

## Christopher Brampton

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**Date of Birth:** 04/07/1987

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**Nationality:** British

### Education

- 2009 – present      **PhD Research Student, Centre of Orthopaedic Biomechanics, Department of Mechanical Engineering, University of Bath, Bath**  
Project Title: “The use of structural optimisation to predict changes in the architecture of cancellous bone surrounding prosthetic implants”  
Project Aims: To demonstrate that the internal trabecular bone structure can be considered an optimal structure through the application of topology optimization to Finite Element models of bones. It is also intended to use this technique to predict the response of the internal bone structure to long term changes in applied loading, i.e. after the joint replacement surgery.
- 2005 – 2009      **MEng Aerospace Engineering, Department of Mechanical Engineering, University of Bath, Bath**
- 2003 – 2005      **St Edwards RC/CE VA School: A-Levels, Poole:**
- |               |   |
|---------------|---|
| Maths         | A |
| Further Maths | A |
| Physics       | A |
- Short Courses  
2011      **Topology Optimization - Theory, Methods and Applications, Technical University of Denmark, Copenhagen**

### Experience

- Computing      **Software:** Word, Excel, Power Point, Visual Studio, Solid Edge, ANSYS, ANSYS CFX, Rhino, Endnote
- Programming Languages:** C in Visual Studio, C in Linux, C++ in Visual Studio, MATLAB, Fortran95 in Linux, ANSYS Parametric Design Language, Rhino Script

### Conference Presentations

**17th Congress of the European Society of Biomechanics, University of Edinburgh, UK 5 - 8 July 2010:** Poster Presentation, “Does the internal architecture of the proximal femur represent a structural optimum?” James L Cunningham, H Alicia Kim & Christopher J Brampton

**IMECHE Seminar, Computer Simulations in Bioengineering, London 16 March 2011:** Aural Presentation, “Understanding Bone Remodelling Via Topology Optimization”, Christopher J Brampton, James L Cunningham & H Alicia Kim

**Meditech Seminar, Advances in Biomechanics and Mechanobiological Modelling, Oxford 21 April 2011 :** Poster Presentation, “Can Topology Optimization Predict the Internal Bone Architecture Formed in Response to Mechanical Loads?” Christopher J Brampton, James L Cunningham & H Alicia Kim