

# 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



# Trinity Centre for Bioengineering

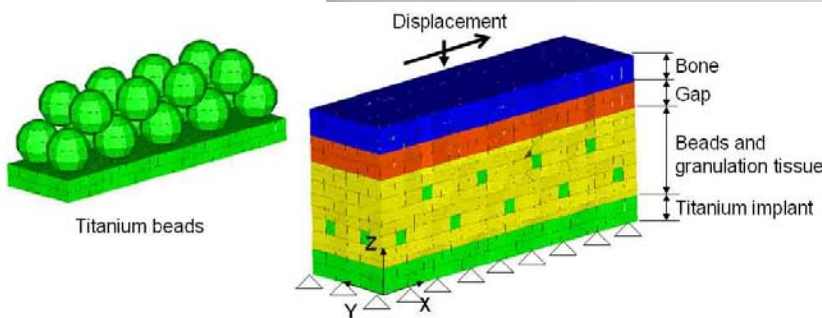
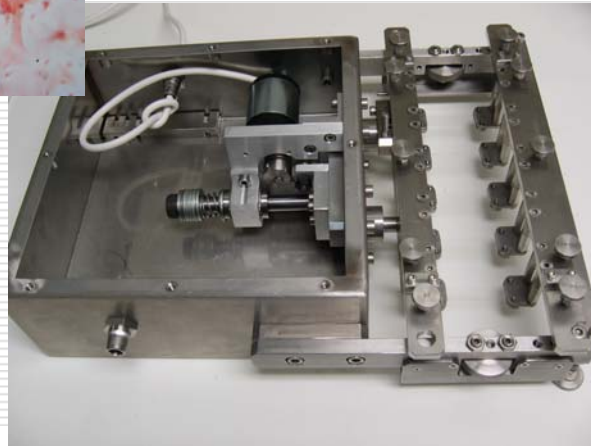
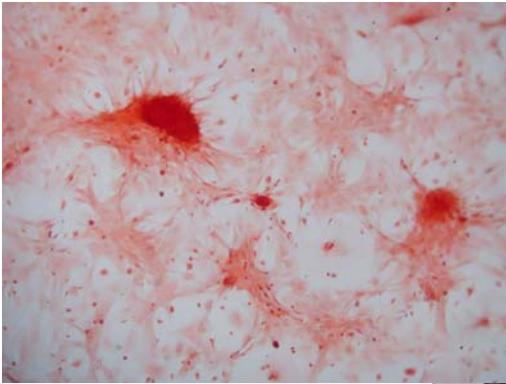
## Strengths

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- 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

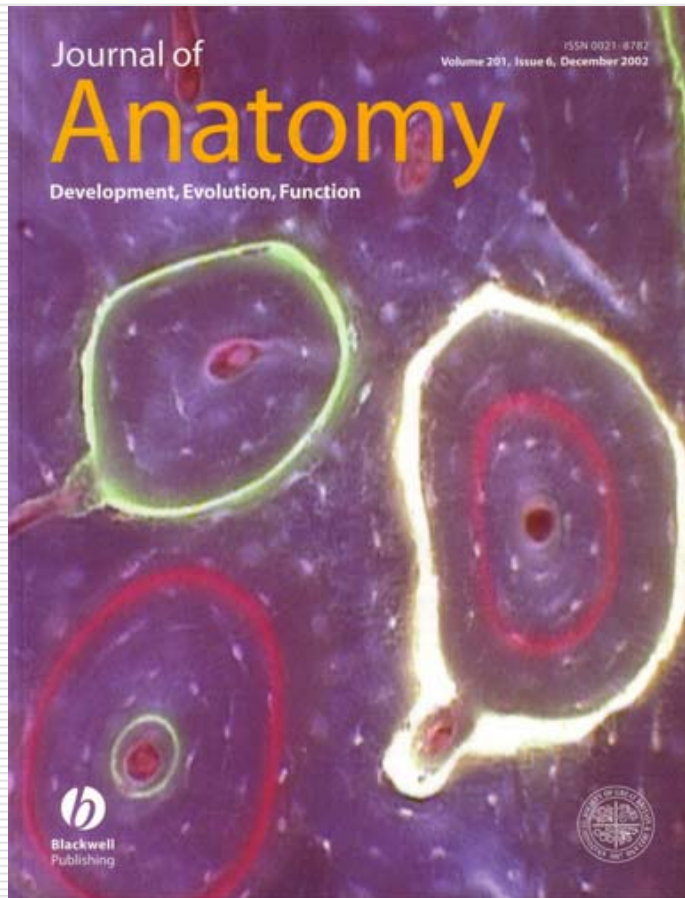


- Stem cells
- Bioreactors
- Scaffolds
- Simulation of bone
- In vivo analysis

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## Research Theme 2: "Bone for Life"

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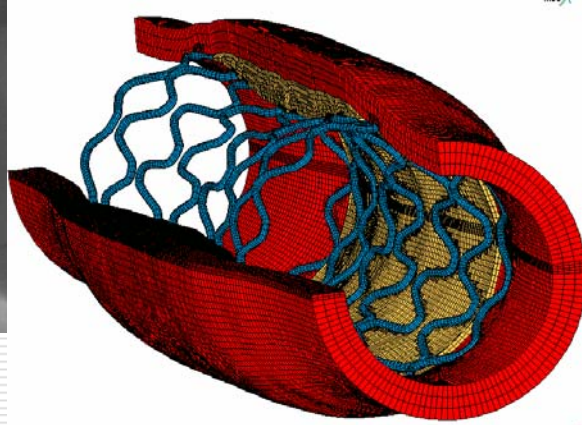
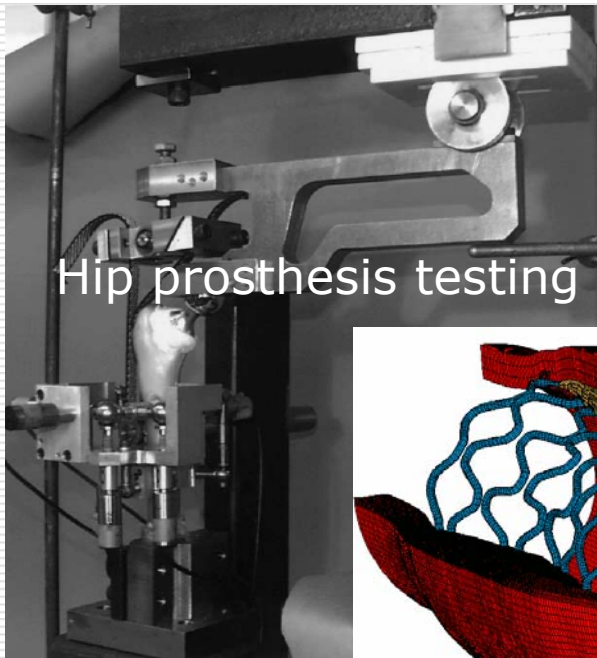


- Osteoporosis
- Molecular structure of bone
- Drugs to prevent bone microdamage
- Modelling of damage and fragility

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## Research Theme 3: Platform for Preclinical Testing of Implants

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Computer model of a cardiovascular stent in an artery

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