INTRODUCTION

It is my pleasure to welcome you to this year’s UCL-UWA-HMGU Collaborative Research Network annual meeting. The purpose of this network is to establish a framework of improved co-operation between these institutions through the development of joint research projects, staff exchange, and the eventual development of a doctoral training programme linked to collaborative research.

The 2014 meeting addresses the broad themes of regenerative medicine, inflammation, and cancer research within UCL, UWA, and HMGU. Its objective is to bring together researchers within these disciplines and institutes to foster an open exchange of ideas and encourage new cross-institutional collaborations. The relaxed atmosphere of this meeting should encourage an open exchange and free discussion of ideas amongst investigators, with short presentations serving as initiators.

Adam Giangreco

THANKS AND SUPPORT

Special thanks to Ms Barbara Telfer (UWA), Ms Catriona Heredia (UCL), Dr Antje Brand (HMGU) and Dr Cecilia Prele (UWA) for help organizing accommodation, IT, abstracts, and programming for this year’s meeting. Thanks also to UCL Business, UCL, HMGU, and UWA for financially supporting this year’s conference and pilot grant scheme.
MEETING VENUE AND ACCOMMODATION

The meeting takes place within the Maplethorpe Lecture Theatre, UCL School of Pharmacy, 29-39 Brunswick Square, London WC1N 1AX.

Accommodation for overseas guests is provided at the Goodenough Club, 23 Mecklenburgh Square London WC1N 2AD.

The nearest tube station is Russell Square (Piccadilly Line); the nearest train station is Kings Cross/St Pancras (approx. 1km north)

Dinner 14 July @7pm:
Belgo Centraal
50 Earlham St
London WC2H9LU
Monday 14 July

9:00 – 10:00 Coffee and Registration

SESSION 1 – FUNDAMENTAL BIOSCIENCE

10:00-10:15 Adam Giangreco (UCL) - Welcome

10:15-10:35 Michael Edel (UWA) - Addressing the challenges to bring iPS cells to the clinic for regenerative medicine: cancer, immune response and genetic stability

10:35-10:55 Richard Day (UCL) -

10:55-11:15 Saverio Bellusci (HMGU) - FGF signaling in the lung: Role in mesenchymal lineage formation during development and disease.

11:15-11:35 Coffee and Tea

SESSION 2 – TRANSLATIONAL BIOSCIENCE

11:35-11:55 Astrid Limb (UCL) - Müller glial stem cells-prospects for endogenous regeneration of the adult human retina

11:55-12:15 Miranda Grounds (UWA) - Ageing skeletal muscle: mechanisms, biomarkers and interventions

12:15-12:35 Oliver Eickelberg (HMGU) - The lung matrix in high resolution in injury and repair

12:35-12:55 Michel Watson (UWA) - Characterising the glycomic change between normal and tumorigenic liver progenitor cells

1:00-2:00pm Lunch

SESSION 3 – CLINICAL SCIENCE

2:00-2:20 Paolo de Coppi (UCL)

2:20-2:40 Sarah Dunlop (UWA)

2:40-3:00 Stephen Hart (UCL) – Receptor Targeted nanocomplexes for delivery of gene and siRNA therapeutics

3:00-3:20 Irmgard Irminger Finger (UWA)

3:20-3:40 Ming Hao Zheng (UWA)
3:40-4:00 Coffee Break
4:00-5:00 Brainstorming / Group – What’s the next collaborative funding opportunity?
5:30-7:00pm Guided walking tour of London – Meet outside School of Pharmacy.
7:00pm Dinner at Belgo Centraal (50 Earlham St WC2H 9LJ)

Tuesday 15 July

SESSION 4 – FUNDAMENTAL BIOSCIENCE (2)
9:00-9:20 Micha Drukker (HMGU) - Post transcriptional regulation of pluripotency and exit from pluripotency
9:20-9:40 Julian Heng (UWA) - Mechanisms for the directed differentiation and connectivity of CNS neurons
9:40-10:00 Jovinca Ninkovic (HMGU) - Adult neurogenesis-an instrument for successful regeneration
10:00-10:20 Rachel Chambers (UCL)
10:20-10:50 General Discussion
10:50-11:10 Coffee and Tea

SESSION 5 - TRANSLATIONAL BIOSCIENCE (2)
11:10-11:30 Steve Mutsaers (UWA) – Targeting Hedgehog signalling pathways in malignant mesothelioma
11:30-11:50 Stefan Stricker (HMGU) - Epigenetic reprogramming of brain cancer stem cells
11:50-12:10 Fang-Xu Jiang (UWA)
12:10-12:30 Melanie Königshoff (HMGU)
12:30-1:00 General Discussion
1:00-2:00pm Lunch

SESSION 6 - CLINICAL SCIENCE (2)
2:00-2:20  Sam Janes (UCL)
2:20-2:40  Rod Dilley (UWA) - *Mechanisms of wound repair for tympanic membrane*
2:40-3:00  Mark Lythgoe (UCL)
3:00-3:30  General Discussion
3:30-4:00  Wrap up, Summary, What’s next and ways forward
Saverio Bellusci, PhD
Professor
Justus Liebig University of Giessen
Saverio-Bellusci@innere.me.uni.giessen.de

Saverio Bellusci is a full Professor at the Justus Liebig University in Giessen, and is the Chair of Lung Matrix Remodelling in the Excellent Cluster Cardio-Pulmonary System (ECCPS).

