



Queen's University
Belfast



CCRCB
Centre for
Cancer Research
& Cell Biology

Bulletin

December
2013
Issue 28



Centre for Cancer Research and Cell Biology,
School of Medicine, Dentistry and Biomedical Sciences,
Queen's University Belfast,
97 Lisburn Road, Belfast, BT9 7AE
T: +44 (028) 9097 2760
W: www.qub.ac.uk/ccrcb

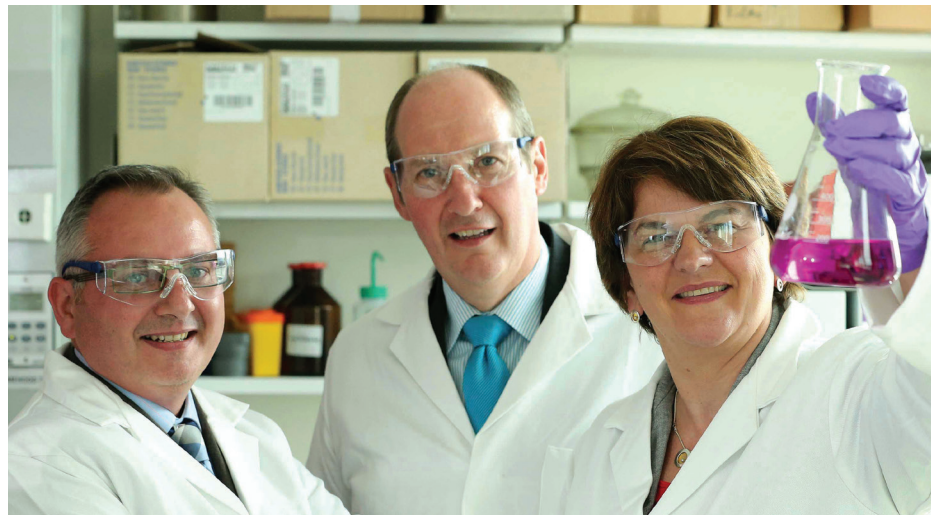
ALMAC DISCOVERY AND QUEEN'S LAUNCH £13M CANCER DRUG DISCOVERY PARTNERSHIP

A new £13 million partnership to accelerate cancer-focused drug discovery in Northern Ireland was launched by Enterprise Minister Arlene Foster MLA on Wednesday 4 September 2013.

As part of the project, Queen's and Almac Discovery have announced the scheduling of a phase one clinical trial for ovarian cancer, involving the first novel cancer drug fully developed in Northern Ireland. Involving up to 60 ovarian cancer patients, the drug being trialled has been created as a result of an earlier collaboration between Almac Discovery and Professor Tracy Robson from the School of Pharmacy at Queen's. Explaining about the trial, Professor Robson said: "This latest trial involves a new treatment for cancer known as ALM201, which rather than attacking tumours directly, prevents the growth of new blood vessels in tumours, starving them of oxygen and nutrients and thereby preventing their growth. It targets tumours by an entirely different pathway to those treatments currently approved."

Alan Armstrong, CEO of Almac added: "Bringing new treatments to patients is a complex process. The announcement of this new clinical trial, which is the result of a previous partnership between Almac and Queen's School of Pharmacy, is a timely illustration of how collaboration between the University and industry is already creating novel approaches to cancer therapy which have a very real chance of helping patients."

Enterprise Minister Arlene Foster, said: "This significant investment in research and development will enhance collaboration between academia and industry. This will ensure the investment is maximised, that research is effectively commercialised and that ultimately,



Professor David Waugh (Director, CCRCB), Alan Armstrong (CEO, Almac) and Enterprise Minister Arlene Foster

enhanced treatment solutions are made available to cancer patients."

It was also announced that a new CCRCB/Almac Discovery joint programme in Cancer Drug Discovery will bring researchers from Queen's University Belfast's Centre for Cancer Research and Cell Biology (CCRCB) and scientists from Almac Discovery together to translate research discoveries into treatments for patients.

The two projects represent a total investment of £13M, with £7 million of support offered by Invest Northern Ireland, which includes part funding from the European Regional Development Fund. As a result of the joint programme, 17 scientists from Almac Discovery have been seconded to Queen's CCRCB in an industry led venture. The discovery team will work to identify parts of tumours which are susceptible to treatment by cancer drugs and to then develop the new drugs to target them. The partnership will also enable new

approaches to selecting those patients who will be most likely to respond to the new drugs, and to create the technologies needed to deliver the drugs directly to the tumour site in the patient.

