

Highlights of 2008



WHRI

January 2009

Special points of interest:

- WHRI one of the UK's top three institutions
- WHRI lead new £5.45M NIHR centre
- WHRI attracts more than £10M in other new grant money

WHRI one of the UK's top three institutions

WHRI was a strong contributor to the outstanding performance of Barts and the London School of Medicine and Dentistry and Queen Mary University of London in the recent assessment exercise (RAE). As the Times Higher Education commented 'the biggest star among the research-intensive institutions was Queen Mary, University of London, which went from 48th in 2001

to 13th in the 2008 Times Higher Education table, up 35 places'. To best show our fully integrated environment WHRI entered the RAE as a single research unit. 65% of our returned staff scored as 4 star (world-leading in terms of originality, significance and rigor) or 3 star (international excellence in terms of originality, significance and rigour) in our unit of as-

essment (UoA). Focusing upon these research leaders, showed that we had the third best scores in the country for 3 and 4 star staff, just behind University of Oxford and University College London and ahead of King's College London and the Universities of Sussex, Bristol, Liverpool, Nottingham and Aberdeen (table).

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rank	Institution	UoA15	% 4 & 3 star staff
1	University of Oxford		80
2	University College London		70
3=	QMUL, WHRI		65
3=	University of Manchester		65
5	King's College London		55
6	University of Sussex		55
7	University of Bristol		55
8	University of Liverpool		55
9	University of Nottingham		40
10	St George's Hospital Medical School		40
11	University of Aberdeen		40
12	UHI Millennium Institute		10
13	London Metropolitan University		5

Barts and The London Cardiovascular Biomedical Research Unit

WHRI was a senior partner in a successful multi-million bid to the NIHR for a new Biomedical Research Unit. This new unit is designed to accelerate therapeutic innovation from the WHRI into cardiovascular clinical care. Our strategy has been to create a translational hub where 240 cardiovascular clinicians and scientists integrate genetics, stem cell biology, pharmacology, inflammation research, epidemiology and large-scale trials to create a flow of concepts from the bench into the clinic. This will feed innovative therapeutic concepts into clinical care at Barts and The London NHS Trust Cardiac Service which serves over 1.5 million members of the public. This busy cardiac service of-

fers a 24/7 Heart Attack Centre which performs 800 emergency interventions per year, as well as conducting 2700 routine percutaneous procedures and 1500 surgical revascularisations together with state of the art electrophysiology and devices programmes. With the new NIHR funding Barts and The London (NHS Trust and the School of Medicine and Dentistry) are now creating an internationally leading edge Advanced Cardiac Imaging team and Centre with a new 1.5T 32 coil MRI, dedicated CT scanner and access to 64 slice PET/CT) adjacent to our Heart Attack Centre. This will enable us to make a step change in translation of basic science concepts in cardiovascular pharmacol-

ogy into clinical care by using imaging to characterise their effects within clinical studies. This presents an outstanding environment for creating and testing novel therapies which could apply across the UK population and the international community.

We are currently advertising for the Chair of Advanced Cardiovascular Imaging and their team as well as offering the opportunity to apply for 1 year NIHR Academic Clinical fellowships at Barts and The London Biomedical Research Unit. Those interested should look further at our web site, www.whri.qmul.ac.uk.

2008- 2012

*National Institute of
Health Research
Cardiovascular
Biomedical Research
Unit. £5.45M.*

William Harvey Heart Centre

Heart disease and stroke are the leading cause of death world-wide, and there is an enormous unmet need for new therapies for heart disease. Now we have a unified strategy for combining the WHRI's world-class strength in cardiovascular pharmacology with new basic science strengths to establish an innovative Heart Centre to drive a research pipeline for novel therapies from bench to patient. Right now a new £312M state-of-the-art heart hospital is being built at St Bartholomew's Hospital providing a major opportunity to take this to a completely new level. To capitalise upon

this we are establishing the William Harvey Heart Centre, a 3172 m² building for integrated therapeutics research. Our distinctive strategy for this Heart Centre will combine new basic science strengths in the study of how genes raise blood pressure, and how disorders of heart rhythm are triggered, alongside high calibre stem cell biology and biomarkers research. These new basic science strengths will generate novel concepts which combined with our existing top-class pharmacology will help us realise our ambition of translating discoveries into cardiovascular clinical care

(translational research) at the new hospital and beyond. Led by Mark Caulfield WHRI has already secured £18M of funding for this new centre, representing more than two thirds of the total funds needed and is now preparing to fit-out the completed core and shell of the Heart Centre.



