



Paterson
Institute for Cancer Research

Paterson Institute

newsletter

The Newsletter for Paterson Institute for Cancer Research

Welcome to the CR-UK Children's Cancer Group

Issue 9 - March 2007

CANCER RESEARCH UK



MANCHESTER
1824

The University of Manchester

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Director's Introduction



Since the last Newsletter we have heard that Harpal Kumar has been appointed as the next Chief Executive of Cancer Research UK. I very much welcome this appointment as we have worked closely with Harpal over the last 4 years in his capacity as Chief Operating Officer and look forward to forging even stronger links in the development of the Paterson Institute and the Manchester Cancer Research Centre over the coming years.

We were very happy to welcome the President of the University, Professor Alan Gilbert together with Professor Simon Gaskell and Mr Albert McMenemy to the Institute on 6th February. It was a great opportunity for all within the Institute to meet with Professor Gilbert and to hear his views on the University's commitment to cancer research in general, and specifically to the Manchester Cancer Research Centre.

This is going to be a busy year for the Paterson as four of our senior group leaders are due to have their CR-UK Quinquennial Review. Iain Hagan's (Cell Division) and mine (Cell Regulation) are scheduled for May and Geoff Margison's (Carcinogenesis) and Peter Stern's (Immunology) for June.

As you will have noticed from the busy seminar schedule, we are still interviewing potential group Leaders and have had some excellent candidates so far.

I hope you all like the new design of the newsletter; many thanks to Mark Wadsworth, our Graphic & Web Designer and the rest of the editorial team - Laura Edwards, Pippa McNichol, Elaine Mercer and Stuart Pepper.

Nic Jones
Director

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Contribution Review

by Pippa McNichol



Everyone should now have undertaken the training for the new CR-UK Contribution Review.

We appreciate that for this first year, it is rather confusing as the changes are being implemented. All staff will need to complete the review for the 06/07 work using the old form. Objectives that are set for 07/08 should be entered into the new on-line system.

Obviously next year it will be much easier as the on-line system will have been fully implemented and we will no longer need the old style paper forms.

Following the recent elections, I am delighted to announce that the contribution review panel will comprise:-

Chair	-	Pippa McNichol
External Rep (Temp)	-	Julie Naismith , Towers Perrin Consultants
External Rep (Perm)	-	To be announced (a Director from another CR-UK research institute)
Union Rep	-	Lynn Disley
Staff Rep (Elected)	-	Mandy Watson
Group Leader	-	Iain Hagan
Associate Scientist/ Post Doc	-	Tim Ward
Admin	-	Jenny Varley
Service Unit Head	-	Stuart Pepper
Scientific Officer	-	Ricky Van Deursen

All contribution review meetings must be held in March and April so that the completed forms are submitted by **Tuesday, 24th April**.

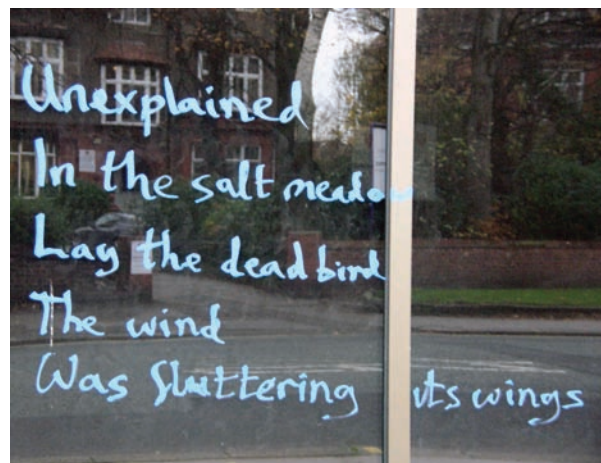
Any forms not received by this date will not be reviewed by the panel and therefore no pay rise will be awarded.

Graffiti

At the end of November, staff may have noticed a piece of graffiti that had been daubed upon the outside of our building in blue ink. It was an excerpt from a poem by Irish born poet, Shiela Wrigfield 'Unexplained in the salt meadow lay the dead bird'. It is reassuring to know that this was not an isolated incident but part of a series of cryptic messages that have appeared around South Manchester. The mystery artist left the words 'I'm Meek!! and I'm here for my inheritance' painted on the walls of Beaver Road Church.

