

Trinity Centre for Bioengineering

Background

- Bioengineering at TCD since 1980s
- TCBE formally established 2002
- Staff
 - 13 PIs
 - 5 PD/Technician
 - 25 research students
 - 10 MSc students



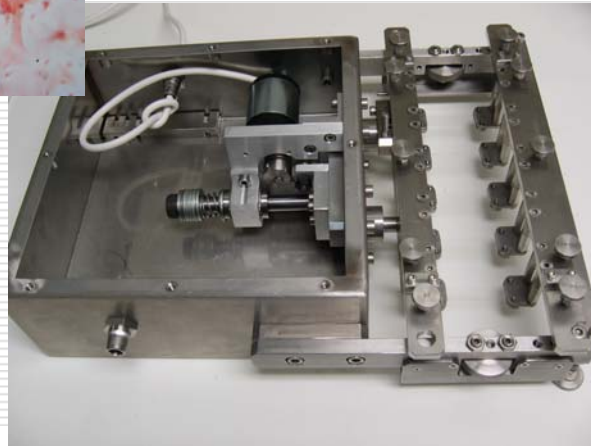
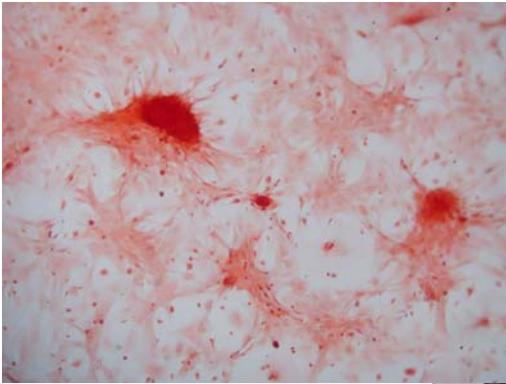
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Strengths

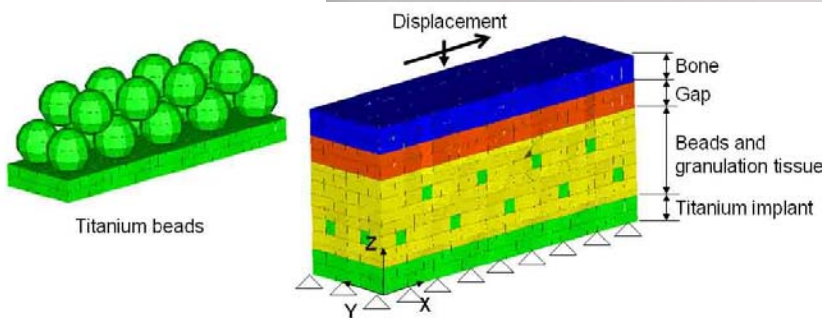
- Excellence in research
 - High impact papers in *Tissue Engineering*, *FASAB J*, *J Biomech*.
 - Dynamic interdisciplinary group
 - Engineering, Dentistry, Physiology, Anatomy, Gerontology
 - Successful in leveraging resources
 - PRTL, HRB*3, SFI*2, Enterprise Ireland *6
 - €7,317,000 in research income since 2000
 - Emphasis on education
 - Interdisciplinary MSc programme in Bioengineering (10 p.a.)
 - Consistent with national research priorities
 - €6 billion exports p.a. from Irish Medical Devices Industry. 11% of employment in Irish manufacturing – truly a national priority
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Research Theme 1: Mechanobiology of Tissue Engineering