**The new William
Harvey Heart
Centre**

Two new Wellcome Trust programme grants

Mauro Perretti and Rod Flower, and Tim Warner (with Jane Mitchell at Imperial College) have been awarded Wellcome Trust programme grants. Mauro and Rod's £1.2M grant is to investigate the pathophysiology of ALX in inflammation. This programme of research will fit with their long-standing interest in endogenous anti-inflammatory and homeostatic mediators that are activated in specific temporal and spatial fashions to limit the duration and extent of inflammatory reactions, and so avoid inappropriate responses. In their research to date, Rod and Mauro have investigated the properties of annexin-1, a glucocorticoid-modulated protein that regulates inflammatory reactions. This new Wellcome Trust funded project will focus on the putative annexin 1 receptor, termed ALX, exploiting a

unique mouse transgenic colony to investigate the functions of this receptor during on-going inflammatory reactions. The key questions this programme will address are: is ALX genuinely an anti-inflammatory GPCR; how is ALX gene expression regulated during inflammation; what are the specific biological effects of annexin-1 that are mediated by ALX; what regions of human ALX are required to transduce signals from annexin-1 and other receptor ligands; does ALX dimerize and function in a ligand-biased fashion? The programme grant of £1M awarded to Tim Warner and Jane Mitchell will build upon more than 10 years research into the roles and actions of different products of the cyclooxygenase (COX) system within the circulation. The use of aspirin as a protective anti-

thrombotic agent by hundreds of millions of people, and the wide-spread concerns associated with the consumption of non-steroidal drugs make this a subject of much current importance. The newly funded project will explore the relative expressions of COX-1 and COX-2 in cardiovascular tissues in man and in laboratory animals and how different intracellular environments influence the activities and drug susceptibilities of different cyclooxygenase enzymes. It will also explore the roles of the prostanoid signalling systems in controlling vascular function. As for Mauro and Rod's project, this research will be underpinned by access to unique colonies of COX-1 and COX-2 knockout mice. These animals display none of the phenotypic fragility that limited previous research in this area.

wellcome trust

Over £2M in
programme grant
funding

In memoriam, Professor Iain MacIntyre FRS

Iain MacIntyre FRS was one of the original members of the William Harvey Research Institute joining us, from (what is now) the Hammersmith campus of Imperial college in the early 1990s. Iain 'Mac' (as he was known) made many important contributions to bone biology, but is probably best known for his discovery of calcitonin for which he was elected to the Royal Society in 1996 and received the prestig-

ious Buchanan medal in 2006. He later worked in the WHRI on the role of nitric oxide in the control of bone metabolism as well as the role of osteoprotegerin and osteoprotegerin ligand in bone reabsorption and osteoclast recruitment. Iain was an inspirational researcher and teacher who made many friends, and gained many admirers in the Institute. He will be sadly missed particularly as his re-

search, in partnership with Professor Perretti, was about to enter a new phase following the successful acquisition of one of his patents by the Unigene corporation. Professor Iain MacIntyre died on 17th September 2008, he was 84 years old.