A bridge in School Lane displayed lyrics taken from George Michael's song 'Careless Whisper', 'Guilty feet have got no rhythm'. Several local buses were also vandalised with random quotes, in the trademark blue paint.

A quote from a Hungarian poet was left on the side of Boots in Didsbury. Local newspaper, The South Manchester Reporter, interviewed Geoff Bridson, a member of the Didsbury Civic Society who said "This person obviously has a great knowledge of literature, but this sort of behaviour is unacceptable it is obviously amusing to him but is unpleasant for the rest of us."



Items for the Newsletter

If anyone would like to submit an article for the newsletter or has information for the staff news, we'd love to hear from you. Any feedback on the new layout is also appreciated. Please contact Elaine Mercer - emercer@picr.man.ac.uk.

Credits: Photographs in this issue were supplied by: Steve Royle (Paterson Institute) and Paul Cliff.

All Change in the Core

Molecular Biology Core Facility Update

Many of you will already have noticed that MBCF has recently moved into the lab space near the loading bay, RG1; this is part of a general rearrangement to accommodate changes in the facility.

Over the

last year we were joined by three new members of staff: Duncan Smith joined to strengthen our support for MS analysis, Sian Dibben joined to provide bioinformatics support for the CR-UK GeneChip microarray service, and, most recently, Jenny Brettell joined us from lab services to provide support for our genotyping, sequencing and miniprep services. Gaining these extra posts has allowed us to keep up with growing demand for existing services, whilst also planning new ones.

We have also been fortunate enough to gain more equipment. As part of the 2007 budget we have been allocated money to buy a new Mass Spec system which will significantly enhance our ability to support a range of protein identification and analysis applications; through CR-UK research services we have also purchased an Affymetrix platform that will allow us to develop services based on a new 4 colour assay, as well as helping us to achieve good turnaround times on large projects.

Equally usefully, but at somewhat less expense, we will also be purchasing a Qiacube which will allow us to automate RNA extraction and clean up; this service should be ready to roll out sometime in May.

To house the extra equipment and staff it has been necessary to expand the facility. Our small lab RG4 is being converted to an office so that our new members of staff can have desks, and the larger space in RG1 is now being used to house the miniprep, sequencing and real time PCR equipment. I would particularly like to thank Steve, Graham and Tony from Estates for all their help with the refurbishment and equipment installation, and 'Boxwood Bob' for his help in fitting out the labs.

“we have also purchased an Affymetrix platform that will allow us to develop services based on a new 4 colour assay”



Where Are They Now.....

Although I feel that it was only yesterday, more than three years have passed since I left the Paterson Institute.

I am Eiji Hara, a former group leader. I am very pleased to be able to contribute to the Paterson Newsletter from Japan. I will tell you how I have been getting along in pastures new. I am now working as a Professor at the University of Tokushima, one of the national universities in Japan. In stark contrast with the Paterson, there is very little core support (core funding, core facilities, central services, etc...) in most Japanese Universities. Consequently, I have to spend enormous amounts of time and effort for grant hunting here. If you know any research grant which I can apply for, please email me!

In Tokushima, I am still working on cellular senescence, the state of stable cell cycle arrest provoked by a variety of oncogenic stresses in mammalian cells. Akiko Takahashi, a post-doc in my lab, has recently

discovered that p16^{INK4a} tumor suppressor blocks not only DNA replication but also cytokinesis through activating reactive oxygen species (ROS)-PKC δ signalling in senescent human cells. Importantly, once activated by ROS, PKC δ promotes further generation of ROS, thus establishing a positive feedback loop to sustain ROS-PKC δ signalling. Sustained activation of ROS-PKC δ signalling irreversibly blocks cytokinesis, at least partly through blocking the function of LATS1/WARTS, a mitotic exit network kinase required for cytokinesis. These results uncover an unexpected role of p16^{INK4a} and provide a new insight into how senescence cell cycle arrest is enforced in human cells (for more details, see Nature Cell Biol., 8, 1291-1297, 2006).

