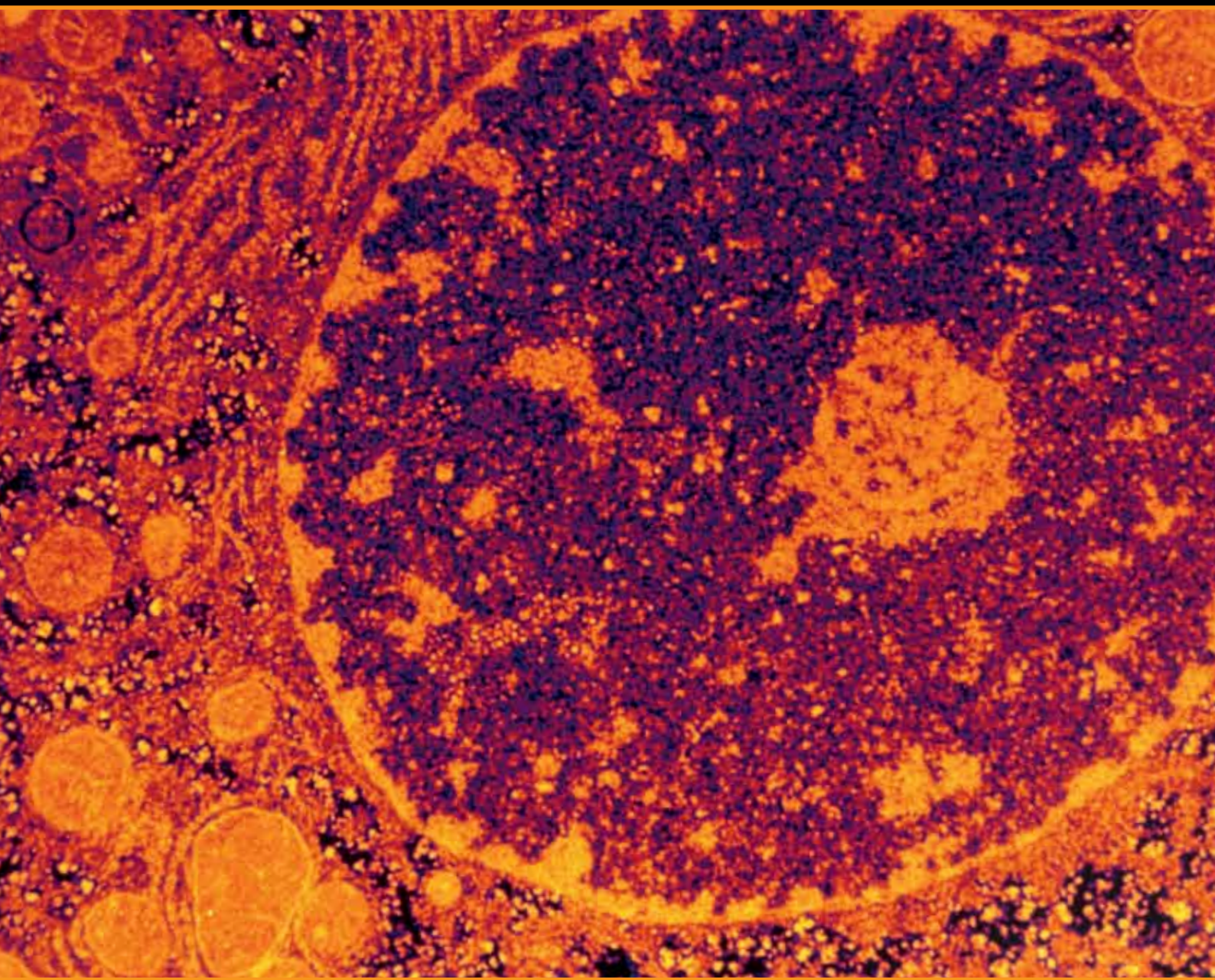


# Medlines

A biannual publication from the College of Medical and Dental Sciences



## Cell therapy at Birmingham

Liver unit leads way in new clinical trials

Inside this issue: **Campaign for antibiotic research; Urine test for cancer; Brain vulnerable to Hepatitis C virus**



## Welcome

The Medical School can trace its history back to 1825; 75 years before the University of Birmingham received its Royal Charter.

A blue plaque by the House of Fraser department store in Birmingham city centre marks the original site of the Medical School and commemorates its founder, William Sands Cox. A surgeon by training, Sands Cox was also a charismatic educationalist who had the vision to see beyond his own discipline. His obituary published in the *BMJ* on 1 January 1876 states: 'He was full of enthusiasm for surgery, an accurate anatomist, a fluent lecturer, and a brilliant operator. He had a kindly manner, and he took a warm personal interest in the welfare of his pupils.' Inspired by our founder, we continue to provide our students with a distinctive, high quality experience and to ensure that each individual is able to develop through their own experiences and growing professional interests. Key to this is the role of mentors and role models.

Apart from Sands Cox, we have an illustrious history of outstanding clinicians and scientists and have recently highlighted this by dividing our medical students into four house groups named after our eminent forebears – William Withering, J Sampson Gamgee, Robert Lawson Tait and Hilda Lloyd. While these individuals symbolise our proud heritage, it is our current staff and alumni that form the community of support for our students and also sustain our commitment to world leading research.

This issue of *Medlines* highlights the impact of individuals on the life of the College of Medical and Dental Sciences. We initiate a series of history of medicine articles with a piece about

Dame Hilda Lloyd – a pioneer and role model in so many different ways. Our commitment to promoting science and to inspiring the next generation of researchers is endorsed by the recent appointment of Alice Roberts to a Chair in Public Engagement in Science. Alice is an extremely enthusiastic advocate for the teaching of clinical anatomy, and we have already roped her into some activity within the College! The reputation and respect of the College in the wider community is evidenced by our continued success in winning highly competitive research awards and by our ability to attract the very best speakers to various events. The fact that Dame Sally Davies, the Chief Medical Officer, selected her Vice-Chancellor's Distinguished Lecture to give her first public address on public health is no coincidence. Dame Sally is a strong supporter of the College and recognises the enormous opportunities we have to make a real difference to healthcare in the UK and beyond.

The history of our Medical School and University reflects the proud heritage of Birmingham and the foresight of our predecessors to create a 'great centre of healing, of teaching and of research' – a quote from a book about the history of the University published in 1947. Together we continue this tradition.