He studied and obtained his qualification at the University of Paris, France, and, after his doctorate, went to Vanderbilt University, Nashville, USA where he had a postdoctoral appointment in "Brigid Hogan's Laboratory" at Vanderbilt University, Nashville, USA. Before he came to Justus-Liebig-University in Giessen in 2010, he was an Associate Professor at the Keck School of Medicine of the University of Southern California, The Saban Research Institute, Childrens Hospital Los Angeles. Prof. Bellusci’s research is mostly focusing on developmental biology and especially on the role of FGF in lung development and disease.

Selected publications

Dr. Antje Brand
Deputy Director, Institute of Lung Biology and Disease, Helmholtz Zentrum München
Head Scientific Management
Coordinator, German Center for Lung Research (DZL), Munich, and Comprehensive Pneumology Center (CPC)
Ludwig-Maximilians-Universität, Asklepios Fachkliniken München-Gauting und Helmholtz Zentrum München
antje.brand@helmholtz-muenchen.de

Antje is Manager of the German Center for Lung Research (DZL) site Munich, the Comprehensive Pneumology Center (CPC-M). The DZL is a government founded center that unites leading universities and non-university-based lung research organizations into one coherent organization. She is also Deputy Director of the Institute of Lung Biology and Disease at the Helmholtz Zentrum München. Antje has a background in biomedical sciences and was head and coordinator in various projects.
Rachel C. Chambers, PhD  
**Professor of Respiratory Cell and Molecular Biology, and**  
**Vice-Dean (Enterprise) Faculty of Medical Sciences**  
**University College London**  
[r.chambers@ucl.ac.uk](mailto:r.chambers@ucl.ac.uk)

Rachel C. Chambers, PhD, is Professor of Respiratory Cell and Molecular Biology and Vice-Dean (Enterprise) for the Faculty of Medical Sciences at University College London (UCL). Professor Chambers received her undergraduate degree from King’s College London and completed her PhD studies at the National Heart and Lung Institute in London in 1995. Professor Rachel Chambers currently directs a centre of six principal investigators (PI’s) and a total of 35 academic staff within the Division of Medicine at UCL.

Professor Chambers’ research focus is on the elucidation of the cell and molecular mechanisms leading to lung inflammation, remodeling and fibrosis. Current work is aimed at delineating the contribution of procoagulant signaling pathways to lung fibrosis, acute lung injury (ALI) and chronic obstructive pulmonary disease (COPD). Professor Chambers also leads a discovery biology group at UCL as part of a major academic-industry collaboration with GSK in the area of fibrosis. Her research is funded by major peer-reviewed grants awarded from the MRC, the Wellcome Trust and the British Lung Foundation and has been published in highly regarded peer reviewed journals (e.g. J Clin Invest 2006 & 2009, J Exp Med 2008; Am J Respir Crit Care Med 2009 & 2010;). Professor Chambers is also a member of the European Union Framework Programme 7 - funded international eurIPFnet consortium and acts as Associate Editor for the American Journal of Physiology – Lung Cellular and Molecular Physiology.

As well as pursuing research excellence, Professor Chambers is passionate about training and nurturing future research leaders in the respiratory research arena. She has successfully supervised nine PhD students as primary supervisor and 4 PhD students as secondary supervisor. She serves on major national and international peer-review committees and has acted as external examiner for 20 PhD examinations and as sponsor of several successful pre-and post-doctoral fellowship applications.

**Selected publications**

Julie Daniels PhD
Professor of Regenerative Medicine and Cellular Therapy
Institute of Ophthalmology
University College London
j.daniels@ucl.ac.uk

Julie was awarded her first degree in Microbiology and her PhD in tissue engineering from the University of Leeds, UK. She joined the Institute of Ophthalmology, UCL in 1996. Julie is Professor of Regenerative Medicine and Cellular Therapy. Her group is investigating the biology and therapeutic potential of stem cells. Specific interests include the basic biology of homeostatic and diseased stem cell niches, anti-scarring therapies and the development and delivery of Advanced Therapy Medicinal Products (cell therapies and tissue engineering) for blinding eye diseases. She is also the Founding Director of the Cells for Sight Cell Therapy Research Unit, which is currently delivering stem cell therapy to patients with blinding ocular surface disease.

Selected publications


Dr Richard Day
Applied Biomedical Engineering Group
Centre for Cardiovascular Biology and Medicine
Division of Medicine
University College London
r.m.day@ucl.ac.uk

I lead the Applied Biomedical Engineering Group, part of the Centre for Cardiovascular Biology and Medicine, Division of Medicine at UCL. Our research is focussed on the development and translation of innovative biomedical engineering processes for unmet clinical needs. Current research activity relates to regenerative medicine, focussing on cell therapy and drug delivery in areas of gastroenterology, cardiovascular biology, and ophthalmology. Our group is actively exploring clinical translation of biomaterials for tissue repair and cell delivery. This includes pre-clinical mechanistic studies investigating progenitor cell delivery and engraftment and a phase I clinical safety study of a synthetic microparticle device for tissue repair. We are also investigating the conditioning of soft tissues using magneto-mechanical actuation.