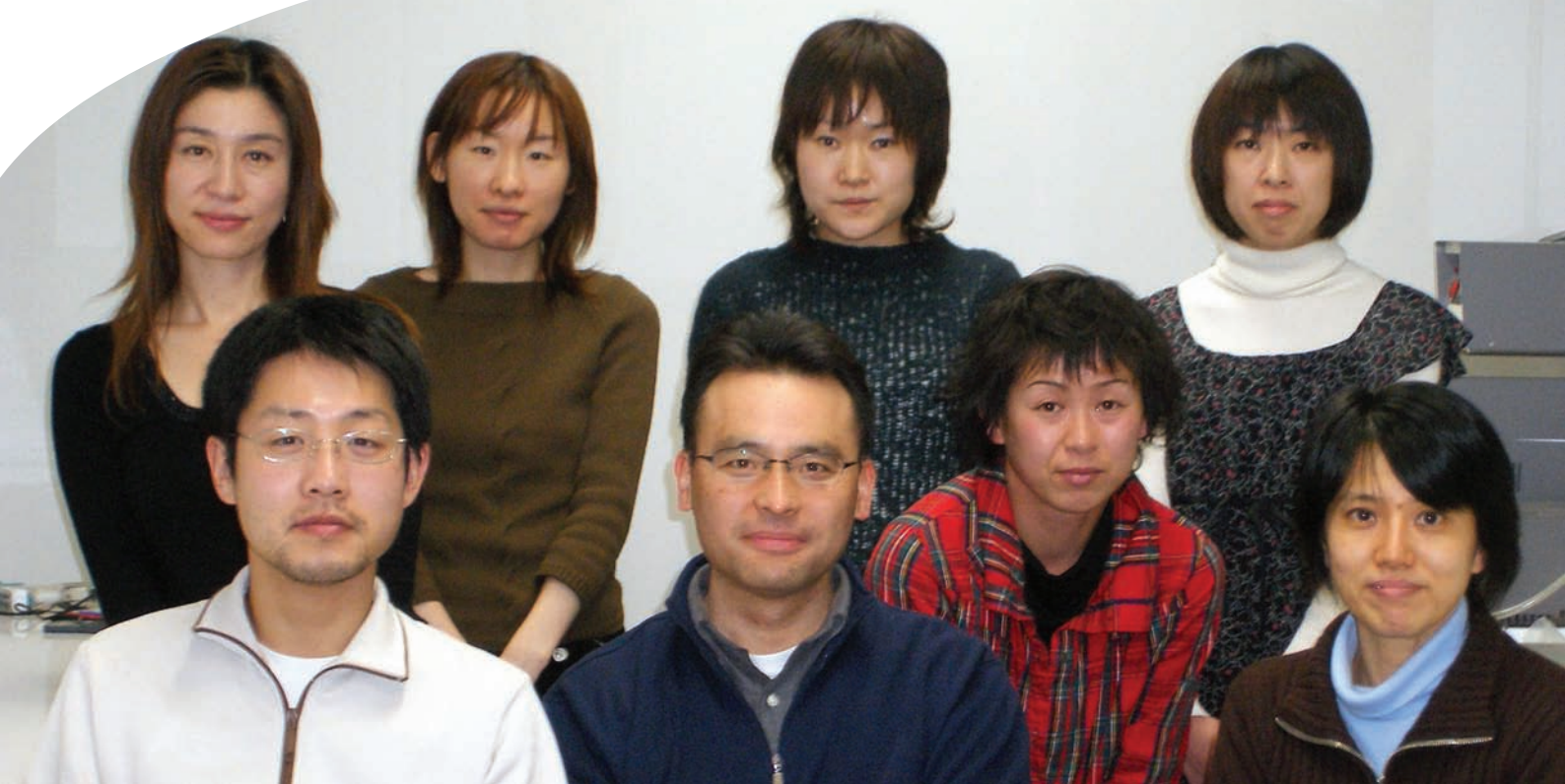
In the meantime, Naoko Ohtani (I guess you remember her) and Kimi Yamakoshi began a new line of work, to visualize senescence signalling in living animals using

bioluminescence imaging. Their work has gone well and has become the second major research area in our laboratory. We hope that our work will shed new light on the mechanisms operating to enforce and sustain cellular senescence and open new avenues for potential therapeutic intervention in cancer.