Beetroot, bacteria and blood pressure

Taking in high amounts of nitrate your diet could help control your blood pressure. Amrita Ahluwalia, Andy Webb and colleagues found in healthy volunteers, that ingestion of dietary nitrate caused a substantial fall in blood pressure, stopped clot formation and protected blood vessels against the damaging effects of a 'simulated' heart attack. The dietary nitrate was given in the form of a juice made from 100% beetroot; a vegetable that possesses particularly high nitrate concentration and a convenient and safe method for administering a nitrate load. Fascinatingly, this beneficial effect of dietary nitrate was the product of a symbiotic relationship humans have with bacteria that have colonized the back of our tongues. When swallowed the nitrate in the beetroot juice is absorbed

through the stomach lining and passes into the circulation. Most of this nitrate is excreted in the urine but up to 25% collects in the saliva. When the saliva hits the back of the tongue the bacteria convert the nitrate it contains into nitrite, the nitrite is swallowed and then this gets absorbed back into the circulation. As it passes around our bodies this nitrite becomes converted locally by blood vessels into NO. If the volunteers refrained from swallowing their saliva (i.e. they spat all their saliva out) the rise in nitrite in the circulation and the drop in blood pressure were absent. On-going studies will investigate whether increasing dietary nitrate is beneficial in reducing blood pressure in patients with high blood pressure. This research certainly captured the attention of the media, with

widespread coverage of the work worldwide evidenced by reporting in both the broad sheets and tabloids in the UK, India and Europe, as well as radio and television news including BBC News, The Today Programme, Channel 4 News in the UK, and CBS and FOX News in the USA. This coverage in turn attracted the attention of the general public with many enquiries, worldwide, about the health benefits of beetroot. Amrita and her team believe that their future research will provide evidence supporting the idea that dietary nitrate underlies the beneficial effects of a vegetable-rich diet and will highlight the potential of a 'natural', safe, low cost approach for the treatment of cardiovascular disease.



Amrita Ahluwalia

New ways to control blood pressure

Visit to Astra-Zeneca

In May this year Amrita Ahluwalia, Mark Caulfield, Yuti Chernajovsky and Sussan Nourshargh visited Astra-Zeneca in Gothenburg to dis-

cuss a number of projects of mutual interest. The discussions led to a number of strong and financially supported collaborative ventures

including one with Sussan Nourshargh on monocyte trafficking.



Cell sorting core facility

Successful grant applications, led by Nick Goulding, mean that we now have the equipment and personnel to establish a Core Cell Sorting Facility laboratory. The new laboratory to be located on the ground floor of the John Vane building will house a brand new four laser, 14 colours BD Aria II cell sorter, a BD LSR I flow cytometer, as well as 1 and 2 laser BD FACS Calibur flow

cytometers. In addition to these instruments, on the first floor of the John Vane building we will retain the cytometry analysis suite which possesses a two laser BD FACS Calibur, and a three laser, 9 colour Beckman Cyan ADP.

The aim of the Core Cell Sorting Facility is to provide an efficient cell sorting service. The facility will also provide advice, support and training to

scientists and students of the WHRI and Cancer institute regarding cell sorting and flow cytometric analyses, and implement and develop novel assays and techniques. The new facility is planned to open in March 2009. For any further information or enquiries regarding the service you can contact the laboratory manager, Guglielmo Rosignoli (g.rosignoli@qmul.ac.uk).

WHRI annual review

The 2008 William Harvey Annual Research Review (24th & 25th November), organised by Profs Sussan Nourshargh and Chris Thiernemann, was a great success. More than 30 members of the Institute presented their latest research findings in inflammation, endocrinology, cell signalling, cardiovascular research, drug discovery, experimental models of disease and translational research.