LAWRENCE S. YOUNG  
PRO-VICE CHANCELLOR AND HEAD OF COLLEGE  
OF MEDICAL AND DENTAL SCIENCES

## News in Brief

### Breast cancer trial results

A major UK trial led by the University has produced firm evidence that giving radiotherapy between or during chemotherapy cycles to women with early breast cancer significantly reduces the risk of the cancer recurring in the breast or chest wall. The treatment, known as synchronous chemoradiation, has minimal adverse side-effects and no detrimental effect on patients' quality of life.

Findings from the SEquencing of Chemotherapy and Radiotherapy in Adjuvant Breast cancer (SECRAB) study – which was carried out at 48 centres in the UK and is the largest study to investigate the treatment – were presented in Stockholm, to delegates at the 2011 European Multidisciplinary Cancer Congress.

### Researchers unite to fight TB

Academics from the School of Biosciences are joining forces with peers from the Indian Institute of Science, Bangalore (IISc) in a new research partnership focused on tackling tuberculosis (TB). The research will take a novel approach in studying the biology of *Mycobacterium tuberculosis*, the bacterium that causes TB, with the aim of developing new treatments and diagnostics.

TB remains at epidemic levels worldwide and rates are especially high in the Indian subcontinent despite recent advances in the understanding of the biology of the causative agent. Until recently, techniques used to combat TB largely remained the same as those used in the last century including the vaccine, choice of therapeutic drugs and diagnosis methods.

### Bowel cancer erectile risk

Men suffering from bowel cancer are prone to erectile dysfunction (ED) following treatment, yet most do not receive enough information about the condition, according to a study by University of Birmingham cancer experts.

Men are more likely to develop bowel cancer and many will suffer from ED after treatment, report the authors, led by Professor Sue Wilson, of the Cancer and Chronic Disease Team in the Department of Primary Care and Clinical Sciences.

The study authors conclude that the wide diversity of this patient group calls for greater coordination of care and consistent strategies to tackle unmet needs.

## Microbiologist spearheads campaign for antibiotic research

A University of Birmingham microbiologist is championing a major campaign calling for urgent new investment in antibiotic research. Professor Laura Piddock is leading Antibiotic Action (AA), a global initiative by the British Society for Antimicrobial Chemotherapy (BSAC) to highlight the threat to world health from multi-drug resistant bacteria and lobby for urgent action to develop new antimicrobial treatments.

The BSAC, which recently published *The Urgent Need* report outlining its mission to resurrect antibacterial drug research, believes the world is facing an unprecedented crisis characterised by the emergence of diseases caused by NDM-1 producing *E. coli* and multi-drug resistant gonorrhoea.

The World Health Organisation has described antibiotic resistance as 'one of the three greatest threats to human health'. Professor Piddock and other microbiology experts briefed MPs and journalists at the House of Commons before presenting a petition signed by thousands of supporters calling for renewed investment to the Prime Minister at 10 Downing Street.

The University is at the forefront of intense collaborative research efforts to explore how bacteria become antibiotic resistant and to identify potential new drug compounds and combinations to combat resistance. Birmingham's strength in this area lies in understanding antimicrobial resistance and how bacteria infect the host, explains Professor Piddock.



Professor Laura Piddock

'Twenty-first century medicine is very different from when antibiotics were first developed 70 years ago,' she says. 'If we want effective cancer or transplant treatments we have to be able to treat the modern infections those patients often develop. Many patients spend time in ICUs or have longer stays in hospital and are therefore exposed to drug-resistant bacteria.'

## TV 'sperm race' helps to unlock mysteries of procreation

University of Birmingham reproductive medicine expert Dr Jackson Kirkman-Brown invited a group of male students to take part in an experimental 'Sperm Race' to explore what it takes to be the best out of millions in a BBC3 documentary *How Sex Works*.

Five obliging young men aged 19–25 rose to the challenge, providing samples that were 'raced' through an appropriate clinical medium at Dr Kirkman-Brown's state-of-the-art University laboratories. After a nerve-wracking wait, the results were analysed over a friendly pint in a campus bar to show whose sperm had the best motility (swimming ability), whose was fastest and whose deposit contained the most!

The unusual experiment helped to illustrate the epic struggle that faces a solitary sperm that

reaches the 'finishing line' in the third and final episode of the documentary, part of the *Sex Season* on BBC3. The UoB research team were selected as international leaders in understanding how a human sperm is selected and swims through the female tract.

The series has explored the processes that culminate in procreation, the ultimate function of sex, observing what happens during key stages of sex from the physiological, neurological and psychological perspectives.

Dr Kirkman-Brown commented: 'Human sperm swim the equivalent distance of climbing Mount Everest through the female tract to reach the egg. The inability of an individual sperm to swim and find the egg is probably the largest, but least well-defined cause of fertility problems

for the 20 per cent of couples needing help to conceive. In the programme we demonstrate that it is this swimming ability as opposed to sperm count that matters. Through experiments like those in the programme University of Birmingham research focuses on how to improve how sperm swim to help people conceive, but also to stop it as a novel contraceptive.'

## Willets visit



David Willets, Minister for Universities and Science, talks to Professor Lawrence Young, Head of the College of Medical and Dental Sciences, and Dr Jane Steele, Director of the Human Biomaterials Research Centre, during a visit to the centre in February. Based in the Department of Pathology, the centre collects and stores human tissue samples for distribution to researchers.

## NICE pregnancy guidance

A University foetal medicine expert has helped to shape new advice from NICE on antenatal care for women pregnant with twins or triplets. Professor Mark Kilby says the new guideline charts the way forward for managing multiple pregnancy in the NHS.

The guideline says that women carrying twins or triplets should receive specialist care from an experienced multidisciplinary team to avoid higher than necessary rates of assisted birth and caesarean section, and so they receive appropriate neonatal risk assessment before birth. These women also need more monitoring and more frequent antenatal visits due to the higher risks that can be associated with twin and triplet pregnancies.



Alice Roberts at the Lapworth Museum of Geology

## Alice Roberts made first Professor of Public Engagement in Science

Clinical anatomist, author and broadcaster Alice Roberts has been appointed Professor of Public Engagement in Science at the University.

Roberts, who regularly appears as a science presenter on TV programmes including *Coast*, *Time Team* and *Horizon*, joined the University on 1 February.

As well as carrying out a range of academic duties, such as lecturing undergraduate students and supervising PhD students, this new role will involve promoting the

University's academics and their research to the general public, and inspiring people about science.

Professor Roberts said: 'I am very excited about this appointment. This new professorship emphasises Birmingham's commitment to public engagement in science, to a dialogue between scientists and the wider public. Science is so important to our economy, to politics and education, but perhaps more than anything, I'm keen to promote science as an integral part of our culture.'