Although I was in the Paterson for only 5 years, I now realize that I learned a lot whilst I was there. Without having my 5 year experience in the Paterson, I think I could not find my feet in the science world. I am sure that you will also gain valuable experience during your time in the Paterson. You will certainly realize it after you have left!

Eiji Hara
Professor,
Institute for Genome Research,
University of Tokushima
Tokushima 770-8503
Japan

Eiji Hara (front centre) with his group



IT Infrastructure Upgrade 2007

by Steve Royle

You want more disk space? – No Problem!

The Institute's IT requirements are both complex and multifaceted. Operationally, challenges exist due to the high data volumes being collected, analysed and archived daily.

A high performance, high capacity, high availability, central storage & archive solution was required to provide scientists with the resources to effectively support their research activities now and in the future. The IT needs of all departments, scientific research & service based groups were assimilated in spring 2006 and a full European tender process ensued. Many pre-tender & post-tender meetings later (and to cut a long story short) a contract was finally awarded to Dell Inc. who provided an enterprise class solution offering the best fit to meet our ever increasing requirements at an extremely competitive price.

The scope of this project is focused on four closely coupled areas serving the Institute's principal IT requirements for... (i) Data Storage, (ii) Archive, (iii) Backup, Recovery & Disaster Recovery, (iv) Servers and Services.

The initial requirement for storage is to provide 50 Terabytes (Tb) of high availability, high performance, fault tolerant storage for live data. Over its anticipated 5 year lifetime our projected storage usage could reach 200Tb, the new storage

solution is therefore scalable up to at least 200Tb.

To meet the increasing demands of regulatory compliance particularly relating to medical research and clinical trials data (e.g. GCLP), the Institute is now required to archive data adhering to strict rules defining how data must be stored, for how long and with what levels of accessibility. A suitable archive solution was selected to meet this requirement and to scale with the ongoing deployment of storage. This archive will be mirrored at a different site to provide additional fault tolerance and disaster recovery capability.

Providing vast capacity, high performance, fault tolerant storage & archives is only part of the story. We also need to protect the information stored on these systems such that it can be reliably recovered. We are therefore implementing a backup & recovery solution to support the new storage solution, which will scale with the ongoing deployment of storage. The solution will also include disaster recovery capabilities that will allow quick and reliable recovery of all data, servers and services.

It is also proposed to build a fault tolerant server infrastructure utilising virtualization and blade technologies to provide automated load balancing and highly resilient systems to keep services running in the event of equipment or software failures.

pictured: EMC Clariion SAN, the new home for your data



Fundraising

Thank you to all the volunteers who collected an amazing £3,048.41 on the 21/22 December at Manchester Piccadilly train station.

A total of 160 hours were donated by Cancer Research UK volunteers, students from Manchester University and staff at the Paterson Institute.

A special thank you to Pippa McNichol, Dominic James, John Gallagher, Iain Hagan, Catriona Parker, Sara Bhana, Stephen St.George-Smith and Cristina Martin-Fernandez from the Paterson Institute for volunteering!

RELAY FOR LIFE

www.relayforlife.org.uk

Relay for Life is one of the most exciting events that Cancer Research UK has ever hosted. The Relay for Life is a 24-hour, overnight, team event that empowers individuals and communities to get involved in helping cure cancer. Relay for Life is full of fun, fellowship and festivities. Above all, it is a celebration of life, health, cancer survivorship and a way to remember those whose lives have been lost to the disease.

So why not get a team together and participate in your local Relay For Life?

For more information on fundraising for Cancer Research UK contact Gary Kernahan on 0161 772 5555 or email gary.kernahan@cancer.org.uk.

BIG BREAKFAST

www.cancerresearchuk.org/breakfast

Join thousands of people taking part in Britain's Biggest Breakfast and you can help raise vital funds for Cancer Research UK's life saving work. It's fun and easy to take part. Simply invite a group of friends, family or colleagues to breakfast any time during the year!

Student Social - the Paterson students on ice!

