

Arkwright

SCHOLARSHIPS

CASE STUDY



Joanna Yuen Sai Li

Scholarship Awarded: 2002 – 4004
Roedean School

Sponsor

The Lloyd's Register Educational
Trust

Current Position

PhD Student, Cardiff University

University (2005 - 2009)

Imperial College London
Mechanical Engineering
Upper Second Class
MEng(Hons)

A Levels

Mathematics
Physics
Chemistry
Design and Technology
Chinese
Further Mathematics (AS Level)

“Before Arkwright, I always dreamt of using my passion for design and science to make a difference to the world, but I did not know how. Through the scholarship, I was given an opportunity to spend a week at university learning about engineering. I was immediately captivated and knew engineering is how I will be able to realize my dream.”

Upon finishing A levels, Joanna spent nine months with Arup, an infrastructure consultancy firm, working on communications and crowd management infrastructure designs for projects such as Wembley Stadium and King's Cross St. Pancras. She then became an Arup sponsored student and spent her two subsequent summer vacations with them looking at smoke extraction for underground stations in London and ventilation designs for server cluster in Hong Kong using computational simulations.

In 2005, Joanna won an IMechE Undergraduate Scholarship to study at Imperial College London, where she wrote her final year thesis on computational modeling of the mechanical behavior of knee soft tissues. This elicited her interest in biomedical engineering and Joanna went on to join the Arthritis Research UK Center of Excellence in Biomechanics and Bioengineering at Cardiff University.

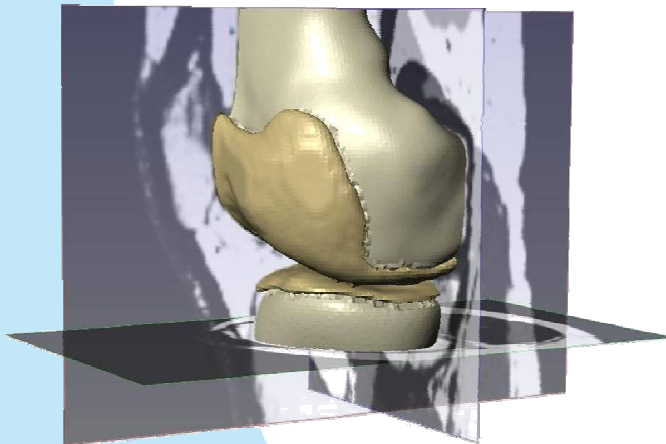


Figure 1 Computer rendering of a patient specific knee model, including the Femur, Tibia and their respective Articular cartilage, generated from a set of the patient's MRI scans

For her doctoral research, Joanna is jointly supervised by the School of Engineering and the School of Biosciences to investigate the use of computational modeling of human knee joints to assess surgery outcomes. Her links with the School of Biosciences allows her to gain a better understanding of soft tissue structures through the use of biomedical techniques on both animal and human tissues and apply this to her models using her engineering skills.