Research Interests are:
- Applied regenerative medicine for soft tissues
- Development of advanced therapeutic medicinal products (cell therapy and drug delivery)
- Minimally invasive tissue templates
- Experimental analysis of soft tissue mechanical actuation
- Analysis of cell-material interactions
- Integration of basic, translational and clinical aspects of regenerative medicine into a single framework for academic research

Publications: Over 60 Peer-reviewed articles and 4 book chapters relating to regenerative medicine (http://www.ucl.ac.uk/day-lab/publications).

Dr Rod Dilley
The University of Western Australia, rodney.dilley@earscience.org.au

Rod is Head of Molecular and Cellular Otolaryngology at Ear Science Institute Australia and Adjunct Associate Professor at the School of Surgery at University of Western Australia. He has focused much of his 30 year research career on biology of cardiovascular disease and recent work has moved towards regeneration, tissue engineering and translational applications for adult stem cells. With a PhD on vascular biology of vein grafts from University of Western Australia, Rod headed to Seattle USA in 1986 for postdoctoral work on cardiovascular growth control in growth hormone transgenic mice. Returning to Baker Institute in Melbourne he continued studies on cardiovascular growth in hypertension, diabetes and atherosclerosis.

Since 2004 he has worked to develop a successful in vivo cardiac tissue engineering program with collaborators at O’Brien Institute. Bringing together experimental microsurgery methods and stem cell technologies they engineer transplantable human cardiac tissue from mesenchymal stem cells or induced pluripotent stem cells. In 2011 Rod returned to live in Perth where he now leads the Molecular and Cellular Otolaryngology Research Group at Ear Science Institute Australia. This group is bringing stem cell biology and in vivo tissue engineering applications to surgery for ear disorders, particularly for regeneration of the perforated eardrum. Developments around silk scaffold materials and epidermal stem cells for tympanic membrane repair are promising for clinical application.

Selected publications

Dr Micha Drukker
Helmholtz Zentrum
Micha.drukker@helmholtz-muenchen.de

Micha is a group leader at the Helmholtz Zentrum München, and the head of the human induced pluripotent stem cell (hiPSC) core unit. In May 2012 he was recruited by the HMGU from Stanford University School of Medicine, where he conducted postdoctoral studies with world-renowned stem cell scientist Prof. Irving Weissman.

Dr. Drukker’s studies at Stanford were conducted in the interface between the fields of stem cells, cancer, gene regulation and stem cell application in medicine. Dr. Drukker lab at the HMGU aims to decipher mechanisms governing differentiation of hPSCs, to model molecular diseases using patient hiPSCs and genetically modified hESCs, and to purify of mesoderm precursors from hPSCs for prospective regenerative therapies.

Selected publications


Professor Sarah Dunlop
Head, School of Animal Biology
Head, Experimental & Regenerative Neurosciences
The University of Western Australia
sarah.dunlop@uwa.edu.au

Professor Sarah Dunlop, PhD London, immigrated to Australia in 1978 and established a research lab at The University of Western Australia (UWA). She has held consecutive National Health & Medical Research Council positions and Fellowships since 1979. She leads an integrated program of laboratory and clinical research at UWA and Royal Perth Hospital to promote functional recovery after traumatic injury to the nervous system. Laboratory studies use rodent models to examine ways to prevent the spread of secondary degeneration to intact tissue using, for example, nanotechnology to target drug delivery.

Clinical studies comprise three multi-centre randomized controlled trials “Spinal Cord Injury and Physical Activity (SCIPA)” involving all 8 spinal units in Australia and New Zealand to examine novel ways to exercise the paralysed limbs to promote neurological recovery and improve health. The trials span acute care to the community, reflecting the lifetime need of these patients. SCIPA.Com is developing a program to train the trainers, break down barriers to exercise and increase participation once patients are living in the community. Another recent multi-centre collaborative clinical initiative focusing on acute spinal cord
injury involves immediate hypothermia in the ambulance to buy time before emergency decompression surgery (“ICED” Immediate Cooling and Early Decompression). She is currently Head of the School of Animal Biology and Chair of the Clinical Trials Committee, Spinal Cord Injury Network [http://www.spinalnetwork.org.au].