To welcome the new students (and catch up with all the older ones), it is by now a tradition to go out for a "student social" once or twice a year. In keeping with a long line of events such as dog racing, BBQs, Party/Game-nights, this year's social was a combination of festive and active, just in time for the warm-up for the Christmas holiday season! In early December, we decided to show off our skills/try our luck (depending on individual experience) on the lovely ice-skating rink in Piccadilly Gardens. Credit is due to the admirable Mancunian approach to the not-quite-Arctic weather: if there is no snow/ice, we shall make some! So it came that a 20-or-so group of students and guests made

their way to the heart of Manchester. Both the show-off and go-lucky groups mentioned above agreed that ice-skating is a very dangerous and serious sport, which requires a good warm-up, preferably taken at the Mulled Wine stall. On the ice, after the first unsteady rounds clinging along the board, the crowd started to speed up and looked very elegant. The non-skating audience was waiting for spectacular crashes or falls but had to be disappointed for the most part - science and ice skating seem to fit well together! After one hour of intense skating it was time to pass on the pre-warmed and wet skates to the next lot of people. To escape the rain (which happily only started

once we were off the ice) the group headed to the Mongolian Grill, a restaurant where you can select and mix the ingredients of your meal yourself and have it prepared in front of you. After many rounds at the buffet those who could still move finished off the evening with some dancing! Considering that no-one went home with broken bones and all had full stomachs at the end of the evening, the event may be considered successful, and we would like to thank the Institute for the generous funding to make it possible!

Martin and Katalin

Student representatives

Children's Cancer Group



Group Spotlight



above: group leader - Vaskar Saha

The most common form of childhood cancer is acute lymphoblastic leukaemia (ALL). Using drugs identified in the 1950-60's, carefully designed large scale randomised trials, using a trial and error approach, have progressively intensified therapy.

While about 80% of children with ALL can now be cured, this approach has resulted in complicated treatment regimens which can last upto 3 years. More intensification is not possible and few new drugs have been identified. Further improvement in outcome requires a better identification of those at a risk of relapse as well as an understanding of the biological basis for the differences in therapeutic response. The Cancer Research UK Children's Cancer Group (CRUK-CCG) was formed in 2000 to investigate this aspect of childhood cancer. At the end of 2005, the CRUK-CCG relocated from the Institute of Cancer at Queen Mary University in London to the Paterson Institute for Cancer Research at the University of Manchester.

To investigate the differences in therapeutic response, we have designed and run clinical trials in high risk patients. ALLR3 is a clinical trial for children with relapsed disease that recruits from all centres in the UK, Ireland as well as Australia and New Zealand. A highly resistant subset of ALL, Ph+ ALL is being treated on a pan-European protocol (EsPhALL) for which we are the coordinating centre in the UK. We have also designed and run the first pan-European phase II trial in children with ALL (BIOV-III). The trials are coordinated and run by Carly Leighton, Clinical Trials Manager.

Data and samples obtained from these trials are analysed using state-of-the-

art laboratory techniques to identify biological mechanisms which may result in therapeutic failure. We have identified that resistant disease is often characterised by cellular migration / invasion into the central nervous system. Using a technique called microarray we have identified a number of proteins produced by leukaemic cells that may produce this phenomenon. The team of Mark Holland, Shekhar Krishnan and Seema Alexander are developing cellular models to study the effects of over expression as well as blocking the actions of these proteins. Doaa Khater is expanding the clinical correlations. Further investigations into the genomic changes within leukaemic cells that lead to the aberrant expression of these proteins are being investigated by Naina Patel and Jizhong Liu. The team will expand during this coming year as we need expertise in developing mouse models as well as in developing assays that may help in the early identification of those at the highest risk of therapeutic failure.

The team is led by Vaskar Saha. Vaskar obtained his undergraduate and postgraduate training in paediatrics at the Christian Medical College Hospital, Vellore, India. He came to the United Kingdom in 1990 and trained in Paediatric Oncology at the Royal Hospital for Sick Children in Edinburgh and St Bartholomew's in London. He completed his doctoral studies in the Imperial Cancer Research Fund's Medical Oncology Unit and was appointed as Senior Lecturer in 1995. He obtained a personal chair in 2001 and was appointed to the Cancer Research UK Chair in Paediatric Oncology at the University of Manchester in 2006.

opposite page, left to right: Mark Holland, Jizhong Liu, Doaa Khater, Shekhar Krishnan, Alexia Anthony, Christine Connor, Carly Leighton, Vaskar Saha, Naina Patel, Seema Alexander

In the Spotlight

In each issue of the Newsletter, we feature a member of staff who will take the 'Spotlight' and answer a list of questions that we have put together. The next lucky individual to be featured is Yvonne Hey of the Molecular Biology Core Facility.

