



Paterson
Institute for Cancer Research

Paterson Institute

newsletter

The Newsletter for the Paterson Institute for Cancer Research

SHINE

Manchester 2010



Issue 18 - May 2010

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MANCHESTER
1824

The University of Manchester

CANCER RESEARCH UK

Director's Introduction



The 'Centre Initiative' is a key element of Cancer Research UK's (CR-UK's) five-year research strategy which aims to support the development of a network of centres of excellence by promoting local, regional and national partnerships and

collaboration within cancer research and cancer care agencies. This February, the Manchester Cancer Research Centre (MCRC) was awarded CR-UK Centre accreditation based on the development of a strategic document outlining the direction and development plans of the MCRC and incorporating vision for the Paterson which is at the heart of the MCRC. The accreditation secures long-term infrastructure and training support for the MCRC and endorses the academic-NHS partnership organisation that has been successfully established. The MCRC is a working example of the collaborative approach the Centre Initiative aims to support and its official recognition as a CR-UK Centre of excellence will ensure regional and national alignment of focus and goals for improving the care of patients with cancer.

A key aspect of the MCRC strategy is to develop centres of excellence in disease-specific areas integrating preclinical and clinical research. This strategy has led to major investment in breast cancer research facilitated by the development of the Breakthrough Breast Cancer Research Unit. The Unit, which is based at the Paterson Institute, was officially opened this March and was established with the help of an award of £5 million over 5 years from

Breakthrough Breast Cancer. This is an exciting development and we look forward to productive interactions between the Paterson and the new Unit.

Much recruitment at the Paterson is at the Junior Group Leader level but with the opportunity for progression for outstanding individuals in order to ensure strategic succession planning for growth and advancement of Paterson research programmes. Congratulations to Georges Lacaud and Valerie Kouskoff who after six years of hard work culminating in a rigorous evaluation process have been awarded tenures. These tenures recognise the internationally important research they are conducting and offer long-term and increased commitment to support their studies on embryonic stem cell research and differentiation into haematopoietic cells – studies which provide valuable insight into our understanding of a range of haematological malignancies.

The success of CR-UK fundraising activity is vital to the Paterson and to cancer research in the UK in general and it is always important that new events are developed which will motivate the public to continue to be involved in CR-UK and to support its aims. We are delighted that CR-UK's Shine initiative was held in Manchester for the first time this year and would like to thank all Paterson members who contributed to this event. The Paterson has clear objectives for 2010 and beyond and aims to exploit the real benefits of being a cancer-focused research institute within a comprehensive regional research organisation that is now also a CR-UK centre of excellence. We look forward to sharing our achievements with you in this and future newsletters.

Nic Jones
Director

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Manchester Cancer Research Centre Conference: Harnessing Apoptosis January 2010

The inaugural Manchester Cancer Research Centre Conference entitled 'Harnessing Apoptosis' was held on 17-20 January 2010 at The Palace Hotel in Manchester and was a great success.

It brought together 120 scientists and clinicians from across Manchester and around the globe to listen to presentations from eminent international leaders of the field. The conference, which highlighted how new knowledge in basic apoptotic mechanisms is transforming translational studies and clinical trials in cancer, was organised by Caroline Dive (Leader of the Clinical and Experimental Pharmacology Group at the Paterson Institute for Cancer Research), Charles Streuli (Director of the Wellcome Trust Centre for Cell-Matrix Research within the Faculty of Life Sciences at The University of Manchester) and Esther Walker (MCRC Operations Manager).

The conference seamlessly linked engaging lectures and lengthy discussions and debates with networking opportunities in order to maximise the flow of ideas. The oral presentations broached many aspects of research on apoptosis, from basic research that continues to unravel the control mechanisms for cell death to the implementation of apoptotic targeted drugs in the clinic. There was excitement about the initial clinical trials with drugs such as ABT-263 and IAP inhibitors, however, it was clear that more work needed to be undertaken at the basic and translational level before the full benefit of drugs specifically designed to target cell death pathways could be realised.

The intimate size of the meeting, and the focus on discussion and debate, allowed attendees to benefit from strengthening contacts within the field and facilitated a rich exchange of ideas and examination of the challenges faced. Due to the overwhelming success of this meeting, other MCRC conferences will be planned in future.

Dexter Young Investigator Award Winner - Patrycja Sroczynska



It has already been three months since I left Manchester. I am slowly getting used to Copenhagen, and my new job as a postdoc at BRIC (Biotech Research and Innovation Centre).