Selected publications


Dr. Michael Edel
Adjunct Senior Research Fellow
Centre for Cell Therapy and Regenerative Medicine, School of Medicine and Pharmacology
The University of Western Australia, and
Group leader and Associate Professor
Faculty of Medicine
University of Barcelona, Spain
michael.edel@ub.edu; michel.edel@gmail.com

Michael is an expert in cancer genetics and cell pluripotency. His current research is concerned with the role of the cell cycle in attaining a pluripotent state and the development of cancer. He leads a group dedicated to developing new methods to make genetically stable high quality clinical grade stem cells and pluripotent stem cells to study human cardiac and neural disease. Consequently, he is Affiliated as Senior Research Fellow at the University of Western Australia, Australia, School of Anatomy Physiology & Human Biology and The Harry Perkins Institute for Medical Research (CCTRM), Senior Research Fellow at University of Sydney, Faculty of Medicine, Children’s Westmead Hospital, Westmead, NSW; Visiting Research Fellow at the Victor Chang Cardiac Research Institute, Sydney, Australia. Project: Fine tuning differentiation protocols for cardiomyocytes. Michael is also an expert in cancer genetics and biology. Please see his labs home page for more information; [http://pluripotencylaboratory.wordpress.com/]

Selected publications


Prof. Dr. Oliver Eickelberg
Chairman, Comprehensive Pneumology Center, Ludwig-Maximilians-University and Helmholtz Zentrum München
Director, Institute of Lung Biology and Disease (iLBD), Helmholtz Zentrum München
Vice Chairman, German Center for Lung Research (DZL)
oliver.eickelberg@helmholtz-muenchen.de

Oliver is Chairman of the translational research centre Comprehensive Pneumology Center (CPC), a center dedicated to study the mechanisms and future therapies of chronic lung disease. Oliver is Professor of Medicine at the University Hospital of the Ludwig-Maximilians-University Munich, director of the Institute of Lung Biology and Disease (iLBD) at the Helmholtz Zentrum Munich, and Vice Chairman of the German Center for Lung Research (DZL).

Oliver studied at the medical schools of the Universities of Lübeck (Germany), Vienna (Austria) and Basel (Switzerland) and obtained his doctorate in medicine (MD) at Basel University in 1997. He worked as a Postdoctoral Fellow at the Department of Medicine in Basel and went to Yale University, Connecticut (USA), in 1998 under the Alexander von Humboldt Feodor Lynen-Fellowship Programme, where he conducted research at the Department of Pathology. Oliver went back to Germany in 2002 as assistant professor at the Justus-Liebig-University in Giessen, where he founded the international graduate programme “Molecular Biology and Medicine of the Lung” (MBML), which has graduated over 100 students from all over the world until today. Oliver’s main scientific focus is translational research in pulmonary fibrosis and COPD, where he primarily addresses mechanisms of cellular interaction with the extracellular matrix, with the aim to ultimately reconstruct a bio-artificial lung.

Oliver is the author of over 140 articles, more than 10 of which are cited >100 times, and an active member of several key scientific associations. He has received multiple awards for his scientific work, including the Sofia Kovalevskaya Award of the Alexander von Humboldt Foundation in 2002 and the Gay-Lussac-Humboldt Prize of the French Ministry of Research in 2014. He initiated the Helmholtz-INSERM-Alliance for the cure of chronic lung disease between France and Germany and is the Conference Chairman of the International Meeting of the European Respiratory Society in 2014.

Selected publications


Dr. Isis Fernandez,
Comprehensive Pneumology Center, Helmholtz Zentrum München, isis.fernandez@helmholtz-muenchen.de

Isis is a Postdoctoral Scientist in the Lab of Prof. Eickelberg at the Comprehensive Pneumology Center (CPC) in Munich.

Dr Fernandez’s research focuses in lung compartmental biomarker screening of Idiopathic Pulmonary Fibrosis (IPF) and animal models of fibrosis. As well as determining the role of the innate immune system as mediator of resolution in acute and chronic lung diseases.

Selected publications


Dr Adam Giangreco
Principal Research Associate (Group Leader) Lungs for Living Research Centre,
Division of Medicine,
University College of London
a.giangreco@ucl.ac.uk

Dr Giangreco’s laboratory studies the fundamental mechanisms driving cancer initiation and regeneration in epithelial tissues. We hope to translate this knowledge in order to develop new, more effective treatments for patients with lung cancer and other chronic diseases. Since joining UCL in 2009 we have been investigating the role of endogenous progenitor cells in lung repair and carcinogenesis. Specifically, we are studying how intercellular and cell-matrix interactions influence progenitor cell homeostasis, proliferation, and differentiation. This work is supported through funding from the European Research Council, the UK Biotechnology and Biological Sciences Research Council, and the UCL Grand Challenges in Global Health Initiative.

Selected publications


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**Professor Miranda Grounds**  
**Senior Honorary Research Fellow**  
**School of Anatomy, Physiology and Human Biology.**  
**The University of Western Australia**  
[miranda.grounds@uwa.edu.au](mailto:miranda.grounds@uwa.edu.au)

Miranda Grounds (MG) graduated from the University of Western Australia (UWA) with a Bachelor of Science (Hons) in 1969 and gained a PhD in 1978 from the University of London. In 1980, MG returned to UWA and became an independent researcher (SRO and Senior Research Fellow) in the Department of Pathology funded by the National Health & Medical Research Council of Australia. Since 1994, MG has been a Professor in the School of Anatomy, Physiology and Human Biology at UWA.

