



## BU PhD Studentships 2007

### Virtual human animation

#### Background to Research

The Computer Animation Research Centre (CARC) is the research arm of the National Centre for Computer Animation, which was rated 5 in the last Research Assessment Exercise.

The CARC's aim is to encourage and foster research and innovation in the fundamental principles and applications of Computer Animation techniques. The Philosophy of the Centre is to encourage the interaction and collaboration between art and science. Our two main research strands are technical research on computer graphics and practice based visual art research.

The development of realistic virtual human animation is essential for the future of computer animation. In the past few years, we have made several efforts to improve existing approaches, resulting in the production of novel techniques and quality publications. In this project, we will take our current achievements a step further. We aim to empower the animator by giving them an overall control of the process while reducing the amount of unnecessary labour-intensive operation.

This project will concentrate on one of the following applications of virtual human characters: realistic animation production, computer games, medical simulation and visualisation.

In the past few years, we have made several efforts to improve visual realism, efficacy and user interaction for the modelling and animation of virtual human and creature characters. Various techniques have been developed including the development of a nonlinear geometry-based skinning method; a versatile method to combine the strengths of both anatomy-based and skin-based techniques; and an automatic muscle modelling technique for anatomy-based character animation

#### Outstanding Applicants

We are looking for outstanding applicants who will preferably have a first degree no lower than upper-second class in computer science, mathematics or engineering. A Masters degree is desirable. Good programming skills are required. An IELTS (Academic) score of 6.5 minimum is essential for candidates for whom English is not their first language.

The Computer Animation Research Centre is a vibrant research community with a respected international profile. We are looking for candidates who can contribute to this community, help build upon our success *and* benefit from and flourish in this forward thinking generative environment.

## **Supervisory Team & Research Environment**

Jian J Zhang is Professor of Computer Graphics at the National Centre for Computer Animation, Bournemouth University and leads the Computer Animation Research Centre.

His research interests include geometric modelling for animated objects and characters, rigging and skinning, motion synthesis, deformable objects, non-photorealistic rendering, physics-based graphical simulation and applications of graphics to other disciplines, such as medicine.

He has undertaken a number of research projects funded by the AHRC, EPSRC, DTI, GWR, charities, industry and other funding organisations. Prof. Zhang has produced well over 100 peer reviewed publications.

The work by Professor Jian J Zhang and his colleagues has been well received and has been reported internationally by a number of leading magazines and news organisations, including MIT Technology Review, New Scientist and Live Science (New York).

### **Informal Enquiries**

To discuss your ideas for suitable research topics or to answer any questions you may have please contact Jian Zhang at [jzhang@bournemouth.ac.uk](mailto:jzhang@bournemouth.ac.uk)

Information on [how to apply for studentships](#)