



Postdoctoral Fellowship 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

Suitable candidates are invited to apply for a postdoctoral fellowship focused on 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 part of a collaboration between the Division of Biomedical Engineering (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.

Conditions of award

The fellowship has a value of R220 000 - R250 000 (depending on the candidate's experience and track record), is tax-free and is tenable for one year. It may be renewed on evidence of satisfactory academic progress.

Requirements:

- A PhD degree in any of the following: Biomedical Engineering, Computer Science, Electrical Engineering, or related disciplines, obtained in the past 5 years.
- A background in medical imaging and experience in X-ray imaging are desirable.
- Programming experience particularly in C++ with a working knowledge of Matlab and/or Python.
- Experience with (ITK - Segmentation & Registration Toolkit) and (VTK - The Visualization Toolkit) is desirable.

The successful candidate will be expected to produce peer-reviewed publications as a result of their research and will be expected to participate in the activities of the Division of Biomedical Engineering, including co-supervision of MSc and PhD students and limited lecturing. The successful candidate will be required to register as a postdoctoral research fellow at the University of Cape Town and to comply with the policies and practices of the postdoctoral sector.

Application Procedure

Applicants for funding should send a letter stating their research interests and expertise, as well as a maximum four-page CV, which includes a list of publications and includes the names, email & telephone details of 2 referees, to Dr Tinashe Mutsvangwa, Division of Biomedical Engineering, as soon as possible, but before 15 October 2015 for postgraduate degrees and before 30 November 2015 for postdoctoral fellowships.

Email: uctbme2015@gmail.com; tel: (021) 650-1418.

The successful candidate will be expected to take up the fellowship early in 2016.

NB: Only short-listed candidates will be contacted. The University of Cape Town reserves the right to disqualify ineligible, incomplete and/or inappropriate applications. The University of Cape Town reserves the right to change the conditions of award or to make no awards at all.