MG is primarily a Cell Biologist and for over 40 years her research on in vivo cell and molecular studies of skeletal muscles using various mouse models of normal, diseased and ageing muscles has focussed on two main areas. The first is the investigation of a wide range of factors controlling the post-natal growth, maintenance, hypertrophy/atrophy, damage and regeneration of normal and diseased ageing skeletal muscles, including many topics related to stem cells and tissue engineering. The second approach applies these findings to develop potential treatments for a wide range of muscle disorders, especially for myopathies such as Duchenne Muscular Dystrophy and Dysferlinopathies, and age-related loss of skeletal muscle mass and function (sarcopenia). Pre-clinical experimental trials include: myogenic stem cell transplantation, drugs that target inflammation and oxidative stress to reduce myonecrosis and maintain function of dystrophic muscles, growth factors such as IGF-1 to increase muscle mass, and the impact of various exercise regimes on sarcopenia.

This research is widely recognised internationally, with about 10 invited talks at international conferences in the last 2 years (in 2012, MG was the 7th Mauro lecturer), has been funded by over $12 million in grants and has generated about 180 publications, including ~20 papers since 2012: see [http://school.anhb.uwa.edu.au/personalpages/grounds/publication.html](http://school.anhb.uwa.edu.au/personalpages/grounds/publication.html)

**Selected publications.**


Stephen Hart is a Professor in Molecular Genetics at UCL Institute of Child Health. He received his PhD from the University of Cape Town in microbial genetics. His current research interests include the development of gene and siRNA therapies for cystic fibrosis. He has more than 100 research publications and ten patents in the field of nucleic acid delivery.

**Selected Publications**


The goal of Julian Heng’s research is to understand the molecular mechanisms which underpin brain development, and to apply this knowledge to enhance the regenerative capacity of the brain in times of injury or disease. His group takes two main routes of study: in the first approach, they study DNA-binding gene regulatory proteins which instruct neural precursor cells to generate neurons, thereby enabling them to elucidate the genetic programs which drive the production and maturation of projection neurons as well as interneurons. This work provides insight into the fundamental processes that underpin proper neuronal assembly within the brain. In the second approach, they study the genetic basis of structural brain disorders in humans so as to determine how somatic mutations impair normal neural development. Together, both these streams of research converge on their ultimate goal to be able to produce new cerebral cortical neurons of their choosing, and to use their knowledge to develop novel cell therapies and genetic interventions to clinically manage brain injury and disease in the near future.

Julian attained a Bachelor's degree with First Class Honours at the University of Western Australia, and then a Doctorate from the University of Melbourne while working within the Howard Florey Institute (now the Florey Institute of Neuroscience and Mental Health). In 2004, he undertook postdoctoral training at the
National Institute for Medical Research, holding a CJ Martin Fellowship as well as an MRC Career Development Fellowship to extend his period of training. Eventually Julian returned to Australia in 2008 before taking up a Group Leader position at the Australian Regenerative Medicine Institute in 2010. In August 2014, he will relocate his research to the Perkins Institute of Medical Research.

Selected publications


Dr. Irmgard Irminger-Finger
Research Professor
University of Western Australia, Irmgard.Irminger@unige.ch

Irmgard studied biology and biochemistry in Zurich, where she graduated in molecular biology and biochemistry and obtained a PhD in molecular genetics. After a three year postdoctoral period at the Molecular Cell Biology Department at the Harvard University, she returned to Switzerland and first had a position as independent researcher at the Biochemistry Department of the University of Geneva. In 1997 she moved into oncology at the Medical Faculty of the University of Geneva, having obtained a Swiss federal career development award. Dr Irminger-Finger is currently a UWA Visiting Professor.

In 1998 Irmgard started her own research group focusing on the molecular pathways at the aging and cancer interface as part of the Biology of Aging Institute at the same institution. Since 2006 she heads the Molecular Gynecology and Obstetrics Laboratory at the Department of Gynecology and Obstetrics at the Geneva University Hospitals. The main interest of this laboratory is the function of tumor suppressor genes in normal and cancer cells and their implication in carcinogenesis and cancer progression, in particular the breast cancer genes BRCA1 and BARD1. Over the years, Dr. Irmgard Irminger-Finger built up her reputation as expert in the Cancer and Aging field and as expert on the BRCA1 and BARD1 genes, as author of scientific articles, speaker at conferences, organizer of meetings, and member of specific study groups and Task Forces.

Selected publications


Professor Sam Janes
University College London
s.janes@ucl.ac.uk

Sam won an MRC Training Fellowship to perform a PhD and then a post-doctoral period working in the CRUK Lincoln’s Inn Fields Institute with Fiona Watt working on integrin adhesion molecules and cancer cell survival. He then moved as an MRC Clinician Scientist to UCL leading a group interested in the role of stem cells in lung cancer pathogenesis and treatment of lung disease using cell therapies. He was awarded a Wellcome Trust Senior Clinical Fellowship in October 2010 to work on novel cell therapies for lung cancers.