The William Harvey Outstanding Contribution to Science medal was awarded to Professor Paul Stewart (Professor of Medicine at the University of Birmingham) for his work on Cortisol and the Metabolic Syndrome: New Discoveries, New targets. The John Vane Lecture was given by Professor Charles Serhan (Director of the Centre for Experimental Therapeutics and reperfusion Injury at the

Brigham and Women's Hospital of Harvard University). Professor Serhan provided an insight into his personal interactions and research collaborations with Sir John Vane. He then highlighted the latest developments of his own research relating to the 'Discovery of novel anti-inflammatory and pre-resolving mediators'. Professor Serhan was awarded the John Vane Medal by Lady Vane. The scientific presentations concluded with The Willoughby Inflammation Lecture presented by Professor Sir Mark Walport, Director of the Wellcome Trust who provided an insightful presentation on new way forward for research in the UK with his presentation entitled 'Genes, Inflammation and Disease'. Professor Mark Caulfield, highlighted the enormous advances that the William Har-

vey Research Institute had made in the past 12 months, especially towards the funding of the fit out of the William Harvey Heart Centre. The quality of the four finalists' presentations for the William Harvey Young Investigator Award were extremely high. The awards were presented by Professor Tom MacDonald (Dean for Research) to Ms Doris Proebstl for her work investigating the role of pericytes in leukocyte migration in vivo (Centre for Microvascular Research) and to Dr Renuka Dias (Centre for Endocrinology) for revealing a novel molecular genetic pathogenesis in the Silver-Russell syndrome. The event concluded with a celebratory dinner, which was enjoyed by all participants of the conference at The Urdang located in the Old Finsbury Town hall.



Charles Serhan receives his commemorative medal from Lady Vane.

WHRI welcomes new staff

Sussan Nourshargh, welcomed Dr Martina Bauer and Dr Robin Postin, while Dr. Kristin Kornerup joined Tim Warner's group. Dr Niall Campbell joined Ken Suzuki's group as a clinical research fellow and Dr Takuya Narita as a post-doctoral research assistant. Dr. Guglielmo Rosignoli came to us from Imperial College to be the manager of our new FACS sorting facility when it opens on the ground

floor of the John Vane Science Centre. Drs Niloufar Moradi-Bidhendi, Elisabetta Liverani, Adam Al-Kashi, Karin V Greco and Mr Francesco Maione joined the Centre for Biochemical Pharmacology, as did Martin Goss as the new laboratory manager. Amrita Ahluwalia has been joined by Tara Andrews, as laboratory manager, and Alexander Milson as a post-doctoral research fellow, Vikas Kapil as a

clinical PhD SPR, and Vanessa Pearl as a research nurse supported by a BHF special project grant on nitrate. Experimental Medicine and Rheumatology have welcomed Helena Robinson as a clinical research fellow, Rebecca Hands and Ken Choi as research assistants, Harrietta Habada as a research nurse, and Dr Tahereh Kamalati as a clinical trials coordinator.

WHRI seminar series

The WHRI seminars that collectively combine talks on Cardiovascular, Inflammation & Genetics themes (WHRI seminars) with Endocrinology related topics (Endocrine Club)

yet again provided an excellent programme of talks by invited speakers. The list included international guests such as Professor Beat Imhof from Geneva, Dr Michael Sixt from

the Max Planck Institute in Martinsried, Germany, Professor Thomas Luger from University of Muenster, Germany, and Professor Vera Popovic from Serbia.

*William Harvey
Outstanding
Contribution to
Science, Professor
Paul Stewart*

*John Vane Lecture,
Professor Charles
Serhan*

*Willoughby
Inflammation
Lecture, Professor
Sir Mark Walport*

Numerous awards for WHRI staff and students

Adrian Clark was appointed editor-in-chief of the Journal of Endocrinology (2009 – 2014).

Alessia David gained a Wellcome Trust VIP award.

Amrita Ahluwalia has joined the BHF Project Grants Committee (2009-2013), and become a senior editor for the British Journal of Pharmacology (2009-2013).

Ashley Grossman was appointed Chairman of the United Kingdom and Ireland Neuroendocrine Tumour Society (UKINETS); Chairman of the Advisory Board, European Neuroendocrine Tumour Society (ENETS); and, Chairman of the Public Engagement Committee, Society for Endocrinology.

Bartomeu Colom was awarded a Travelling Fellowship Prize from the American Society of Investigative Pathology (ASIP) to attend the forthcoming EB FASEB Meeting in New Orleans.