## Commercial weight loss services more effective than primary care

Commercial weight management programmes are more successful and cost less than those offered by primary care facilities such as GP surgeries and pharmacies, according to research from the University published in the *British Medical Journal*.

The Lighten Up study led by Dr Kate Jolly, senior lecturer in Public Health and Epidemiology in the School of Health and Population Sciences, assessed the effectiveness of a variety of weight management programmes, including commercial regimes, primary care services and a control group. Outcomes were assessed at three and 12 months.

Funded by NHS South Birmingham the randomised controlled trial took place between January and May 2009 and involved 740 patients aged 18 and over who were registered with general practices in South Birmingham and who had a raised body mass index recorded within the last 15 months.

All of the programmes achieved weight reduction after 12 weeks but at 12 months significant weight loss was seen in all of the groups aside from the one-to-one general practice and pharmacy programmes. The Weight Watchers group was the only one to demonstrate greater weight loss than the control. The primary care programmes were also the most costly to provide.

## Birmingham and Nottingham to host national centre

Scientists at the Universities of Birmingham and Nottingham have jointly set up a new national centre to investigate how to combat musculoskeletal decline in older people.

They have been awarded several million pounds in research funding by the Medical Research Council (MRC) and Arthritis Research UK to explore ways to reduce the pain and disability caused by ageing. Over the next five years they aim to establish how diet and exercise could help to combat deterioration in our bones, joints, ligaments and muscles. They will investigate why musculoskeletal tissue function and structure diminishes with age and look into the risk factors and biological processes involved.

The MRC-Arthritis Research UK Centre for Musculoskeletal Ageing Research in the Midlands will integrate the work of world-class researchers, clinicians and health professionals at the two universities. The initiative is another success to come out of the ground-breaking working agreement signed by the two HE institutions last February which has seen them collaborating in a range of areas, including research initiatives, student experience, business engagement and internationalisation.

Professor Janet Lord, Professor of Immune Cell Biology and Director of the University of Birmingham's Centre for Healthy Ageing Research, commented: 'This funding gives us a unique opportunity to bring together basic scientists and clinicians to tackle the detrimental effects of ageing on the musculoskeletal system.'



# Birmingham wins £12.8m to support groundbreaking clinical research



Health Secretary Andrew Lansley (centre) joins staff outside the Health Research Bus during his visit to Birmingham to announce the new funding.

The University of Birmingham has won a £12.8 million share of a £100 million fund to develop new treatments to benefit thousands of patients. The money, provided by the National Institute for Health Research, will be spent on research nurses, technicians and facilities at 19 of the purpose-built Clinical Research Facilities labs around the UK.

The £12,812,956 award will support the Wellcome Trust Clinical Research Facility, jointly run by University Hospitals Birmingham NHS FT, the University of Birmingham Medical School and Birmingham Children's Hospital NHS Trust, from 1 September 2012 to 31 March 2017.

The funding will be used to conduct research into rare diseases, gene therapy, trauma,

infection and ageing. The team at Birmingham will also use the Health Research Bus, which takes research into the community and allows studies to be conducted with difficult-to-reach sections of the population.

Professor Lawrence Young, Head of the College of Medical and Dental Sciences, said: 'This new funding will be transformational in ensuring we deliver increased quality and quantity of early phase clinical research, and in engaging with industry – be it early biotechnology discovery or major established Pharma – to rapidly accelerate advances in medicine and to improve the health of the population of Birmingham and beyond.' Secretary of State for Health, Andrew Lansley, said: 'The public and patients think it's important that the NHS should support

research into new treatments, and we agree. That's why we're investing over £100 million in research labs, nurses and technicians to help make the NHS a world-class place to do research.

'These researchers will push forward the boundaries of what is possible. These are the people and the labs where the very best new treatments will be developed for a huge range of conditions – from cancer to diabetes and heart disease. NHS patients are the ones who will see the benefit of their work. Promoting and fostering this kind of medical research is one of the Government's top priorities, and through the Health and Social Care Bill the role that research plays in the health service will continue to be strengthened.'

## Endocrinologists develop urine test for cancer



The breakthrough was reported online in the *Journal of Clinical Endocrinology and Metabolism*.

'This is the first urine test for this application; we can detect the "hormone fingerprint" of a tumour and diagnose cancer faster and more efficiently than with costly imaging procedures,' says Professor Wiebke Arlt, who led the collaborative Medical Research Council-funded study with Professor Paul Stewart at the University's Centre for Endocrinology, Diabetes and Metabolism.

Scientists at the University have developed a groundbreaking technique that uses a urine test to help to diagnose adrenal cancer. The test, which enables endocrinologists to distinguish between harmless and cancerous tumours, uses a biomarker tool to measure excreted levels of steroid hormones which are produced by the adrenal gland.

Adrenal tumours affect around two per cent of the UK adult population and are more common with age. Hard to detect, they are often picked up from routine CT scans for other conditions. It is estimated that up to ten per cent of 70–80 year-olds have an adrenal tumour without realising.

A small but significant number of adrenal nodules will prove cancerous. Adrenal cancer is an aggressive disease, mainly occurring in middle-aged adults. Because of the gland's location deep in the body, most cancerous tumours are not found until they are large and have metastasized (spread) to surrounding tissue via the lymph system and blood. In spite of surgery, survival rates remain poor.

The Birmingham team used gas chromatography mass spectrometry to measure and compare multiple steroid metabolites in urine samples from all over the UK and Europe, in collaboration with the European Network for the Study of Adrenal Tumours (ENS@T). Computational analysis of results produced profiles of benign and malignant tumours, enabling the most informative biomarkers to be identified.

The test will now be offered via Bioscience Ventures Ltd a joint venture between the University and Abingdon Health Ltd which develops and markets new diagnostics products for the healthcare and other industries.

# Elite unit

## puts Birmingham at vanguard of global liver research



Professor David Adams, Director of the Liver Research Unit.

Hepatitis C virus (HCV) now affects 170 million people around the world. Up to a fifth of patients go on to develop cirrhosis of the liver with the consequent risks of liver failure and liver cell cancer. Unfortunately, many sufferers are not diagnosed until the disease is at an advanced stage when a liver transplant may be their only hope of survival. Liver transplant operations are predicted to rise five fold over the next decade, but successful outcomes are currently blighted by re-infection of the graft.

At Birmingham's pioneering National Institute for Health Research (NIHR) Biomedical Research Unit for Liver Disease (BRU), headed by Professor David Adams, scientists have made world-leading contributions to the understanding of how HCV invades the cells of the liver, bringing increased public awareness of how the disease progresses and of new therapies offering hope for the future. Professor of Molecular Virology Jane McKeating set up the HCV group at the medical school in 2005 and today the group collaborates on an impressive range of local, national and international studies.