He works as a consultant for the NHS in Respiratory Medicine with a particular interest in Lung Cancer, mesothelioma, interventional and diagnostic bronchoscopy and early lung cancer detection. He won the European Thoracic Oncology Investigator of the year prize in 2010. He is director of the Lung Cancer Board for London Cancer and Chair of the BTS Winter Meetings 2013-2015

Selected publications

1. Cooke SL1, Shlien A1, Marshall J1, Pipinikas CP2, Martincorena I1, Tubio JM1, Li Y1, Menzies A1, Mudie L1, Ramakrishna M1, Yates L1, Davies H1, Bolli N3, Bignell GR1, Tarpey PS1, Behjati S3, Nik-Zainal S3, Papaemmanuil E1, Teixeira VH1, Raine K1, O’Meara S1, Dodoran MS1, Teague JW1, Butler AP1, Iacobuzio-Donahue C6, Santarius T1, Grundy RG6, Malkin D1, Greaves M6, Munshi N1, Flanagan AM10, Bowtell D11, Martin S1, Larsimont D, Reis-Filho JS12, Boussioutas A13, Taylor JA14, Hayes ND15, Janes SM2, Futreal PA1, Stratton MR1, McDermott U16, Campbell PJ17; ICGC Breast Cancer Group. Processed pseudogenes acquired somatically during cancer development. Nat Commun. 2014 Apr 9;5:3644. doi: 10.1038/ncomms4644.


Associate Professor Fang-Xu Jiang
*Head, Islet Cell Development Program*
Harry Perkins Institute of Medical Research (research)
The University of Western Australia
fang-xu.jiang@perkins.uwa.edu.au

Associate Prof Fang-Xu Jiang is a medical-trained researcher and the Head of Islet Cell Development Program, the University of Western Australia and has extensive experience in medical research both in Australia and overseas.

He leads a team focusing mainly on proliferation, differentiation, self-renewal and regeneration of pancreatic insulin-secreting β-cell progenitors, including the molecular mechanisms of these biological processes. The ultimate aim is to generate unlimited number of β cells in vitro or stimulate patient's own progenitor/stem cells to become β cells in vivo to cure this disease.

He has published 37 peer-reviewed articles/book chapters, 28 of which were first author primary and review articles in the leading/world-class journals and book chapters of his field (Diabetes, J Cell Sci etc). He is the senior author in 20 articles. He is also an Editorial board member for ISRN Developmental Biology.

**Selected publications**

5. Li H.*, Jiang F.-X.*.*, Shi P., Zhang T., Liu X., Lin X. and Pang X. 2012 In vitro reprogramming of rat bone marrow-derived mesenchymal stem cells into insulin-producing cells by genetically manipulating negative and positive regulators. *Biochemical and Biophysical Research Communications*, 420:793-8,

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Melanie Königshoff, MD, PhD
*Head, Young Investigator Group*
Comprehensive Pneumology Center (CPC)
Helmholtz Centrum
melanie.koenigshoff@helmholtz.muenchen.de

Melanie Königshoff, MD, PhD is head of a Young Investigator Group at the Comprehensive Pneumology Center (CPC) at the Helmholtz Zentrum in Munich. Dr. Königshoff aims to decipher the pathogenesis of chronic lung disease and explores novel routes to initiate lung repair and regeneration. Her research has a translational approach combining patient studies, development of preclinical human lung tissue models, as well as animal models and cell biology. In particular, she investigates the role of the developmental Wnt signaling pathway in pulmonary fibrosis and COPD.

Recently, Dr. Königshoff has been awarded with the prestigious ERC Starting Grant. Dr. Königshoff is a Faculty Member of the German Center of Lung Research (DZL) and an active member of the European Respiratory Society (ERS) and the American Thoracic Society (ATS). She is currently the Program Chair of
Dr. Königshoff is actively involved in MD/PhD training and the director of the CPC International Graduate Program “Lung Biology and Disease”. Dr. Königshoff published over 35 original peer-reviewed articles with more than 800 citations.

Selected publications


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**G Astrid Limb**
Professor of Retinal Stem Cell Biology and Therapeutics
UCL Institute of Ophthalmology
<g.limb@ucl.ac.uk>

Since joining the UCL Institute of Ophthalmology in 1998, Professor Limb has undertaken research into various aspects of retinal cell biology and the pathogenesis of retinal inflammatory disease. This led to the discovery of a population of Müller glia with neural stem cell characteristics in the adult human eye. Her present research is focused on the investigation of the regenerative ability of the adult human retina and on the application of Müller glial stem cells to cell replacement therapies to treat major retinal degenerations. Work in Astrid’s laboratory includes retinal transplantation in experimental models of retinal degeneration, development of enriched neural cell populations with functional activity in vitro, use of biomaterials for retinal cell transplantation, visual function assessment by electrophysiology, examination of signalling pathways of neural progenitors in Müller stem cells and identification of inhibitory molecules that prevent endogenous neural regeneration in the human retina. She is a Fellow of the Royal College of Pathologists and a Fellow of the Society of Biology.

