



9th Annual White Rose Work in Progress Meeting

Friday, 14 December 2007

*Institute of Medical & Biological Engineering
Clarendon Wing Lecture Theatre, University of Leeds*

Programme

09:30 Coffee and Registration

09:55 Welcome to Leeds – Dr Sotirios Korossis

10:00 **SESSION 1: Biological Scaffolds & Biomimetic Models**

Chair: Eileen Ingham, University of Leeds

Thomas Stapleton Biocompatibility of an acellular porcine meniscal scaffold

Fiona Bolland Functional tissue-engineering of the urinary bladder

Peter Rubenwolf A biomimetic tissue from cultured human urothelial cells: a model to explore aquaporin-mediated water and solute transport across urothelium

Ling Wang Measurement of O₂ consumption rate of porcine valve interstitial cells in cell suspension

Marco Bonesi Localization of 3D spatial orientation of collagen fibres in biological birefringent fibrous tissues using variable angle-of-incidence polarization-sensitive optical coherence tomography

11:15 Tea and Coffee Break

11:30 **Invited Lecture**

Ariadni Aravani: Reviewing basic statistical tools used in biomedical research

12:00 **SESSION 2: Synthetic Scaffolds & Biological Activity of Polymer Particles**

Chair: Sotirios Korossis, University of Leeds

Keith Blackwood Development of electrospun scaffolds for dermal replacement

Celia Murray-Dunning Use of aligned polymer micro-fibres for peripheral nerve repair

**Prodip Sarker
Joanna Shepherd** A new sensor for bacteria using binding of stimuli responsive polymers

Laura Richards Evaluation of TNF-alpha release by primary human peripheral blood phagocytes when challenged with nanometre-sized polymer particles

13:00 **Lunch and Poster Viewing**

14:30 **SESSION 3: Mesenchymal Stem Cells**
Chair: Jenny Southgate, University of York

Emma Bell Differentiating dermal stem cells into vascular endothelial cells

Gary Spencer Expression and function of microRNAs in mesenchymal progenitors and during osteogenesis in vitro

Buzz Palmer Generating tissue engineered, bi-differentiated osteochondral constructs using human mesenchymal stem cells

Dimitrios Kouroupis Osteogenic potency of freshly isolated mesenchymal stem cells (MSCs) compared to cultured MSCs: implications for their use in therapeutic bone repair

15:30 Tea and Coffee Break

15:45 **SESSION 4: Gene Delivery & Cell Tracking**
Chair: Sheila Macneil, University of Sheffield

Hannah Lomas DNA delivery using pH-sensitive polymersomes

Marzia Massignani Cell internalisation studies of pH-sensitive PMPC-PDPA polymersomes

Jossie Thomas Tissue engineering and genetic transformation of developing intact white matter

Alison Hand Automated tracking of migrating cells in phase-contrast video microscopy sequences using image registration

16:45 **Closing Remarks & Awards of Prizes**

Followed by Wine and Nibbles

Posters

1 **Turkan Arca** Analysis of mesenchymal stem cells interaction with Permacol® surgical implant

2 **Richard Mark England** Chain-end-functional graft poly(N-isopropyl acrylamide)s using reversible addition-fragmentation chain transfer (RAFT) Polymerization

3 **Martin Gill** Ru(II) complexes as potential DNA probes in cell imaging applications

4	Louisa Gilmore	Synthetic polymers for interaction with vascular endothelial growth factor and heparin
5	Sally Hopkins	Temperature dependant phagocytosis of highly branched poly(N-isopropyl acrylamide-co-1,2 propandiol-3-methacrylate)s prepared by RAFT polymerization
6	James Lapworth	Thermoresponsive biomaterials comprising poly(N-isopropylacrylamide)
7	Rainy Marsh	Characterisation of the three meningeal layers from porcine lumbar spine
8	Pete Milnes	Design of a device for subjecting normal urothelial cell to bladder equivalent mechanical strain
9	Felora Mirvakily	Modelling the periodontal defect for drug delivery and regenerative medicine research
10	Benjamin Ryan	Polymeric gas sensors
11	Paul David Roberts	Adipose tissue engineering using human mesenchymal stem cells and natural sponge materials
12	Thomas Smart	Controlled formation of vesicular gels using amphiphilic block copolymers
13	Kathryn Ann Swindells	Fluorescence studies of a novel hyperbranched polymer
14	Lik Ren Tai	Development of a type of peptide molecules for the production of improved and well-defined scaffolds for tissue engineering
15	Richard Ackbar	Quantification of Bone Tissue Engineering using Micro Computed Tomography
16	Joanna Magalhaes	Bioactivity in Stimuli Responsive Systems Based on Hyaluronic Acid and a Polymeric Derivative of Pyrrolidone