1. What is your favourite part of the UK?

Anywhere there's hilly countryside where I can pitch my touring caravan and go for a long walk away from the hustle and bustle of everyday life.

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

It is not worth worrying until you have something to worry aboutunfortunately perfecting the lesson is proving difficult!

3. What is your favourite book?

I have little time to read these days so from my youth it has to be 'My Family and Other Animals' by Gerald Durrell. A wonderfully funny, light-hearted account of the 5 years he spent on Corfu. Guess where I went for my honeymoon?

4. If you were an animal, what would you be and why?

A butterfly, as it can't be stressful fluttering about in the garden on a warm summer's day sniffing the flowers.....unless you get chased by a cat!

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

Is there any better career for me than running a successful microarray service for CR-UK? What do you expect me to say so close to performance review time?

6. What is your greatest fear?

Public speaking

7. What do you think is the world's greatest landmark?

The Great Wall of China closely followed by 'The Theatre of Dreams'just looking to get in Nic's good books with the last one!

8. What would be your perfect meal?

My perfect meal has to be one that someone else had cooked for me, eaten in the company of good friends and washed down with a fine wine.

9. What trait do you most deplore in others?

Dishonesty, there is absolutely no excuse for it.

10. Which words or phrases do you most overuse?

"Stuart, have you got a minute?"



11. What is your idea of perfect happiness?

Perfect happiness to me would mean being fit and healthy enough to indulge in my passion for clog and appalachian dancing until the end of my days.

12. What three things would you save from your burning house?

My clogs, my tap shoes and my family. Not necessarily in that order of course!

13. With which well known figure (past or present) do you most identify?

Nobody, as we are all unique individuals and that is what makes the world an interesting place.

14. What keeps you awake at night?

Anything and everything; I've not mastered the art of sleeping soundly yet.

15. What is your greatest regret?

Doing a PhD. But if I hadn't gone over to Liverpool to do a PhD then I wouldn't have met my husband, so every cloud has a silver lining as they say.

Long Service Awards

by Tim Ward

In December last year, myself (Tim Ward), Mike Hughes, Martin Greaves and other Paterson members received our 30 year long service awards.

Martin, Mike and I all arrived at roughly the same time and have witnessed great changes in the building, the staff and more importantly the science. It was whilst I was using the x-ray equipment in the basement that I remembered the heyday of radiobiology and radiochemistry in this Institute. At that time the linear accelerator (located in the basement where the x-ray equipment now is) was the bee's knees of cutting edge radiochemistry and scientists from all over Europe came to work here. The head of radiation chemistry was Michael Ebert who was married to Alma Howard. Alma interviewed me for my job (a great judge of character) and at that time was Deputy Director. She was of course, famous for her pioneering work with Pelc on DNA synthesis and together in 1953 they published a landmark paper which basically outlined the concept of the cell cycle¹. Truly pioneering science - a tradition I'm glad to see is alive and well in the Institute today.

Martin Greaves has a similar view of those days.

My time over the last 30 years has been marked by the huge changes that have taken place in the Institute; notably in the science, the buildings infrastructure, in personnel and in lab safety. I have been so fortunate to work with some of the leading scientists in various disciplines and feel privileged to have seen the introduction into the Institute of some of the major scientific breakthroughs of the 20th century; notably in the field of molecular biology in the early 80's. Working within the Institute with its constantly changing range of talented international staff has been a joy and continues to be so even though there is now much more restriction on what we can and can not do safety wise.

Mike Hughes did not always work in a service unit as he recalls.

Back in 1975 when I first arrived at the Paterson a number of what are now essential departments did not exist. Could anyone imagine what life was like without an IT unit, Flow Cytometry or performance related pay. I seem to

remember that my starting salary was £1440 per annum. Although inflation has hit my salary, it doesn't seem to have affected the £5 Christmas voucher or the amount of gift tokens received at the award ceremony. Social activities such as "Paterson Sports Day" including the "Dream Mile" and the "Smart Asses of the Year" general knowledge quizzes have come and gone but "Paterson Rounders" goes on for ever, or does it? A certain Derek Cocker was Chief Technician in Radiation Chemistry but he soon received promotion to Safety Officer. I don't think we had safety before that happened.