Claire Hughes was awarded a European Society of Paediatric Endocrinology (ESPE) Research Fellowship.

Chrysanthia Leontiou was awarded the Poster Prize of the 40th International Symposium on Endocrinology and Metabolism.

Doris Proebstl won the Young Investigator Award at the WHRI Annual Review, and won a Travelling Fellowship

Prize from ASIP.

Harvinder Chahal won the AMEND award at the BES 2009 for the clinical and genetic characteristics of Familial Isolated Pituitary Adenomas. Li Chan was awarded the Society for Endocrinology young investigator award for 2008 for work entitled 'MRAP2 permits the functional expression of the melanocortin 2 receptor: a new member of a new family of melanocortin receptor accessory proteins'.

Kristi Alexandraki was awarded the Merck Outstanding Abstract Award from the US Endocrine Society, San Francisco, 2008.

Li Chan was awarded the Novo Nordisk Paediatric Endocrine Educational Award for 2008.

Mark Caulfield became a fellow of the Academy of Medical Sciences and Vice President of the British Hypertension Society.

Marta Korbonits, was promoted to Professor of Endocrinology and Metabolism and was elected the program secretary for the Society of Endocrinology for 2009-2012.

Nimesh Patel was the winner of the best oral communication by a young pharmacologist at the joint BPS/EPHAR summer meeting.

Paul Armstrong won the Young Clinical Investigator Award of the British Society

for Cardiovascular Research. Paul Chapple joined the Society for Endocrinology Science Committee.

Renuka Dias was awarded a US Endocrine Society best poster award for her poster entitled 'Patients with Addison's disease without other endocrinopathy are unlikely to have mutations in the ACTH receptor or MRAP'.

Sussan Nourshargh was invited to join the Programme and Fellowship Committee of ASIP.

Teng Teng Chung won the BES poster prize 2008 for the abstract "The cell surface expression of MC2R mutations found in familial glucocorticoid deficiency".

Umasuthan Srirangalingam won the best poster prize at the Society for Endocrinology in February, the best clinical poster at the 2nd International Symposium on Pheochromocytoma, and was a finalist in the Young Endocrinologist competition of the British Endocrine Society in March 2008. Veronica Moyes (clinical research fellow) has been awarded the AMEND Young Investigator Prize for her work entitled 'Cinacalcet is an effective and well-tolerated treatment for MEN1-associated primary hyperparathyroidism'.

Editorships

Prizes

Fellowships

& more.....

More PhD students complete their studies

Jessica Wray and Yoyo Li (supervisor David Bishop-Bailey) received their PhDs in March and May, respectively, and are now working at the

Radcliffe Hospital in Oxford and Imperial College, London.

Lucy Norling (supervisors Mauro Perretti and Dianne Cooper) received her PhD in

March and is now a foundation fellow of the Arthritis Research Campaign spending a long spell at Harvard University.

Grant success

2008 was another good year in WHRI for grant income with researchers attracting over £15M of new funding. This included over £2.5M from the MRC, over £1.3M from the BHF, more than £3.5M from the Wellcome Trust, over £7.8M from the NIHR, and more than £1M from the ARC. (Full details below).

Biochemical Pharmacology

Action Pharma Collaborative Project Grant, 'Novel melancortin peptides: mechanism of action'; £245k; awarded to Mauro Perretti & Mike Seed; 2008-2010.

ARC foundation fellowship, 'Omega 3 derived anti-inflammatory lipids'; £178k; awarded to Dr Lucy Norling (sponsors Rod Flower & Charles Serhan).

ARC project grant, 'Targeting anti-inflammatory therapy to arthritic joints'; £197k; awarded to Ahuva Nissim, Fulvio D'Acquisto & Chris Hughes; 2009-2011.

ARC project grant, equipment grant, 'Flow cytometric discrimination and selective purification of human and animal primary cells and cell lines for rheumatology research'; £184k; awarded to Nick Goulding, Yuti Chernajovsky, Mauro Perretti, Cos Pitzalis & Rod Flower.