Last year, the NIHR BRU began recruiting patients with HCV undergoing liver transplantation to a phase one clinical trial to assess the potential of a drug known as ITX-5061 to prevent reinfection of the liver after transplantation. Preclinical studies have shown this to be a potent and selective inhibitor of HCV entry into liver cells, suggesting it may reduce or prevent infection of the transplanted liver.

Funded via an educational grant from iTherX the trial is enrolling patients in two cohorts. One will receive supportive care while the second will receive 150mg of ITX-5061 each day for seven days. The investigators will then look at the effect of the drug on levels

of the virus in blood and reinfection of the liver. It is being led by David Mutimer, Professor of Clinical Hepatology at the University and a consultant hepatologist at the QE Hospital, Birmingham.

Professor Adams comments: 'This is a remarkable example of translational research in action; we are carrying out a proof of concept clinical trial with a drug that blocks the SRB1 receptor less than ten years after Jane McKeating's work demonstrated the importance of SRB1 in HCV infection'.

**'The ability to prevent reinfection of the transplanted liver will greatly improve the survival and quality of life of patients undergoing liver transplantation for HCV.'**

The first three years of the Biomedical Research Unit's work have proved remarkably successful in setting up the infrastructure and staff to translate basic research into clinical trials.

A classic example of the collaborative success of the University's partnership with University Hospital Birmingham – now cemented in the Birmingham Health Partners initiative – the facility, which includes the University's Centre for Liver Research, is driving a bold translational research programme.

One key area of investigation is cell therapy and current research projects are bringing together staff within the CRUK Centre, the Haematology Centre and the MRC Centre for Immune Regulation. The Autumn/Winter 2010 issue of *Medlines* featured the REALISTIC

phase two clinical trial using haematopoietic stem cells to combat cirrhosis, led by Dr Phil Newsome in collaboration with the Birmingham University Stem Cell Centre.

But the unit also leads the world in understanding the molecular basis of white blood cell recruitment to the human liver and has identified three protein receptors that are critical in this process. Staff are now developing clinical trials for all three receptors.

PIANO, the first ever clinical trial of anti-chemokine therapy in liver disease, opened last August using a therapeutic antibody developed by Novimmune. Primary Biliary Cirrhosis (PBC) is a debilitating chronic inflammatory condition of the bile ducts that mainly affects women and leads to cirrhosis and, eventually, to liver failure.

Currently, only symptomatic treatments are available and the need for drugs to modify the disease is urgent. The chemokine CXCL10/IP-10 is secreted by several cell types in response to inflammation and acts as a signal to attract immune cells from the blood into the liver. These cells are responsible for the destruction of bile ducts and the progression scarring in PBC. In the PIANO trial, the neutralization of CXCL10/IP-10 with NI-0801, a fully human monoclonal antibody offers the possibility to interfere with one of the key inflammatory processes that leads to PBC.

Professor Adams comments: 'The therapeutic approach of neutralizing CXCL10-IP10 with NI-0801 offers the first potentially disease-modifying treatment for PBC which may prevent the disease progressing to cirrhosis and liver failure.'

The LEAN study is being run by Dr Newsome and Dr Tomlinson, funded by the Wellcome Trust and Novodisk, to investigate the potential



of a new anti-diabetes drug known as Liraglutide in fatty liver disease. Liraglutide mimics a naturally-occurring hormone produced in humans after eating that improves the body's response to insulin. It also inhibits appetite and slows the stomach's process of food emptying, which in turn promotes weight loss. Liraglutide has been shown to improve liver blood tests in diabetic patients. These results, combined with studies in rodents, suggest the drug may be safe new treatment for patients with non-alcoholic fatty liver disease (NAFLD), which is now the commonest cause of chronic liver disease in the western world and for which there are currently no safe and effective therapies.

LEAN (Liraglutide's Effect and Actions in Non-alcoholic Steatohepatitis) is investigating whether 48 weeks' treatment with the injectable drug can reduce liver disease in patients with non-alcoholic steatohepatitis an aggressive form of non-alcoholic fatty liver disease that causes scarring in the liver, risking cirrhosis and irreversible liver damage.

Fifty adults (with or without diabetes) seeing liver specialists in the UK for fatty liver disease are being recruited to the trial up to December.

Professor Adams says: 'A unique collaboration between NIHR Biomedical research units, the Wellcome Trust and the pharmaceutical industry is allowing us to understand the disease processes that drive fatty liver disease and to deliver potentially the first effective therapy for this rapidly increasing liver disease.'

Jenni Ameghino

## Liver Facts

- **The liver is the second largest organ in the body (after the skin)**
- **It filters over a litre of blood every minute, removing toxins from the bloodstream and converting them into harmless substances which are then excreted**
- **Liver disease is the fifth biggest cause of death in England and Wales**
- **Liver disease kills more people in the UK than diabetes and road traffic accidents combined**



## Study reveals brain vulnerable to Hepatitis C virus

Virologists at Birmingham have demonstrated for the first time that human brain cells can become infected with the Hepatitis C virus (HCV).

Researchers found that the endothelial cells in the brain possess the four main protein receptors necessary for the blood-brain barrier to be targeted by HCV.

The findings, which were published online in Research Highlights in the journal *Nature Reviews Gastroenterology and Hepatology*, show that cells other than liver hepatocytes can be vulnerable to HCV infection.

Working with the Manhattan Brain Bank in New York, USA, the researchers, led by Dr Nicola Fletcher of the University's School of Immunity and Infection, detected HCV genomic material in the brains of four of ten infected patients who posthumously donated brain and liver tissue.

The team went on to demonstrate in laboratory tests that brain cells isolated from the blood-brain barrier could be infected with HCV.

'This is the first report that cells of the central nervous system support HCV replication,' says corresponding author Professor Jane McKeating, Chair of Molecular Virology at the University of Birmingham. 'These observations could have clinical implications providing a reservoir for the virus to persist during anti-viral treatment.'

'The endothelial cells make up the security system of the brain, a kind of bouncer at the door that keeps out undesirable elements,' explains Dr Fletcher. 'If this barrier is compromised all kinds of substances can gain access to the brain, which may explain the fatigue and other symptoms reported by HCV-infected patients.'

The current standard of care for treating HCV-infected patients is only partially effective, she says, so there is a considerable drive to develop agents that target viral specific enzymes as alternative therapies.

# Birmingham Health Partners

A collaboration of world-class clinicians, research scientists and clinical trials teams



Dame Julie Moore, Chief Executive of UHB, with Professor Charlie Craddock, Transitional Director of the BHP, and Professor David Eastwood, Vice-Chancellor of the University of Birmingham.

