Centre for Cell Therapy and Regenerative Medicine

INAUGURAL MEETING 20TH JUNE 2012
• Network of researchers with common research interests

• Support collaborative research into the development of novel approaches to enhance tissue repair and regeneration
Our Vision…

New ideas leading to new therapies

Scientific Rationale…

“Interactions between cells and matrix are vital to normal tissue homeostasis. Understanding the molecular basis of this homeostasis is key to understanding stem cell behaviour and the origins of cancer and many chronic diseases”
To foster transformational research in the area of stem cell therapy and regenerative medicine and to develop novel therapies and achieve improved health outcomes for our patients.
Our Goals

• Create a network of researchers with synergistic interests
• Facilitate research in state of the art laboratories
• Develop collaborative research PhD training programmes
• Attract research funding and investment
• Attract new research leaders to Western Australia
• Develop industry partnerships to expand translational research programmes and improve patient care
Lung Research

Prof Geoff Laurent
Prof Irmgard Irminger
A/Prof Yuben Moodley
A/Prof Steven Mutsaers
A/Prof Cecilia Prele

Prof Stephen Stick
Dr Anthony Kicic

- Lung fibrosis
- Stems cells in serosal repair and tumorogenesis
- Stem cell therapy for lung
- hAEC, ES, iPS
- Epithelial repair mechanisms in Asthma, COPD
Liver

Prof George Yeoh
Prof John Olynyk
Dr Nina Trintz-Parker

- Liver Progenitor Cells
- Cancer Stem Cells
- Hepatocellular Carcinoma

Neurotrauma

Prof Alan Harvey
A/Prof Stuart Hodgetts

- Gene therapy – nervous system repair
- Human stem cell transplantation – spinal cord repair

Liver precursor cells

Rat model of spinal cord regneration
Burns and Reconstructive Surgery

W/Prof Fiona Wood
A/Prof Mark Fear

- Cell delivery
- Cell differentiation
- Matrix-Cell interactions
- Scaffolds and Nano-fibres
- Improving sensory function
- Animal models, *in vitro*
  models ‘scar in a jar’

*** Project looking at the epigenetics of the fibroblasts within fibrosis - similarities/differences related to tissue of origin ***
Eye – Retinal Repair

A/Prof Fred Chen

• Macular degeneration
• Identifying new sources of retinal pigment epithelial cells (RPE)
• Developed new approaches to reprogramme cornea limbus cells to become RPE cells
Musculoskeletal

Prof Miranda Grounds
A/Prof Tea Shavlakadze

- Skeletal muscle repair
- Myogenesis in post-natal skeletal muscle
- Role of extracellular matrix
- Myoblast transfer
- Stem cell therapies
- Sarcopenia (age-related loss of muscle mass and function)
Orthopeadic Research

Prof Minghao Zheng

- Autologous tenocyte therapy
- Matrix-induced autologous chondrocyte implantation
- Development of collagen scaffolds for tissue regeneration
- Molecular machinery of bone resorption for targeted therapy
Ear Sciences
Prof Rodney Dilley

- Stem cells and scaffold to repair the tympanic membrane

Scaffolds for Tissue Repair
Prof Deirdre Coombe

- Glycosaminoglycans
- Developing scaffolds to sustain cell growth
Opportunities for Collaboration

- Development of collaborative projects across groups
- Expand local, national and international collaborations
- Collaborative NHMRC, ARC and other nationally/internationally competitive grant applications
- PhD Top up scholarships to support collaborative research
For anyone interested in working with/in/or associated with the centre

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