Heptagon Technology validation award, 'Developing new tools to mimic annexin 1 actions on T cells'; £75k; awarded to Fulvio D'Acquisto & Mauro Perretti; 2008-2009.

Multiple Sclerosis Society innovative award, 'Exploiting T cell Annexin-1 as target for the treatment of multiple sclerosis'; £25k; awarded to Fulvio D'Acquisto, Chris Bolton & Rod Flower; 2008-2009.

UCB collaborative project grant, 'Exploring the resolution of inflammation for innovative target discovery'; £175k; awarded to Mauro Perretti; 2008-2011.

Unigene Collaborative project grants, 'Development of calcitonin as a co-treatment with glucocorticoids', and 'Development of novel annexin 1 peptides'; US\$1.2M; 2008-2011.

Wellcome Trust programme grant, 'The pathophysiology of ALX in inflammation'; £1.2M; awarded to Mauro Perretti & Rod Flower; 2009-2014.

Wellcome Trust project grant, 'The Annexin-A1 system and the mechanism of action of the cromoglycate drugs'; £236k; awarded to Rod Flower & Egle Solito; 2008-2011.

Wellcome Trust project grant, 'Biochemical and functional analyses of the glucocorticoid receptor in blood platelets'; £134k; awarded to Mauro Perretti, Costantino Pitzalis & Khalid Naseem; 2008-2009.

Wellcome Trust project grant, 'Investigation on the endogenous annexin 1 system in inflammatory arthritis'; £278k; awarded to Mauro Perretti, Mohini Gray & Costantino Pitzalis; 2008-2011.

Bone & Joint Research Unit

ARC clinical PhD studentship, 'Translational research in rheumatoid arthritis: an integrated laboratory and clinical approach'; £45k + salary; awarded to Cos Pitzalis, Mauro Perretti & Yuti Chernajovsky; 2009-2012.

ARC project grant, 'Functional role of ARTS-1/ERAP-1 isoforms in ankylosing spondylitis'; £188k; awarded to Yuti Chernajovsky, Nasim Yousaf & Ahuva Nissim; 2008-2011.

ARC project grant, 'Genetic delivery of PGD2 synthase for early resolution of arthritic inflammation'; £137k; awarded to David Gould & Derek Gilroy; 2008-2010.

ARC project grant, 'Targeting anti-inflammatory therapy to arthritic joints'; £197k; awarded to Ahuva Nissim, Fulvio D'Acquisto & Chris Hughes; 2009-2011.

Malaysian Government PhD studentship for Miss Izza Nordin; £15k + fees; sponsor Rizgar Mageed.

MRC project grant, 'Towards a targeted therapy for arthritis'; £375k; awarded to Yuti Chernajovsky & Gill Adams; 2009-2012.

Prostate Research Campaign UK project grant, 'Development of bispecific human antibody fragments for potential treatment of hormone refractory prostate cancer (HRPC)'; £30k; awarded to Ahuva Nissim. 2008.

Research Advisory Board training fellowship for Dr. Gayatri Mittal, 'Development of a latent IL-17 antagonist for effective gene therapy of rheumatoid arthritis'; £148k; sponsors, Yuti Chernajovsky, Rizgar Mageed & Bruce Kidd; 2009-2011.

Wyeth Pharmaceuticals collaborative industrial grant, 'Anti-TNF α -based therapy in rheumatoid arthritis'; £73k; awarded to Rizgar Mageed & A Jawad; 2008-2009.

Cardiology

BHF project grant, 'Comparison of catheter ablation with medical therapy for atrial fibrillation in heart failure (CAMTAF)'; £246k; awarded to Richard Schilling; 2008-2011.

NIHR biomedical research unit (cardiovascular), 'Advanced cardiac imaging'; £3.8M + £2M capital funding; awarded to Adam Timmis, Mark Caulfield et al.; 2008-2012.