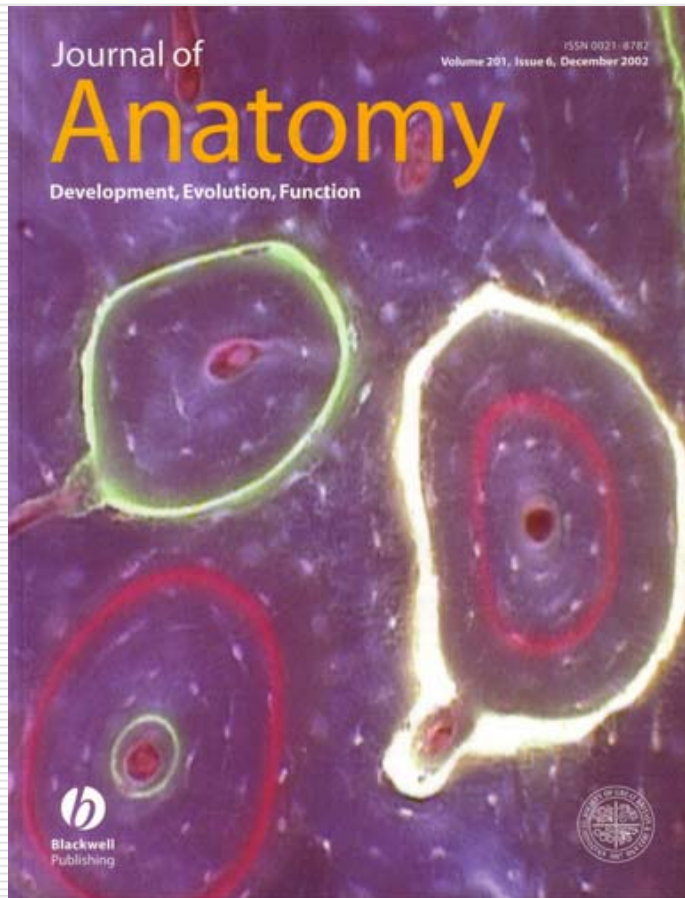


- Stem cells
- Bioreactors
- Scaffolds
- Simulation of bone
- In vivo analysis



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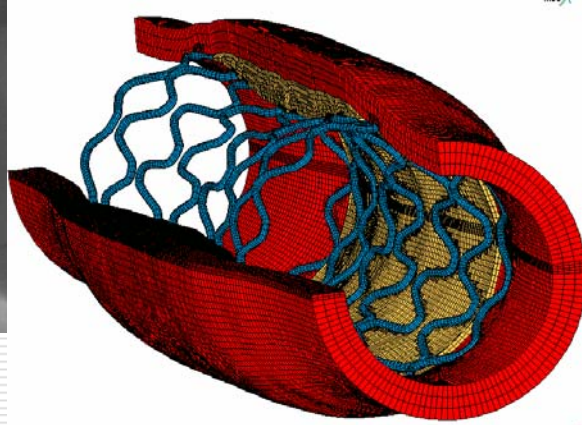
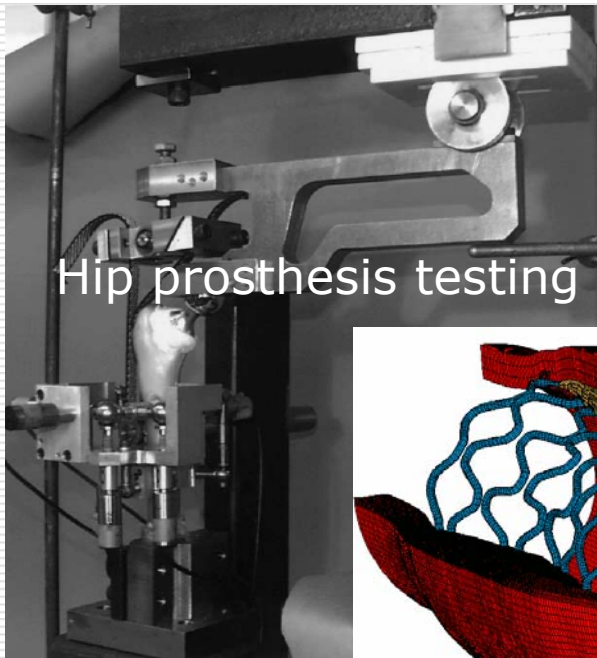
Research Theme 2: "Bone for Life"



- Osteoporosis
- Molecular structure of bone
- Drugs to prevent bone microdamage
- Modelling of damage and fragility

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Research Theme 3: Platform for Preclinical Testing of Implants



Computer model of a cardiovascular stent in an artery

- Biomechanical model for tissue-engineered implants
- Computer simulations of implant performance
- Simulation of tissue differentiation