## Strategic link promises tangible benefits for patients, science and regional economy

Cutting-edge therapies delivered by expert clinicians working alongside top research scientists and world-leading clinical trials teams: the philosophy that has led to the Birmingham Health Partners initiative is a tried and tested formula that is delivering tangible results in key research areas, including cancer, immunology and infection, experimental medicine and chronic disease.

As the partners highlighted when the agreement was officially announced on 1 December 2011, it is a landmark affiliation that is designed to strengthen and enhance the working relationship that has evolved over many years between the University of Birmingham and the Queen Elizabeth Hospital Birmingham.

Crucially, it will also help to focus global attention on one of the UK's biggest and most prolific academic and clinical alliances;

a collaboration that continues to bring direct translational benefits to patients.

Birmingham is one of very few centres internationally that completes the full circle of translational medicine; the so-called bench-to-bedside process. The Birmingham Health Partners agreement will create a new clinical academic structure and fuel partnership projects.

Birmingham Health Partners builds on a long history of collaborative achievement and is intended to strengthen and develop the international reputations of both institutions. Based in the new Queen Elizabeth Hospital Birmingham it will have dedicated space to deliver early phase clinical trials, building on the University's prized global reputation in this highly competitive and demanding area.

The Centre's Transitional Director is Professor Charlie Craddock, Director of

the Centre for Clinical Haematology. Professor Craddock says: 'This visionary partnership between the Queen Elizabeth Hospital Birmingham and the University of Birmingham will not only allow us to deliver world-class therapies to patients in the West Midlands region but will act as a magnet for inward investment by pharmaceutical companies and a catalyst for economic regeneration.'

Professor Lawrence Young, Pro-Vice Chancellor and Head of the College of Medical and Dental Sciences, says: 'This is a major stepping-stone in our ambition to be a global leader in the development and delivery of innovative healthcare. It builds on our strengths in health-related science and research and on our ability to deliver meaningful healthcare benefits to patients. It also provides an important opportunity to further enhance the educational experience for our students, creating an interdisciplinary training environment that promotes excellence in clinical practice.'

The University and the Queen Elizabeth Hospital Birmingham have had several landmark collaborations to date. Other recent developments include the launch of the Centre

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*Professor Lawrence Young, Pro-Vice Chancellor and Head of the College of Medical and Dental Sciences*

for Burns Research (funded by the Healing Foundation), an international base for clinically-driven, patient-led research into all aspects of burns care, from acute care to longer-term rehabilitation. There is also the completion of the next phase of clinical research infrastructure, which includes a bespoke human tissue biorepository, dedicated cell and gene therapy laboratories, and Birmingham's participation in the national Translational Research Partnership programme.

Commenting on the BHP agreement, Professor David Eastwood, Vice-Chancellor of the University of Birmingham, said: 'There are very few places in the world which possess the strategic advantages of Birmingham for the assessment of new treatments. The Birmingham Health Partners will build on the combined strength of both institutions and demonstrate the sustainable benefits that alliances of this kind can achieve.'

Dame Julie Moore, Chief Executive UHB, said: 'The Trust and University already have a successful relationship in delivering excellent, innovative research projects and this latest collaboration will only enhance our reputation as a world-class academic and healthcare partnership.'

#### Landmark collaborations to date include:

The first **Cancer Research UK centre** – Cancer Research UK launched its first super cancer centre in Birmingham in 2010 to draw together world-class research and provides more than £8 million in funding each year. The hub is leading national and international progress in genetics, gene therapy and the link between viruses and some cancers, as well as focusing on cancers of the prostate and bladder plus leukaemia. It is a major centre for clinical trials.

The **NIHR Surgical Reconstruction and Microbiology Research Centre** – this is a joint venture between the Ministry of Defence, Department of Health, University of Birmingham and University Hospitals Birmingham to share medical research and advanced clinical practice for the benefit of trauma patients in the NHS at an early stage of injury. Based at the Queen Elizabeth Hospital Birmingham it is headed by Professor Sir Keith Porter, the UK's only Professor of Clinical Traumatology, who has been leading a team to develop world-class treatment for injured military personnel for the last decade.

The **Wellcome Trust Clinical Research Facility** – this provides dedicated facilities for investigators undertaking high quality research, allowing a seamless interface between academic and clinical experts.

The **Birmingham Centre for Clinical Haematology** – this leading clinical research facility oversees one of the most active academic and clinical haematology practices in the world. The centre hosts an internationally competitive early phase clinical trials portfolio. Its mission is to develop and deliver novel drug and transplant therapies in patients with blood cancers.

The **Experimental Cancer Medicine Centre** – the ECMC aims to improve the feasibility and quality of research in the areas of immunotherapy and gene therapy, translational genetics and biomarkers. This is being conducted in many types of cancer. The centre has established biorepositories, developed antibody-based assays and conducted a variety of immunotherapy/gene therapy trials.

Councillor Sir Albert Bore, who is chair of UHB and also serves on the BHP board, added: 'This new partnership is a timely and welcome development which will ensure the University and Trust maximise the marvellous facilities provided by the new Queen Elizabeth Hospital Birmingham.'



For more information on Birmingham Health Partners visit [www.birminghamhealthpartners.co.uk](http://www.birminghamhealthpartners.co.uk)



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*Professor David Eastwood, Vice-Chancellor, University of Birmingham*



# Advancing our **research engagement** in China

Committed to meaningful collaborative partnerships that promote excellence in basic and clinical science to improve global human health, the College of Medical and Dental Sciences has been engaging Chinese partners as that country continues to develop its capacity in education and research.

The College plays a pivotal role in the University's most significant engagement in China to date – The University of Birmingham Guangzhou Centre. This landmark partnership with the Guangzhou Municipal Government launched in September 2011, and the Centre's activities have focused primarily on research collaborations in areas such as translational medicine, large population studies in lifestyle and infectious diseases and cognitive neuroscience.

Professor KK Cheng, Professor of Public Health and Primary Care and the College's champion for its engagement in China, says: 'Our work will help to answer important clinical and public health questions in China, especially in the area of chronic diseases. By training postgraduate students and postdoctoral fellows, it will also contribute to research capacity building in south China.'

Three specific research projects are currently underway, with many future projects planned.

## **The Guangzhou Biobank Cohort Study (GBCS)**

Building on well-established links, Birmingham epidemiologists are carrying out the first five-year follow-up of a pioneering public health project in Guangzhou. GBCS is a collaborative



## Honorary doctorate awarded to China's SARS hero

Professor Zhong Nanshan, a leading figure in the combat of the 2003 SARS epidemic in China, was recently awarded an honorary degree by the University of Birmingham at a special graduation ceremony in Guangzhou.