NIHR programme grant, 'Improving the quality of care of patients with angina and heart attack'; £1.8M; awarded to H Hemingway, Gene Feder, Adam Timmis et al.; 2008-2012.

Wellcome Trust project grant, 'Insights into CVD from linking datasets'; £1.2M; awarded to H. Hemingway, A. Hingorani, L. Smeeth, M. Kivimaki, D. Kalra & Adam Timmis; 2008-2012.

Wellcome Trust, 'Pilot study for establishment of large-scale biore-



Total new grants in excess of £10M plus £5.45M for NIHR centre

MRC grants in excess of £2.5M



Grant success (cont)

sources'; £196k; awarded to J. Danesh, W. Ouwehand, R. Kausik, H. Hemingway & Adam Timmis; 2008-2012.

Clinical Pharmacology

BHF project grant, 'Matrix metalloproteinase-8 in the pathogenesis of atherosclerosis'; £100k; awarded to Shu Ye, Qingbo Xu & Amrita Ahluwalia; 2008-2011.

BHF special project grant, 'Investigation of the benefits of dietary and non-dietary sources of nitrate/nitrite on cardiovascular disease: mechanisms and cellular target'; £557k; awarded to Amrita Ahluwalia, Andy Webb, Adrian Hobbs, Ray Macallister & Nigel Benjamin; 2008-2011.

Wellcome Trust project grant, 'Characterisation of the physiological roles and pathological significance of endothelium-derived C-type natriuretic peptide: a novel vasoprotective signalling paradigm'; £477k; awarded to Adrian Hobbs, Amrita Ahluwalia & Andrew Tinker; 2008-2011.

Endocrinology

Bart's and the London Charity, equipment funds; £9411; awarded to Peter King; 2008.

BBSRC studentships; awarded to Paul Chapple with Martin Knight (School of Engineering and Material Science); 2009-2012.

European Society of Paediatric Endocrinology (ESPE) Research Fellowship; awarded to Claire Hughes.

Joan Adams Fellowship; £57k; awarded to Peter King; 2008.

MRC new investigator research grant, 'ACTH receptor pathway defects as the cause of Familial Glucocorticoid Deficiency type 3 (FGD3)'; awarded to Lou Metherell; £506k; 2009-2012.

MRC PhD studentship, 'The role of primary cilia in adrenal development and function'; £72k; awarded to Peter King; 2008-2011.

MRC project grant, 'Histone methylation defects as a mechanism for the long-term consequences to offspring of maternal undernutrition'; £620k; awarded to Adrian Clark; 2008 – 2011.

MRC Research Training Fellowship, 'Elucidation of the role of the molecular chaperone AIP-1 in familial acromegaly'; £193k; awarded to Harvey Chahal and Márta Korbonits; 2008-2011.

Society for Endocrinology small grant scheme; £15k; awarded to Paul Chapple; 2009.

Wellcome Trust VIP award; £8k; awarded to Alessia David; 2008.

Experimental Medicine & Rheumatology

MRC project grant, 'Pathobiology of Early Arthritis Cohort (PEAC) – Development of a prospective PEAC & bio-medical resource to investigate relationships of pathobiology, disease phenotypes and outcomes'; £682k; Cos Pitzalis, P Taylor, I McInnes, C Buckley, E Choy; 2008-2011.

Nuffield Foundation, The Oliver Bird Rheumatism Programme (4 year PhD Training Programme); £618; Cos Pitzalis & DL Scott (Joint Coordinators – QMUL-KCL); 2008-2012.

Barts and the London Charity, centre grant; 'To establish an early arthritis referral centre for the study and treatment of inflammatory arthropathies'; £498k; Cos Pitzalis & David Perry; 2008-2013

Microvascular Research

AstraZeneca project grant, 'An investigation into regulation of intravascular and extravascular responses of monocytes in inflammation'; £210k; awarded to Sussan Nourshargh; 2008-2011.

Wellcome Trust VIP award to fund Dr James Whiteford for 6 months, 'The role of syndecans in microvascular tube formation in cultured endothelial cells'; £26k; awarded to Sussan Nourshargh; 2008-2009.

