



Meeting of the Glasgow Orthopaedic Research Initiative

Tuesday 21st March 2023

Advanced Research Centre | University of Glasgow | 11 Chapel Lane | Glasgow | G11 6EW

08:45 Registration/coffee

PROGRAMME

Session 1

- 09:15 **Welcome**
Professor Dominic Meek & Professor Matt Dalby
- 09:20 **Current paradigms of care in critical sized bone defects**
Dr Bilal Jamal, NHS Greater Glasgow & Clyde
- 10:00 **Trabecular Metal collars in endoprosthetic replacements: do they osteointegrate?**
Dr Ewen Fraser, Glasgow Royal Infirmary
- 10:20 **Student research talks**
- Seb Doherty-Boyd:** Developing an artificial bone marrow niche for HSC maintenance and genetic manipulation
- Egle Morta Antanaviciute:** Nanovibrational stimulation affects oxidative phosphorylation and reactive oxygen species scavenging in human dermal fibroblasts
- 10:40 **Tea/coffee**
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Session 2

- 11:00 **Joint instability: an engineering perspective**
Dr Philip Riches, University of Strathclyde
- 11:30 **Finite element modelling of tibial defects managed with a fine wire fixator**
Dr David Shields, Queen Elizabeth University Hospital
- 11:50 **Stem cell chondrogenesis can be regulated by the viscous component of isoelastic matrices**
Dr Matthew Walker, University of Glasgow
- 12:10 **In-vitro studies of 2D orthopaedic implants with cell instructive nanotopographies**
Dr Rosalia Cuahtecontzi Delint, University of Glasgow

- 12:30 **Sponsor presentations**
Biocomposites - Christopher Connell (3-5 mins)
ThermoFisher - Selina Henriquez (3-5 mins)

12:40 **Posters and lunch**

Session 3

- 13:30 **Controlled release antimicrobial Sol-gel coatings to prevent prosthetic joint infection**
Dr Tim Nichol, Sheffield Hallam University
- 14:00 **Bioengineering of a model of the bone marrow niche to investigate the mechanical changes in the microenvironment**
Dr Chloe Rodgers University of Glasgow
- 14:20 **Deciphering the role of boron transporter, NaBC1, on mechanotransduction mechanisms**
Dr Juan Gonzalez-Valdivieso University of Glasgow
- 14:40 **Outcomes of dual mobility total hip replacements for neck of femur fractures**
Matthew Arnold, West of Scotland Trauma and Orthopaedics
- 15:00 **Student research talks**
- Amina Rezig:** Investigating the application of perylenebisimide hydrogels as a tissue engineering scaffold
- Sarah Eccles:** In vitro characterisation of a polymer-rifampicin coating for prevention of orthopaedic implant infections
- Mariana Azevedo Gonzalez Oliva:** The role of Piezo1 in transducing matrix viscoelasticity
- Lauren Hope:** Engineering a bone marrow endosteal niche model for drug screening against Acute Myeloid Leukaemia
- 15:40 **Prizes**
- 16:00 **Meeting ends**