Head of the Guangzhou Institute of Respiratory Diseases and probably the most high profile public face in the war against SARS, Professor Zhong is a recipient of numerous honours and has received wide recognition for his work, including the Presidency of the Chinese Medical Association between 2005 and 2010. In 2009, Professor Zhong was honoured as one of China's top 100 most influential citizens during the 60 years since the founding of the People's Republic.

During the 2003 outbreak of SARS, as the leading respiratory clinician in Guangzhou, Professor Zhong, together with his team, proposed to admit all the critical SARS cases in Guangdong province into his institute. Through unravelling the nature of the virus, Professor Zhong helped bring calm to the nation and enabled a greater disaster to be averted.

Professor Zhong has conducted groundbreaking research in asthma and, most notably, chronic obstructive pulmonary disease



(COPD), a major cause of death in China. Under his leadership, the Guangzhou Institute of Respiratory Diseases became the first of its kind in China to be designated Key State Laboratory of Respiratory Diseases.

Officiated by the Vice-Chancellor Professor David Eastwood, Professor Zhong's graduation ceremony was part of a University of Birmingham biomedical research forum taking place in Guangzhou. During the forum, senior academics from the College of Medical and Dental Sciences and the College of Life and Environmental Sciences presented research highlights in areas such as human disease modelling, clinical trials, translational medicine and cognitive neuroscience.

research project monitoring 30,000 men and women over 50 in Guangzhou province. The main long-term aim of the study is to examine the effects of genetic and environmental influences on health and chronic disease development, particularly circulatory disease, chronic respiratory disease, cancer and dementia.

### The Born in Guangzhou Cohort Study

The aim of this study is to understand the genetic and environmental determinants of maternal health, foetal growth, birth outcomes and development of diseases in children. This birth cohort will be the largest in China and one of the largest in the world.

### Birmingham-Guangzhou Brain and Cognition Centre

This Centre is developing a large-scale research programme to improve the assessment and treatment of stroke and neurological conditions in China including tumours, traumatic head injury, and dementia. This will involve developing – within a Chinese context – the novel behavioural screening

procedures created in Birmingham that efficiently measure a range of cognitive problems after brain injury; implementing procedures for advanced brain imaging to provide new biomarkers of functional recovery after brain injury; and developing computerised forms of cognitive screening for bedside testing and rehabilitation. The Centre will also market the new diagnostic tests and deliver training programmes to benefit clinicians and patients.

### University of Birmingham – Guangzhou Institute of Biomedicine and Health (GIBH) joint initiative

In April 2012, the University and GIBH signed a memorandum of understanding to launch a new joint initiative. GIBH has a strong international reputation in the generation and manipulation of pluripotent stem cells, while Birmingham has unrivalled experience and resources in the area of cell-based therapy for pre-clinical testing in animal models and subsequent trials in man. The initiative will focus on the application of stem cell biology to regenerative medicine and novel therapies to modify the body's response to organ

injury with the hope of eventually establishing a joint Centre for Stem Cell Biology and Regenerative Medicine.

Professor Jonathan Frampton, Director of Research and Knowledge Transfer and Professor of Stem Cell Biology, was a member of the University delegation that travelled to China and says: 'The initiative is firmly grounded in shared scientific interests and the objective to translate discoveries into patient benefit, and we believe this joint initiative will be a model for international research collaboration at the highest level. We will each gain from the other's expertise and specialist resources to enable delivery of cutting-edge research outcomes.'

For more information on the University's partnership with Guangzhou visit [www.birmingham.ac.uk/international/guangzhou](http://www.birmingham.ac.uk/international/guangzhou)

# Chief medic urges tough approach on **public health scourges**

Taking steps to cut the spectres of smoking, alcohol abuse and obesity remain key public health challenges for the coming decades, the Chief Medical Officer for England told an audience of University staff and visitors at a keynote public speaking event last month.

Professor Dame Sally Davies, who was awarded an honorary degree from the University of Birmingham in 2008, delivered the second in the Vice-Chancellor's Distinguished Lecture Series\* to a capacity audience in the Leonard Deacon lecture theatre at the medical school.

Dame Sally was officially appointed to the independent government health advisory role last spring, having been acting as interim CMO since Sir Liam Donaldson stepped down from the role in June 2010. She is also Chief Scientific Advisor for the Department of Health.

Her talk, entitled *The Challenges of Public Health in the 21st Century*, explored the different influences on public health today, including economic, technological and behavioural factors.

Using slides to illustrate her lecture, Dame Sally discussed what we can learn from historic challenges in the field of public health and the messages we can act on in future. She also identified mega and meso (national and local) trends and suggested how these affect long-term public health.

It was no surprise to her audience that the three public health issues she highlighted as being those which would have the greatest impact if addressed were drinking, smoking and being overweight. Having already adopted a get-tough approach by increasing duty on alcohol, banning smoking in public places and encouraging healthy eating policies, it was vital that the government continued to take firm and decisive action, she said, including making both tobacco and alcohol more expensive.

Dame Sally has been actively involved in NHS Research and Development since its inception. As Director General of Research and Development she was responsible for setting up the National Institute for Health Research (NIHR) with a budget of over £1 billion. Today, the NIHR funds a variety of collaborative research ventures within the College of Medical and Dental Sciences and the new Birmingham Health Partner initiative.

She remains a major global figure in the field of health, having led the UK delegation to the World Health Organisation Ministerial Summit in November 2004 and the WHO Forum on Health Research in November 2008.

In January last year, Dame Sally announced the launch of Birmingham's £20 million NIHR Surgical Reconstruction and Microbiology Research Centre in a press briefing at the Department of Health.



Professor Dame Sally Davies

In June, 2010, she launched the University's pioneering Health Research Bus in Chancellor's Court. The country's first mobile medical research facility, which was developed by the University, is now transforming how clinical research for major health issues like diabetes, obesity and ageing is carried out in the community.

Using the bus, Birmingham researchers work in collaboration with regional healthcare providers, particularly University Hospitals Birmingham NHS Foundation Trust and Birmingham Children's NHS Trust, to drive research and intervention programmes delivering tangible health benefits for Birmingham and beyond.

\* The Vice-Chancellor's Distinguished Lecture Series is a series of keynote public lectures at the University which began last year and feature distinguished speakers tackling some of the most pressing issues of the day.