Translational Medicine & Therapeutics

BHF project grant, 'Calcineurin splicing variants in heart development and disease'; £171k; Barton, Rosenthal & Ken Suzuki; 2007-2009.

BHF clinical research training fellowship for Dr Nial Campbell, 'Different types of adult stem/progenitor cells and their early interactions with endothelial cells following intracoronary injection'; £201k; awarded to Ken Suzuki, Anthony Mathur & Sussan Nourshargh; 2008-2011.

Heart Research UK project grant, 'Clinically relevant testing of a novel 96-well plate assay of platelet reactivity'; £85k; awarded to Tim Warner; 2008-2010.

NIHR New and Emerging Application of Technologies Programme, 'Establishment of a novel cell-sheet therapy for treating heart failure'; £235k; awarded to Ken Suzuki; 2009-2011.

Wellcome Trust programme grant, 'Understanding the role of cyclo-oxygenase isoforms in cardiovascular health and disease'; £977k; awarded to Jane Mitchell & Tim Warner; 2009-2013.

WHRF project grant, 'Paracrine cardioprotective mechanisms associated with adult bone marrow mononuclear cell therapy in acute myocardial ischemia and reperfusion'; £61k; awarded to Chris Thiemermann.

Patents

Use of vitamin B12 and analogues or homologues thereof in medicine. D'Acquisto F, Perretti M, Wheatley C; PCT filed 5th December 2008 (GB 0723972.6; QM ref. 2008/017).

Antibodies to Annexin-1 pathway; generation and validation of a novel tool for the therapy of autoimmune diseases; D'Acquisto, Perretti M. Filed Dec 19th 2008.



ARC grants in excess of £1.2M

BHF grants in excess of £1.3M

Wellcome Trust grants in excess of £3.5M



Publications in 2008 (*journal impact factors >5*)

1. Armstrong PC, Truss NJ, Ali FY, Dhanji AA, Vojnovic I, Zain ZN, Bishop-Bailey D, Paul-Clark MJ, Tucker AT, Mitchell JA, Warner TD. Aspirin and the in vitro linear relationship between thromboxane A₂-mediated platelet aggregation and platelet production of thromboxane A₂. *J Thromb Haemost*. 2008;6(11):1933-1943.
2. Babbitt BA, Laukoetter MG, Nava P, Koch S, Lee WY, Capaldo CT, Peatman E, Severson EA, Flower RJ, Perretti M, Parkos CA, Nusrat A. Annexin A1 regulates intestinal mucosal injury, inflammation, and repair. *J Immunol*. 2008;181(7):5035-5044.
3. Bardy GH, Lee KL, Mark DB, Poole JE, Toff WD, Tonkin AM, Smith W, Dorian P, Packer DL, White RD, Longstreth WT, Jr., Anderson J, Johnson G, Bischoff E, Yallop JJ, McNulty S, Ray LD, Clapp-Channing NE, Rosenberg Y, Schron EB. Home use of automated external defibrillators for sudden cardiac arrest. *N Engl J Med*. 2008;358(17):1793-1804.
4. Barone F, Bombardieri M, Rosado MM, Morgan PR, Challacombe SJ, De Vita S, Carsetti R, Spencer J, Valesini G, Pitzalis C. CXCL13, CCL21, and CXCL12 expression in salivary glands of patients with Sjogren's syndrome and MALT lymphoma: association with reactive and malignant areas of lymphoid organization. *J Immunol*. 2008;180(7):5130-5140.
5. Barone F, Bombardieri M, Rosado MM, Morgan PR, Challacombe SJ, De Vita S, Carsetti R, Spencer J, Valesini G, Pitzalis C. CXCL13, CCL21, and CXCL12 expression in salivary glands of patients with Sjogren's syndrome and MALT lymphoma: association with reactive and malignant areas of lymphoid organization. *J Immunol*. 2008;180(7):5130-5140.
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