1. Synthesis of deoxyribonucleic acid in normal and irradiated cells and its relation to chromosome breakage.

Howard, Alma; Pelc, S. R. Heredity Suppl. (1953), 6, 261-73

Staff News

Congratulations to:

Grazyna Lipowska-Bhalla (Medical Oncology) and husband Sonal on the birth of their baby son on 1st January, 2007. Su-Jacob came into the world weighing a healthy 3.3 kg. Congratulations to the whole family!

Mick Brown (GU group) and his wife Louise Scott (ex-Paterson post-doc) on the birth of their twins Grace Elizabeth (3lb 5oz) and Sophie Victoria (3lb 8oz (right)). They were born by caesarean section on

the 16th February at 30 weeks and 5 days, but all are doing extremely well thanks to the sterling efforts of the Wigan Delivery, Neonatal and Maternity teams.



Laura Humes (Human Resources) who gained a merit in a recent assignment for her People Resourcing elective at Stockport College, as part of the Chartered Institute of Personnel and Development (CIPD). This is a particularly difficult elective, so well done Laura!!

Graeme Smethurst from Bioinformatics and Immunology, who passed his PhD viva just before Christmas. Many congratulations!

Staff News

Congratulations to:

Steve Lyons (Cell Regulation) and wife Jo on the birth of their son, Elliot (below) on 1st February. Elliot is a new playmate for big sister Hannah.



Cell Cycle (right) who won the themed Winter Bar Rally held in the Northern Quarter in December 2006. They seem like a very colourful bunch!!

'The Lepers' (better known as GU Cancer Research) who were the worthy winners of the Paterson Xmas Party Quiz which was held on Friday, December 15th. Team members consisted of Claire Hart, Mick Brown, Ruth Swann, Ben Grey, Jeremy



Oates, Ehsan Gazi and Mark Holland - hope they enjoyed spending the prize of £50 worth of M & S vouchers!

The BIG Question

Every month we ask a big question, this issue we ask the Paterson Students:

Who would you like to be stuck in a lift with and why?

The A-Team..... We'd build an armoured car and bust our way out. Failing that, a Lift Engineer..... Obvious, I think.

Hannah Harrison

My first choice would definitely be my husband Ryan, but as a close second, I would go for David Tennant and maybe a bottle of champagne....

Laura Edwards

My first thought was, 'well that's easy – David Beckham', but after some more thought I changed my mind to Chris Moyles from Radio One because he is the only person who can make me laugh on Monday mornings!

Rachel Crossley

A lift mechanic, so that I wouldn't be stuck for long!

Alex Smith

A lift technician/repairman because I feel slightly claustrophobic in lifts and would like to get out of there asap!

Isabel Pires

I would actually really hate to be stuck in a lift as I am scared of them, but if I was stuck the ideal person for me to be stuck in there with is a lift engineer!

Jill Hunter

I guess if I had to choose who to be stuck in a lift with and why, I would choose my two best friends from home. We haven't seen each other in a while and we have loads of catching up to do. However, if I had to be stuck in a lift for a long time I would rather be on my own so I'd have more oxygen left until the rescue team got me out safe and sound!

Cristina Martin-Fernandez

MacGyver – because he (using all the useful stuff you could find in a lift) would set us free within a minute!

Patrycja Sroczynska

I would like to be stuck in a lift with the comedian Lee Evans because I think he is hilarious. I'm sure he would be very entertaining and be a great person to pass some time with.

Natalie Reeves

It would have to be Superman to get me out with his superhero powers. If however, the lift is made out of Kryptonite by the wicked Lex Luther then hopefully Spiderman or Batman will also be in the lift with me. If these two are not in the lift and are going about their business fighting baddies and generally saving the world from evil which would now be increased with the demise of Superman in my lift, then my next choice of person would obviously be Kylie with her superpowers!

Andrew Marriott (pictured on the cover)

I would like to be stuck in a lift with my musical hero the late, great Robert Nesta Marley (if he could be resurrected). And then he could play some tunes whilst I'm waiting for someone to come and fix the lift.

John Bridgeman