I will always remember my 4 years at the Paterson in the very best way. I was extremely lucky to get an opportunity to be supervised during my PhD by Georges Lacaud and Valerie Kouskoff. In a friendly atmosphere of their lab, supplied with the stream of their ideas and advice, I was making my first steps in the area of embryonic stem cells and haematopoietic development. It was exciting to be able to create new genetic tools and then to prove that they are useful in exploring the unknowns of the formation of blood cells, including the haematopoietic stem cells. It was inspiring to be involved in the project of Christophe Lanctin, which ended in the publication in Nature.

The end of 2009 was perhaps the most exciting time. After a far too long summer, filled with writing my PhD thesis, the manuscript covering my main project got accepted for the publication in Blood. Even more importantly, I managed to get through the crossfire of questions and passed the PhD viva in December! As if this was not enough of luck yet, I received the Dexter Young Investigator Award at the Paterson's Christmas Party. It was the best possible end of the year! I would like to thank everyone who contributed to the work, especially all the superb facilities at the Paterson!

All that was left to do was to face the new challenge of moving to a new city and starting up a new project. Although I terribly miss my old friends from the Paterson, I seem to be lucky again, surrounded by friendly and helpful colleagues. My new project is about leukaemia (so I stay in touch with the haematopoiesis field), and it is getting its speed now, so keeps me more and more absorbed. But Copenhagen still needs to prove to be at least as good as Manchester!

Charity walkers make Manchester Shine



Manchester was lit up when 7,500 kind hearts took to the streets for the nation's first ever night-time walking marathon in aid of Cancer Research UK.

Walkers started the 'Shine' event outside Manchester Central at 10pm on Saturday and walked through the night, hundreds finishing after dawn.

Many of them suffering from cancer, they were sent on their way by Denis Law, the Cheshire-based former United and City legend who himself was diagnosed with prostate cancer.

The walk took participants, many holding symbolic lights, past landmarks including Old Trafford football ground, Manchester Town hall and our very own Paterson Institute.

Around 50 representatives from the Paterson Institute supported this brand new event. At Manchester Central a team hosted an interactive area where the supporters could come and learn more about the research funded in Manchester. Thanks to our Advanced Imaging team, participants were able to see cancer cells down a microscope which had been specially set up. Another popular activity was the "pipette challenge" where

participants tested their pipette skills against the clock. The team also enthusiastically supported the merchandise sales at this event and helped to raise over £3500 through sales of glow sticks.

The Paterson was designated an official pit stop at the 6 mile marker and was lit up with some special projection lighting to ensure everyone could see it. Here a team of volunteers helped distribute water, cheer the walkers on their way and in some instances act as official marshals.

One participant took the time to email the Institute following the event:

"I just wanted to thank the staff of the Institute for turning out and supporting us. The guys that I met at Manchester Central were very patient and explained what the money is used for brilliantly. Then when we got to the Institute it was lovely to be cheered on. It was so nice to actually meet the people who spend their work lives trying to help people with this nasty disease. I would be grateful if you could pass on my thanks to all and tell them how much their time was appreciated on Saturday and how much their work is appreciated everyday"

Many other participants commented on their experiences at the event:

Manchester fashion student Lucy Cowan, 20, said: “The atmosphere was amazing. I'd certainly do it again. It was a really good experience. It was so popular that something like this will probably grow to other cities now.

“I did it because my mum survived ovarian cancer last year.” Reges Zaninni, 34, from Brazil, who works in a pub in London, said: “It was very cold but nice. I just want to help people. Two years ago my gran died of cancer.”

Eleanor Page, 63, from Bury, said: “It was a really nice event and everyone was very respectful. I've done the race for life a couple of times in Heaton Park. We've had a lot of cancer in the family. I suppose I felt this was something I could do to help.”

Cancer sufferer Joanna Williams, headteacher of Broadoak primary school in Didsbury, said: “It was a brilliant and amazing experience. The atmosphere was fantastic, especially at the beginning. We were all there for the same reason. It was quite an emotional experience.

“I'm suffering from cancer myself and I wanted to raise awareness and support Cancer Research UK as much as possible by encouraging other people to take part.”