**Selected publications**


Prof Mark Lythgoe is the Founder and Director of the UCL Centre for Advanced Biomedical Imaging, which is a new multidisciplinary research centre for experimental imaging. The Centre now hosts ten state-of-the-art imaging modalities: MRI, photoacoustic imaging, ultrasound, bioluminescence and fluorescence imaging, PET and SPECT/CT as well as confocal endoscopy, optical projection tomography and light sheet imaging. Mark has been awarded £35 million for his programme of research and leads a group of 40 researchers. Mark has a long-standing track record in the development and application of biomedical imaging techniques and has published over 150 papers including publications in Nature, Nature Medicine and The Lancet. He is Co-Director of the UCL Centre for Doctoral Training in Biomedical Imaging. In 2013 Mark was elected a Fellow of the British Science Association for his work in science and society and he has received the Davies Medal for a significant contribution to imaging science. During Mark’s time as Director of the Cheltenham Science Festival, it has become one of the largest science festivals in the world, and he has given over 200 invited public lectures, and regular presents programmes on radio and television.

Selected publications


Dr Samuel McLenachan
Research Associate and Senior Scientist
Ocular Tissue Engineering Laboratory
Centre for Ophthalmology and Visual Science (incorporating Lions Eye Institute)
The University of Western Australia
smclenachan@gmail.com

Dr McLenachan is the Senior Scientist of the Ocular Tissue Engineering Laboratory at the Lions Eye Institute and University of Western Australia. He completed his PhD in the Cell and Gene Therapy Laboratory at the Murdoch Children’s Research Institute (University of Melbourne) in 2005 after developing transgenic mouse models for neuroregeneration research as well as viral and non-viral transfection methods for the delivery of DNA and mRNA to embryonic stem cells. After finishing his PhD studies Dr McLenachan undertook a post-doctoral position in the Neural Regeneration Laboratory at the Centre for Neuroscience (University of Melbourne). In this position, he conducted research into neural stem cell culture and differentiation as well as spinal cord regeneration. In 2009, Dr McLenachan moved to Perth.
and accepted a position in the Ocular Immunology Laboratory at the Lions Eye Institute in Perth. In this capacity, he was involved in ocular immunology and diabetic retinopathy research.

In 2011, Dr McLenachan established the Ocular Tissue Engineering Laboratory with vitreoretinal surgeon and Research Group Leader Assoc. Prof. Fred Chen. His current research focus is on the culture and plasticity of adult limbal stem cells and the development of autologous stem cell therapy for the treatment of macular degeneration. The pursuit of this research involves several novel approaches, including the direct reprogramming of adult stem cells into retinal pigment epithelium (RPE) and the bioengineering of an artificial Bruch’s membrane. Dr McLenachan maintains strong ties with the Control of Pluripotency Laboratory (University of Barcelona, Spain), collaborating on the development of clinical-grade induced pluripotent stem (iPS) cell reprogramming techniques. More recently, Dr McLenachan has begun collaboration with the Centre for Eye Research (Melbourne, VIC, Australia) examining the quality of RPE cells produced from iPS cells.

I am currently collaborating with Professor Rod Dilley on microvascular engineering.

Selected publications


Dr Yuben Moodley
MB BS MD Natal, PhD W.Aust., FRACP
Associate Professor of Respiratory Medicine The University of Western Australia, and Consultant Physician, Royal Perth Hospital, Perth, Western Australia.
yuben.moodley@uwa.edu.au

Yuben Moodley’s research interests include cell therapies for lung diseases and investigating the pathogenesis of chronic respiratory conditions. He has several international collaborations examining mechanisms of stem cell therapy and stem cell differentiation. He is head of the COPD outreach program at Royal Perth Hospital and is directing clinical studies examining biomarkers for COPD. Dr Moodley is Associate editor for Respirology and on the steering committee for the Australian Lung Foundation in setting up a national registry for IPF in Australia. He has recently edited the series on Stem cell therapy for lung diseases in Respirology.

Selected publications


Professor Steven Mutsaers
Centre for Cell Therapy and Regenerative Medicine, School of Medicine and Pharmacology
Lung Institute of Western Australia
The University of Western Australia, steven.mutsaers@liwa.uwa.edu.au

Steven is a Research Professor and Senior Research Scientist at the Centre for Cell Therapy and Regenerative Medicine, University of Western Australia and Lung Institute of Western Australia. Professor Mutsaers' research interests include studies examining the mechanisms regulating serosal and lung repair and how a breakdown in repair leads to disease. In particular he is interested in the mediators and signalling pathways that regulate cell differentiation and function. His recent studies have examined the role of the IL-6 family of cytokines and STAT signalling in the pathogenesis of lung fibrosis and hedgehog signalling in the growth of malignant mesothelioma. Professor Mutsaers sits on several national and international scientific committees and granting bodies and is on the editorial board of several international journals. He is the President of the International Mesothelioma Interest Group and is a current recipient of a Cancer Council Western Australia Research Fellowship.

Selected publications


Associate Professor Cecilia Prêle
Administrative Director, Centre for Cell Therapy and Regenerative Medicine, School of Medicine and Pharmacology
The University of Western Australia
cecilia.prele@uwa.edu.au

Cecilia is a Senior Research Scientist with the Tissue Repair Unit at the Lung Institute of Western Australia and is Administrative Director for the Centre for Cell Therapy and Regenerative Medicine, University of Western Australia. She was awarded her PhD in Biochemistry from University College London, UK in 2001.

