Postgraduate Scholarships in Biomedical Engineering

Division of Biomedical Engineering
Faculty of Health Sciences
University of Cape Town

3D reconstruction of bone using X-ray images and Statistical Shape Models

We are developing a flexible, yet robust, software platform for building 3D patient-specific bone reconstructions from low-dose 2D X-ray imagery and 3D statistical shape models. The platform will be applied to patient-specific planning for orthopaedic surgery, and human craniofacial modelling and patient-specific 3D reconstruction of the skull for forensic applications. Postdoctoral fellows and postgraduate students are invited to participate in research towards the development and application of the platform. Algorithm development will be done using Matlab and Scala-based tools Statismo and Scalismo.

This project is a collaboration between the UCT's Division of Biomedical Engineering (UCT-BME; www.bme.uct.ac.za), Lodox Systems (www.lodox.com) and the Graphics and Vision Research Group (Gravis-UNIBAS) of the University of Basel in Switzerland.

Scholarships are available for students intending to register for an MSc or a PhD in Biomedical Engineering in 2016. More information on these programmes is available at http://www.bme.uct.ac.za/bme/bme-programmes.

Requirements:

- PhD: A master's degree in Biomedical Engineering, Computer Science, Electrical Engineering, or related disciplines
- MSc: An Honours-equivalent degree in Biomedical Engineering, Computer Science, Electrical Engineering, or related disciplines

Scholarship value:

- PhD: R100,000 per annum for 3 years
- MSc: R70,000 per annum for 2 years
- Annual renewal is contingent on satisfactory academic progress

In addition, students will have opportunities for employment as research assistants.

Application Procedure

Applicants for funding should send the following to Dr Tinashe Mutsvangwa, Division of Biomedical Engineering (uctbme2015@gmail.com; 021-650-1418), as soon as possible, but before 15 October 2015:

- a cover letter describing the applicant's research interests and expertise and indicating how these align with the research areas outlined above;
- a CV that includes full details of publications;
- copies of all academic transcripts and certificates for previous degrees;
- the names and contact details of two academic referees.

Applications for admission to the degree programmes must be done separately via UCT's online application system.