Clive Barley, 62, an HR manager at a Bolton paint company, was given the all-clear last year after suffering bowel cancer. He said: “It was a fantastic night. The atmosphere was great, particularly at the start with all the lights. We had a warm reception from people outside the bars and clubs. A couple of guys called me over and gave £10, so they were sponsoring us as we made our way through.”

Lee Hunter, 29, from Aspull near Wigan, who was diagnosed with testicular cancer, said: “I was diagnosed with cancer in April, 2008. It had spread to my lungs. I had to have three months of chemotherapy. I just thought that they helped fix me, save my life and I'd like to give something back and raise awareness. I'm very stiff and I have a few blisters.”

Helen Yorke, 49, an office worker at Trafford General Hospital from Lowton, who has advanced pancreatic cancer, said: “There were people along the way cheering and clapping. It was brilliant. I don't want people in the future to suffer like I have and like other people are suffering.”

It is hoped that this event will raise over £1 million for Cancer Research UK. Thank you to everyone who helped with Shine 2010 – your support really made a difference.



The Clinical and Experimental Pharmacology Group (CEP): who we are and what we do

The CEP group led by Caroline Dive has a strong translational remit dedicated to the delivery of translational science with a focus on the development of small molecule mechanism-based therapies with parallel development of biomarkers. Such broad research goals demand strong interactions between multi-disciplinary teams, both throughout CEP and beyond. This is evident by the wide spectrum of research carried out in CEP, from pre-clinical in vitro and in vivo pharmacology, through to biomarker discovery, biomarker assay validation and clinical biomarker qualification in our GCP (Good Clinical Practice) laboratories. Though not exclusively so, much of the research in CEP is currently focussed on lung and colorectal cancer driven by Fiona Blackhall and Andrew Renehan respectively.

Pre-clinical Pharmacology

The pre-clinical pharmacology section of CEP, led by Chris Morrow focuses on the effects of the tumour micro-environment on drug sensitivity and the evaluation of novel drug combinations with potential clinical application, with a particular interest in apoptosis inducing drugs. This exemplified with studies centred on the BH-3 mimetic drug ABT-737, which works by interrupting protein-protein interactions between pro- and anti-apoptotic proteins, leading to apoptotic cell death. One of the most profound features of the tumour micro-environment is the low oxygen concentration in the parts of the tumour distant from a blood supply. The cells within this hypoxic environment exhibit reduced sensitivity to standard chemotherapy and radiotherapy. However, work in CEP has demonstrated that hypoxic colorectal (CRC) and small cell lung cancer (SCLC) cells are more sensitive to apoptosis induced by ABT-737 due to a reduction in the level of the anti-apoptotic BH-3 family member Mcl-1, a known resistance factor for ABT-737 induced cell death. The increased sensitivity of hypoxic cells to ABT-737 has also been demonstrated in SCLC xenografts, work carried out by the in vivo pharmacology team, led by Cassandra Hodgkinson, further strengthening the prediction that ABT-737 will be able to target a population of cells that has historically been difficult to treat and can repopulate tumours in relapsing cancer patients. In addition, the combination of ABT-737 with inhibitors of the PI3-kinase signalling pathway has demonstrated that PI3-kinase inhibition, which does not cause apoptosis per se, enhanced ABT-737

induced apoptosis in CRC. Interestingly, this was not recapitulated with inhibition of Akt or mTOR, two other PI3-kinase pathway inhibitors, suggesting the effect of PI3-kinase inhibition is due to an Akt/mTOR independent arm of the PI3-kinase pathway. PI3-kinase inhibition was associated with increased binding of the pro-apoptotic BH3-only protein Bim to the ABT-737 target Bcl-xL γ , suggesting a possible mechanism for the drug interaction which is being investigated further. All the pre-clinical work in CEP is carried out with potential clinical implications at the forefront of our thinking regarding experimental design and when drawing conclusions. Indeed working within a large interdisciplinary team allows the interaction between translational scientists and clinicians to drive our pre-clinical investigations forward to maximise the potential clinical benefit of our findings.