# A woman of **substance**

Dame Hilda Lloyd (1891–1982)



Jacob Epstein's *Dame Hilda Lloyd*. Bronze bust, 1951



## Tell us your story

We would love to hear about your time studying medicine at Birmingham. Contact [mds-alumni@contacts.bham.ac.uk](mailto:mds-alumni@contacts.bham.ac.uk) with your stories.

In the first of a series of history of medicine articles, *Medlines* traces the legacy of Birmingham obstetrics pioneer Dame Hilda Lloyd, commemorated in the University's new blue plaque trail.

The memorial bust created by Jacob Epstein in 1951 may be sculpted from bronze, but its subject, Dame Hilda Lloyd, was evidently an iron lady with a will of steel.

Best known for pioneering Birmingham's obstetric flying squad, which saved the lives of countless mothers and babies, the first female professor of medicine at Birmingham displayed, according to the Oxford Dictionary of National Biography, 'skilful dexterity, speed and energy both in private and in hospital practice', earning her the widespread respect of peers of both sexes.

Like another of recent history's high-profile grocer's daughters, she was talented, determined and resilient enough to succeed in a field that was traditionally male dominated. Dr Jonathan Reinarz, Director of the History of Medicine Unit at the University, points out that during the mid-1930s, when maternal mortality rates were embarrassingly high and many of the first women to qualify in medicine were unashamedly channelled into obstetrics and gynaecology to meet a burgeoning

need, this visionary medic used all the professional, intellectual and social tools at her disposal to achieve her ambitious goals.

'The evidence shows she certainly knew how to play the game,' Dr Reinarz explains. 'She was the acceptable woman of the period; not pushy but strong; not a feminist but determined.' When, despite considerable male opposition, she was elected the first – and to date only – woman President of the Royal College of Obstetrics and Gynaecology in 1949, it must have been a milestone not unlike the Tories seeing Margaret Thatcher elected to the job of Prime Minister.

Born Hilda Nora Shufflebottom, the King Edward VI High School pupil from Balsall Heath, who graduated from Birmingham in 1914 with a BSc and in 1916 with an MBChB, worked in London before returning to her native city as a resident in obstetrics and gynaecology. She became FRCS in 1920 and a consultant and senior surgeon in the city's Maternity and Women's hospitals.

Possibly her proudest professional achievement was playing a lead role in setting up the first

midwife flying squads, as they became known, in 1936. Teaming high quality obstetric care with emergency resuscitation capacity and the scope to carry out blood transfusions, these teams were made up of an obstetrician, a midwife and a nursing student who travelled together in an ambulance kitted out with supplies.

According to the dedication accompanying the blue plaque now gracing the front of the medical building, 'whilst the majority of each flying squad's time was spent dealing with deliveries and postnatal emergencies, they also dealt with complications surrounding abortion. Given its illegal status, backstreet abortions or self-aborting led to "a significant proportion" of deaths. The ability to provide emergency care and transfusions at the scene therefore saved the lives of many women.'

Created Vice-President of the Family Planning Association in 1948, she went on to oppose the division of obstetrics and gynaecology within the NHS and promoted the notion of regional midwifery committees. Made a Dame in 1951, she retired three years later and moved to Herefordshire with her second husband, Baron Theodore Rose, having been widowed in 1948 with the death of her first husband Bertram Arthur Lloyd, a pathologist and former surgical colleague.

*Jenni Ameghino*

# New scheme to recognise Medical School Patrons



The history of the Medical School at the University of Birmingham is characterised by the willingness of alumni to invest in the future of medical students. The generosity of our alumni and friends means that we continue to provide the very best in medical teaching and research facilities in the UK and are able to attract the brightest students, regardless of social and economic background, with our Access to Birmingham scholarship scheme.

To recognise the generosity of those who are able to make a contribution of £1,000 or more in an academic year to any of our Medical School projects, we are about to launch the Medical School Patrons.

Patrons will be invited to a champagne reception at the Medical School each year hosted by the Dean of Medicine, providing

a unique opportunity for the Dean to hear your views on how the Medical School is developing. Patrons will also be invited to a VIP reception before one of our very popular Annual Lectures. Alongside these two formal visits to the Medical School, Patrons will also receive a commemorative lapel pin to mark their commitment.

Medical alumni should expect to receive a letter about Medical School Patrons in the coming weeks. If you are interested in learning more about the scheme, contact our Major Gift Manager Sally Brooks on +44 (0)121 414 4704 or [s.b.brooks@bham.ac.uk](mailto:s.b.brooks@bham.ac.uk).



## Events

### Birmingham Heroes: Fighting Cancer

Professor Paul Moss will give the inaugural Birmingham Heroes lecture on the history of cancer research in the UK, what the University has contributed to cancer education and research through its Cancer Research UK Clinical Trial Unit, and how the University is leading the fight against cancer. The lecture and reception will be held at the Royal Society in London. Registration is essential. Contact Anne-Marie Vassiliadis on [alumnierevents@contacts.bham.ac.uk](mailto:alumnierevents@contacts.bham.ac.uk) or +44 (0)121 414 8904.

**Date:** Thursday 10 May, 6.15pm–8.30pm.

### Community Day 2012

The University invites the community to campus for a free day of fun for the whole family, including a fun fair, baby gym, culture trails, live music, BBQ, golf coaching, mini medical school, penalty shoot-out, climbing wall, question-time, arts and crafts and lots more.

**Date:** Sunday 10 June 2012, 11.00am–4.00pm.

### The Stuart Green Memorial Lecture 2012: 'The brain after cancer'

**Speaker:** Michael Stevens, Professor of Paediatric Oncology, Bristol Royal Hospital for Children **Venue:** Lecture Theatre, First floor, Birmingham Dental Hospital, Whittall Street, Birmingham B4 6NN

**Date:** Wednesday 27 June 2012, 5.30pm

## Reunions Save the date!

### Classes of 1987, 1977, 1972, 1967, 1962, 1961 and before

The University is hosting its annual anniversary reunions on Saturday 9 June 2012. Contact the alumni events team on +44 (0)121 414 9084 or [alumnierevents@contacts.bham.ac.uk](mailto:alumnierevents@contacts.bham.ac.uk) for more information.

### Class of 1997

The Class of 1997 will hold its 15th reunion on 7 July 2012. Jo Weller and Heidi Woolhouse are organising. Contact [mattandjoweller@hotmail.co.uk](mailto:mattandjoweller@hotmail.co.uk) for more information.

### Class of 1967

The Class of 1967 will hold its 45th reunion in Birmingham on 8–9 August 2012. Contact [john@jacksonconsulting.eu](mailto:john@jacksonconsulting.eu) or [apfjackson@doctors.org.uk](mailto:apfjackson@doctors.org.uk) for information.

