)

Applications are invited for a PhD Student Position to be held at the University of Limerick, Ireland (www.ul.ie) within the framework of a structured four-year PhD programme in Biomedical Engineering. The scholarship is at the rate of ~1300 EUR/month in addition to students fees. Closing date for applications is June 17th 2011 at 5 PM.

Description: Abdominal aortic aneurysm (AAA) is a localised expansion of the abdominal aorta, which frequently leads to rupture that can be life-threatening. Better understanding of the phenomenon can be gained through advanced computational analysis, which assists experiments and clinical tests. Development of accurate constitutive models predicting the multiaxial, nonlinear and rate-dependent response of the abdominal aorta tissue is prerequisite for performing reliable computational studies of AAA phenomena.

The successful candidate will work on the development of a constitutive model for the abdominal aorta tissue (healthy and diseased), which will account for its multiaxial, nonlinear and rate-dependent character. The research will address: (1) experimental work, (2) development of the constitutive model (3) implementation of the constitutive model into FE software ABAQUS, (4) validation of the model through large scale FE simulations.

Eligibility criteria and further information: Candidates should hold a first-class degree in engineering (or closely related discipline). They should have a solid background in mechanics of materials/continuum mechanics and FEM. Prior experience with mechanical experiments on biomaterials would be seen as an advantage.

This PhD studentship is funded through the Structured PhD Programme in Biomedical Engineering and Regenerative Medicine. For further details and how to apply see <http://www2.ul.ie/pdf/991168591.pdf>. For additional information, please contact Dr Figiel, Lukasz.figiel@ul.ie. Closing date for applications is June 17th 2011 at 5 PM.

The position is available from September 2011.