Biomarker Discovery/Clinical Proteomics

Clinical Proteomics, a joint venture between the School of Cancer and Enabling Sciences and PICR, is directed by Tony Whetton and Caroline Dive and this collaborative activity was established in 2006. Our aim is to utilise emerging technological advances in mass spectrometry (MS) in order to discover novel biomarker signatures in patient plasma with eventual clinical utility for improved patient care in cancer treatment, where blood sampling is routine, relatively non-invasive and inexpensive. The biomarker discovery team, led by Kathryn Simpson has developed a robust workflow for the identification and relative quantification of low abundance proteins in human plasma using immuno-affinity depletion of high abundance plasma proteins followed by iTRAQ (Applied Biosystems) tagging technology and orthogonal peptide separation using HPLC prior to MALDI-ToF/ToF MS using an AB 5800. A paradigm study using healthy donor plasma resulted in the identification and quantification of over 400 proteins with high confidence, many of which are in low abundance. These methods were shown to have minimal technical variation which has enabled the application of additional statistical QCs in order to establish boundaries for differential expression with parallel consideration of biological variation. This study will enable the application of these various statistical parameters to data from future studies with clinical samples and these methods were validated in a study using samples from a pancreatic cancer trial



(PACER-TRANS) in collaboration with Catherine West. It is anticipated that 2010 will be an exciting year for the clinical proteomics team as they initiate studies aimed to discover novel blood borne biomarkers where for there are none currently available, for example, biomarkers of radiation therapy response in lung cancer in collaboration with Fiona Blackhall and Corrine Favre Finn, and of drug-induced cardiotoxicity in lymphoma with John Radford and Kim Linton

[Good Clinical Practice and the AZ Serological Biomarker Alliance](#)

The Good Clinical Practice (GCP) team operates at the interface of the laboratory and clinic in order to measure and qualify numerous biomarkers in clinical trials taking place at the Christie and in other UK and international trial centres. GCP is an EU framework for ensuring rigorous, reliable and reproducible clinical trial data, thus all of the assays are fully validated to GCP standards and operate within an in-house quality assurance system, managed by Jeff Cummings. The GCP team currently consists of almost 30 staff working on CR-UK, University, and Pharma led phase I, II and III trials, overseen by Tim Ward. This work is carried out in two designated GCP laboratories. Caroline Dive and Prof Malcolm Ranson with Prof Andrew Hughes at AZ run the CR-UK/AZ clinical pharmacology fellowship scheme and there are currently 7 clinical fellows in training in CEP, working on projects with strong clinical emphasis and heavy involvement in clinical trials being conducted at The Christie and beyond.

The biomarker research activities in the two GCP labs are divided by activity between on the one hand, blood borne biomarker analyses (soluble factors and circulating nucleic acids) and on the other tissue biomarkers and rare cell isolation. In GCP lab 1, validated assays are carried out to support numerous clinical

trials. Analyses run in single or multiplex platforms include cell death assays (M30/M65, nDNA), angiogenesis marker assays (e.g. VEGF, IL-8, PLGF) and immunotherapy associated assays (Human Anti-Mouse Antibody (HAMA) and rituximab). Linking with the preclinical work on the pro-apoptotic BH-3 mimetic described above, we analysed cell death biomarkers in plasma from patients on Abbott Laboratories' Phase 1/2b trials of the BH-3 mimetic ABT 263 and we await the trial and biomarker results. In order to enhance the development of biomarker science and accelerate biomarker qualification a substantial collaboration with Astra Zenecca (AZ) was established in 2006 by David Moore, to analyse, report and advise on serological biomarker data from samples gathered in AZ global trials. More recently CEP has embarked on a program of mutation analysis using state of the art qPCR assays such as the Qiagen ARMS assays for the detection of mutations (KRAS, EGFR, PI3k, BRAF) in both tumour tissue and circulating free DNA (cfDNA) isolated from blood samples.

Work in GCP lab 2 is focused upon enumeration and characterisation of circulating tumour cells (CTCs) and CEP currently operates several technology platforms for characterising these cells (Veridex, ISET, Ariol and Bioview). CEP is also pioneering methods for downstream molecular and phenotypic characterisation of CTCs using advanced imaging and molecular biology techniques, and the GCP team is becoming internationally recognized in this field. CEP is also developing quantitative methods for tissue biomarker analysis.

Report compiled in CEP by Kathryn Simpson, Chris Morrow, Karen Morris and Tim Ward.

BioConductors Conference

In January, we held the European BioConductor Developers' Meeting in Manchester, sponsored by the MCRC. The aim of the workshop was to bring BioConductor developers from around the world together, in order to consider how to tackle the challenges we face as a consequence of the large datasets now at our disposal.

The meeting focused on the many challenges presented by high throughput sequencing data, which include data management and storage through to statistics, visualisation and annotation. Many of these issues also affect the way we analyse data arising from other technologies, including microarrays and proteomics, so the meeting was also aimed at scientists working with biological data who currently have no direct involvement with high throughput sequencing.