### Class of 1962

The Class of 1962 will hold its 50th reunion on 28–29 September 2012 at The Moat House in Acton Trussell, Stafford incorporating a trip to Birmingham. For more information contact Tony Sethi on [a.sethi@virgin.net](mailto:a.sethi@virgin.net).



### Class of 1957

The Class of 1957 will hold its 55th reunion in Birmingham on 5–6 October 2012. Joy Bevan is organising.

### Class of 1982

The Class of 1982 will hold its 30th reunion at the Medical School on 12 October 2012. Contact Keeley Dudley ([k.dudley@bham.ac.uk](mailto:k.dudley@bham.ac.uk)) or Karen McNaughton ([k.m.mcnaughton@bham.ac.uk](mailto:k.m.mcnaughton@bham.ac.uk)) on +44 (0)121 414 4046 for more information on the reunion or if you have not received the recent reunion letter.

### Class of 1963

The Class of 1963 will hold its 50th reunion in Birmingham on 13–15 September 2013. Rodney Cartwright, Simon Powis, Richard Herbert and Peter Sheldon are organising. Please contact [prof@microdiagnostics.plus.com](mailto:prof@microdiagnostics.plus.com) for further details.

Events continued...

**Inaugural Lecture: 'Hospital Quality: The Good, the Bad and the Ugly'**

**Speaker:** Professor Russell Mannion, Professor of Health Systems, Health Services Management Centre, College of Social Sciences. **Venue:** Lecture Theatre, Barber Theatre of Fine Art  
**Date:** Thursday 28 June 2012, 5.15pm

**Conference: 'Complaining about Medicine, c. 1700–2000'**

This 2-day conference is hosted by the University of Birmingham History of Medicine Unit; Dr Jonathan Reinarz, Director. Keynote speakers: Professor Andrew Scull (University of California, San Diego), Professor John Clarke (Open University), and Dr Alex Mold (London School of Hygiene and Tropical Medicine).

For more information, please contact Mrs. Frances Worrall on [f.l.worrall@bham.ac.uk](mailto:f.l.worrall@bham.ac.uk) or +44 (0)121 415 8174.

**Date:** 2–3 November 2012

## CPD courses

### Commercialising Academic Medical Research

This two-day intensive course consists of taught sessions that move from the basics to cutting edge principles, case studies and a practical workshop that will provide the tools to identify and evaluate medical research projects for their commercial potential.

**Date:** Tuesday 15–16 May 2012

### Clinical Trials: Becoming a Clinical Trialist

The course aims to promote academic interest in clinical trials and to educate and inspire clinicians to participate in clinical trials and become future lead investigators for clinical research. **Date:** Tuesday 29 May 2012

### Research Using Human Tissue

The aim of this course is to provide an understanding of the regulations and ethical issues surrounding the collection and use of human biomaterials for research.

**Date:** Wednesday 13 June 2012

### Advanced Workshop on Emerging Virus Diseases

This workshop will deliver a comprehensive update on recent research and developments in the prediction, properties and control of emerging virus infections focusing on those considered as current risks to modern society.

**Date:** 10–14 September 2012

For more information on CPD courses. Visit our website [www.birmingham.ac.uk/mds-shortcourses](http://www.birmingham.ac.uk/mds-shortcourses)

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# The Medical School foyer and Barnes Library refurbishment

On Monday 5 March, more than 80 alumni, donors, staff and students attended a reception marking the completion of the Medical School Foyer and Barnes Library refurbishment project. Alumni and donors were given a unique opportunity to see the new facilities and meet with students who are already making use of this exemplary space, which has transformed the ground floor of the building for the benefit of medical students for years to come.

The original facilities were built on land given by the Cadbury family. At that time, more than 1,500 donors gave amounts ranging from 6d (sixpence) to £250,000. The £2 million refurbishment project, of which £516,000 was donated by alumni and friends, has brought the original 1939 design of the Medical School building into the 21st century.

Professor Lawrence Young remarked on the evening that 'students are rightly demanding of us. They want wonderful teaching and learning facilities. Tastes and requirements change over time and we must respond to that.'

Lead donor Sir Doug Ellis OBE also spoke on the occasion saying: 'I have been involved in many charitable projects over the years, but the University of Birmingham has a special place in my heart. In fact, I owe my life to the research and the staff here. Along with all the others who gave, I am delighted to be able financially to support this wonderful project.'

The ground floor of the Barnes Library now includes an innovative hub with dedicated student welfare support services, confidential meeting rooms, flexible study areas with WiFi access and space for informal and formal student group work. The University has named this new space the 'Doug Ellis Learning Hub' in honour of Sir Doug's generous support.

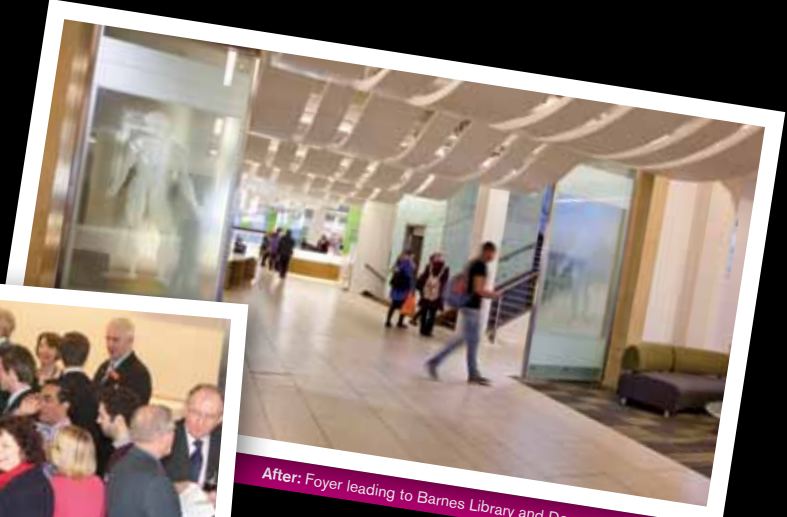
The College of Medical and Dental Sciences would like to thank all the supporters of this project.



Sir Doug Ellis OBE



Before: Barnes Library ground floor Reading Room



After: Foyer leading to Barnes Library and Doug Ellis Learning Hub



Alumni and guests at supporter reception



Before: Barnes Library Main Entrance

## Medlines

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*Medlines* is the alumni newsletter for medicine at the University of Birmingham's College of Medical and Dental Sciences.

Views expressed in *Medlines* are not necessarily those of the University or a statement of University policy. All submissions may be subject to editing. The Editor's decision is final.

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