Associate Professor Prêle's current research focus is on investigating the molecular mechanisms contributing to the development and progression of lung fibrosis and in particular, the analysis of the Jak/STAT signalling pathway in idiopathic pulmonary fibrosis. Her research interests include investigating the signal transduction pathways responsible for human monocytes and macrophages function in vitro and ex vivo. Associate Professor Prele’s research is currently funded by an NHMRC project grant.

Selected publications


Mr Cengiz Tarhan
Managing Director
UCL Business PLC
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Having trained as an accountant, after a spell at University of London Cengiz joined the Royal Free Hospital School of Medicine (RFHSM) in 1989. In 1993 he was appointed as Finance Director for RFHSM and then continued as Director of Financial and Business Affairs for the Medical School on its merger with UCL in 1998.

Cengiz established Freemedic PLC (now UCL Business PLC (UCLB)) as the commercial arm of RFHSM in 1993 and formally transferred from his UCL role to the position of Managing Director for UCLB in 2004. Over the years he has been involved in many licences and spin-outs including PolyMASC Pharmaceuticals PLC, one of the first university spin-outs to float on the AIM in 1995, Medic to Medic Ltd (creators of the Map of Medicine) which was sold to Informa PLC in 2005 and Stanmore Implants Worldwide Limited which was acquired by Abingworth and MDY Healthcare in February 2008.

Cengiz also acts as a Director for a number of UCLB’s spinout companies, including Pentraxin Therapeutics Limited, Evexar Medical Limited and Helicon Health Limited.

Ms Michel Watson BSc
Research Assistant
School of Chemistry and Biochemistry
The University of Western Australia
(representing George Yeoh)
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Michel obtained her Bachelor of Science majoring in Genetics and Pathology, with honours, in 2013. In 2015 she hopes to commence a PhD.

Professor George Yeoh,
Deputy Director, Centre for Cell Therapy and Regenerative Medicine,
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The University of Western Australia, george.yeoh@uwa.edu.au

George Yeoh is also Professor, Discipline of Biochemistry and Molecular Biology, School of Chemistry & Biochemistry; Associate Dean (Research) Faculty of Medicine, Dentistry and Health Sciences; Laboratory Head – Liver development & carcinogenesis laboratory, Centre for Medical Research, Western Australian Institute for Medical Research.
Professor Yeoh's research includes:
Regulation of liver genes during fetal development and its relevance to disease.
Genetic changes that convert normal liver cells into cancer cells that can explain the development of hepatocellular carcinoma.
Liver stem cells and their use in cell and gene therapy as an alternative to organ transplant in treating liver disease.

Selected publications


Winthrop Professor Ming-Hao Zheng,
MB BS Shantou, PhD, MD W.Aust., FRCP
Director of Research
Orthopaedic Research Unit
School of Surgery and
Associate Dean (International)
Faculty of Medicine, Dentistry and Health Sciences
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Professor Ming-Hao Zheng is the Winthrop Professor and Director of Research at the Translational Orthopaedic Research Centre, Sir Charles Gairdner Hospital, Perth and the Associate Dean (International) of the Faculty of Medicine, Dentistry and Health Sciences, the University of Western Australia. He is also the Chung Kong Scholar Lecturing Professor and the Deputy Director of Australia-China Cooperative Research Centre for Biotherapeutics and Regenerative Medicine at the Zhejiang University, China, Director for UWA-Nanjing Bone and Joint Research Centre at Nanjing University. He has served on the editorial board member for numbers of Orthopaedics, stem cell and Pathology journals.

He has focused on the development of an academic career in bone and joint research and regenerative medicine. His productivity is evidenced by the quality of publications and patents, and his ability to transform laboratory research into clinical practice. He has published over 140 peer-reviewed papers in journals including Nature Medicine, Annals of Internal Medicine, Journal of Clinical Investigation, Molecular Cellular Biology, Journal of Biological Chemistry, American Journal of Pathology and Journal of Bone and Mineral Research.

His major achievements include studies in the molecular and cellular biology of the osteoclast, clinical and laboratory evaluation of cellular therapies, human bone allograft, development of cell-scaffold technology
for cartilage, tendon and bone regeneration and regulatory framework in human tissue and cellular products. His work on Giant Cell Tumour of bone (GCT) has been used by WHO for classification of bone tumours and has been recorded in the textbook “Ackermans Surgical Pathology”.

He has 7 patents in the field of Orthopaedics and has introduced the concept and technology of autologous biotherapy in orthopaedics. His research results in the development of autologous stem cell and progenitor cell therapy in bone, cartilage and tendon. He has transformed the benchwork of Matrix-induced Autologous Chondrocyte Implantation (MACI) and Autologous Tencoyte Therapy (ATT) into clinical practices. In 2009, he received an honour from by Genzyme in Boston for his leadership, commitment and dedication to the advancement of MACI. To date, more than 120 hospitals across Australia and over 8000 patients in the world have used MACI for the treatment of cartilage defects.

Prof Zheng has actively supervised and nursed quality postgraduate students and postdoctoral fellows with 28 PhD and 15 Master of Medical sciences students completing their degree in the last 20 years. Many of them have won awards at the national and international meetings for their research work and become high profile independent researchers.

Selected publications