With the advent of genome sequencing and, particularly since the publication of the complete draft of the Human Genome in 2000, biotechnology is generating increasingly large amounts of data. One consequence of this is that computer science is now an integral part of the biosciences, and the field of Computational Biology has evolved to bridge the gap between the data, and the bench- or clinical- science that it ultimately informs.

As datasets become bigger, there is a need not only for efficient computer programs to handle the volumes of data, but also for the statistical tools to help make robust predictions. For example, a typical microarray experiment involving clinical samples may involve hundreds of microarrays, each containing millions of probes. The task of the computational biologist is to interrogate these data to identify statistically significant patterns of gene expression and then map them onto the underlying biology. An even greater challenge arises with deep sequencing, which can generate tens of millions of short nucleotide sequences in a few days.

One way the computational biology community has sought to address these challenges is through the use of open source software, written in a programming language called R. Together, this work is grouped under the umbrella of the BioConductor project, an international collaboration of scientists working towards solutions to many of the problems that modern datasets present. Through the use of common libraries, BioConductor makes it possible for individual groups to write their own software packages, each designed to tackle a specific aspect of the problem, that work well together.



Double success in tenure review

As mentioned in the Director's Introduction of this issue there were two tenure reviews earlier this year. George Lacaud (head of Stem Cell Biology Group) and Valerie Kouskoff (head of Stem Cell Hematopoiesis) were both successful and have now gained tenure within the Institute.

In the next issue of the newsletter we will be featuring an article in which George and Valerie discuss their plans to take their research forwards. For now we would like to congratulate them both on their success.

Paterson Institute Annual Schools' Day

On March 13th the Paterson Institute opened its doors to 66 sixth formers from 13 local Schools and colleges.

Poynton High School's Melissa Steele took the time to write about her experience:

"I'm going to be a cancer curer". My simple and naive response to that unavoidable question as a small child, "what do you want to be when you grow up?" Of course the reality is that finding a cure for such a complex disease isn't down to random chance, and this was proven on the visit to Paterson Institute. Our welcome was a warm one and the eight of us anticipated a great day was ahead of us! We were definitely not disappointed as we were thrown right in at the deep end. The day was divided into three practical 'hands-on' sessions which began with the fascinating tale of "The Immortal Cells". Under advanced microscopes we viewed tumour cells taken from a lady who had a rare form of cancer in 1956! These cells are still being cultured and grown today, as are leukaemia cells taken from a young Japanese child in 1985. More exciting practicals followed, interrupted only by a banquet lunch when we got the chance to reflect on what we'd been up to so far.

There is no doubt in saying that we were all extremely impressed by the sheer size of the institute and the extent of the research that we all observed, bearing in mind that we only



witnessed a small percentage of the work that was underway. The passion and dedication of the staff was also blindingly obvious and this definitely motivated us all in wanting to help and make a difference. The expense of the machines was astounding, (a cytometer alone used in phenotyping costs around half a million pounds to buy, let alone to fund), making us all aware exactly where the money raised and donated by the public was helping. It was truly heart-warming to see machines labelled with gold plates saying exactly who had donated the money to afford them. All in all, a fantastic day that none of us are likely to forget in a hurry!

Thanks to all groups and service units that supported this event: Molecular Biology Core Facility, Flow Cytometry, Advanced Imaging, Cell Division, Inositide and Carcinogenesis.

A Warm Welcome to:

Kim Acton, Scientific Officer, BRU

Rebecca Allen, Administration Coordinator, Operations

Kyaw Aung, Clinical fellow, CEP

Mark Cockerill, Senior Bioscientist, Drug Discovery

Daniel Fitzgerald, Postdoctoral Scientist, Inositide Laboratory

Gemma Forrest, Scientific Officer, BRU

Niall Hamilton, Principal Chemist, Drug Discovery

Stuart Jones, Principal Chemist, Drug Discovery

Hui Sun Leong, Postdoctoral Scientist, Bioinformatics

Daniel Morris, Scientific Officer, CEP

Andrew Price, Scientific Officer, CEP

Hayley Thirkettle, Postdoctoral Scientist, Cell Regulation

Graeme Thomson, Senior Bioscientist, Drug Discovery

Rheanna Makorie, Scientific Officer, MBCF

Simon Perkins, Scientific Officer, MBCF

Phillip Sills, Lab Aide, BRU

In the spotlight



This time we focus on Mandy Watson.

1. What is your favourite part of the UK?

Rhosneigr, a village on the West coast of Anglesey. We spent many happy hours there, eating sandy sandwiches and braving the icy waters until the roof of our caravan blew off; luckily we weren't in it at the time.

2. What is your favourite book?

Difficult to choose one, but I recently enjoyed the Time Traveller's wife.

3. What is your favourite film?

Donny Darko; unpredictable, dark, great soundtrack and based on time travel, couldn't really ask for any more.

4. If you had to change careers tomorrow, what would you do?

No burning ambitions, but a job making tea for the England Cricket Team might be fun

5. What is the most important lesson that you have learnt from life?

Not to leave a mischievous 9 year old unattended in the kitchen with another 9 year old, a microwave and a small plastic toy. It took several hours with all the doors and windows open to get rid of the smoke and fumes.

6. What three things would you save from a burning house?

After the family of course, my son's hamster, car keys and purse.

7. What is your greatest fear?

Turning into a grumpy old woman, sadly I'm already part way there.

8. How would you like to be remembered?

Someone who cares

9. If you could change one thing in your past what would it be?

I would make more of an effort to keep in touch with friends from University.

10. What would be a perfect meal?

BBQ on the beach or my dad's roast dinner, his roasties and gravy are the best.

11. What trait do you most deplore in others?

Prejudice. I'll leave it at that otherwise I may start to rant.

12. You've just won the lottery and have £5 million pounds to spend. What do you buy first?

Absolutely no idea but it would probably involve a big treat for the kids

13. Which words or phrases do you most overuse?

Turn that music/TV down!

14. What is your idea of perfect happiness?

Summer evening in the garden with my family, chiminea blazing, ipod playing, glass of Kir in hand....

15. What keeps you awake at night?

Many things but mostly my husband's snoring.

BREAST CANCER
BREAKTHROUGH

Manchester's Breakthrough Breast Cancer Research Unit Official Opening - Thursday 4 March 2010



The Manchester Breakthrough Breast Cancer Research Unit (BBCRU) has been set up by Breakthrough Breast Cancer in partnership with The University of Manchester because of the University's leading reputation for cancer research. It is based within the Manchester Cancer Research Centre at the Paterson Institute for Cancer Research.

The official launch, held at The Paterson Institute, attracted a huge audience of some 100 people which were a combination of basic and translational scientists and clinicians, University of Manchester representatives, PICR/MCRC representatives, The Christie NHS Foundation Trust representatives, Breakthrough Breast Cancer Head Office staff and local Breakthrough Breast Cancer fundraisers. The group leaders that have joined the BBCRU over the last 18 months were available to meet with those that attended and discuss their existing and future research plans. The BBCRU director, group leaders, technicians and postdocs had also produced scientific posters/summaries of their research projects and the audience were invited to attend a guided tour of the new Unit where a short overview and demonstrations of the equipment was given and the audience had an opportunity to discuss existing and future research projects with the staff.

Under the Directorship of Professor Howell, scientists and doctors will be looking at how cancer cells use healthy cells to survive and grow. Four team leaders have been appointed – from prestigious research institutions in the US and Sweden – to carry forward this ambitious project. The Manchester team intends to tackle this key problem by finding treatments which stop this interaction taking place. The potential treatments would mean breast cancer patients are treated more effectively and would be an important step towards personalised treatment for all.

A further event at Manchester Town Hall launched a £5 million appeal for the BBCRU. The appeal was launched by Maurice Watkins, Director of Manchester United FC and Chair of the Fundraising Appeal Board, and the BBCRU's Director, Professor Tony Howell.

Jeremy Hughes, Chief Executive of Breakthrough Breast Cancer, says: "We are calling on people from across the North West to support this unique research project. Whether it is £10 or £10,000, whatever you give or raise will help. Whether it's holding a coffee morning at home, a quiz night with work colleagues or a fancy dress ball, everyone can play a part in defeating breast cancer."

On the big screen

Congratulations to Pippa McNichol, Director of Operations, who was chosen to be part of a short film celebrating women's aspirations and dreams for the future for International Womens Day on 8 March. The film was part of a rolling programme of features shown on Manchester's outdoor TV screen in Exchange square (near to Selfridges) for 2 weeks.

More Shine pictures...



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