The new discovery programme is being led by Professor Tim Harrison, Vice President of Discovery Chemistry with Almac Discovery. As part of this partnership, Professor Harrison has been appointed McClay Chair of Medicinal Chemistry at Queen's for the next three years. Commenting on the new partnership, he said: "While Almac Discovery and Queen's have already been successfully collaborating for a number of years, this exciting new programme is bringing together for the first time, under one roof, some of our most talented scientists. As a result we expect to see an increase in both the breadth of drug targets we are able to identify and a subsequent increase in the development of potential therapeutics for patients."

FIRST STUDENT COMPETITION A BIG SUCCESS

The first Student Competition sponsored by Queen's and Cancer Research UK saw 10 finalists enjoy a day in the labs on 13 September 2013. The students submitted a poster designed to promote the CCRCB and a particular type of cancer or research.

They started the day with a talk by Dr Karen McCloskey which was followed by a careers 'speed dating' session that gave them a flavour of the range of careers available in cancer research. They then spent the rest of the day in the labs under the direction of Dr Jules Gorski and team. They performed DNA extraction, PCR and immunofluorescence microscopy.

At the end of the day, their parents and teachers were invited to a reception where Professor David Waugh, Director of the CCRCB, announced the winner of the poster competition – Aaron Carlisle – and presented him with an iPad, courtesy of Almac. The winning poster featured a heart wired with dynamite and focused on computational research as a key way to 'help defuse the time bomb' of cancer. The CCRCB/Nikon prize of a digital camera, sponsored by Vector Scientific/

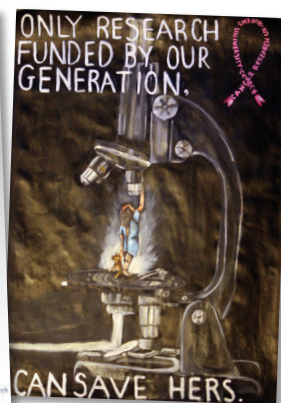
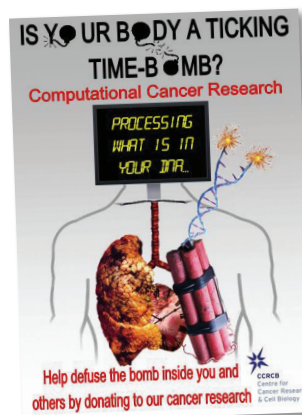


Students Jordan Kelly, Daryl Hinchcliffe and John Baxter working in the CCRCB labs under the supervision of researcher Alex Powell

Nikon, was awarded to Daryl Hinchcliffe for her striking image of a young girl looking up into a microscope with the headline 'only research funded by our generation can save hers'.

Right: Winning poster by Aaron Carlisle

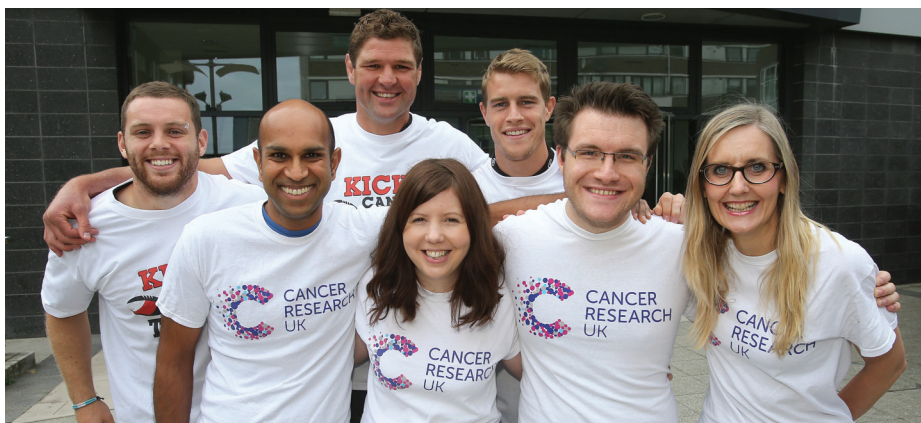
Far right: CCRCB/Nikon prize winning poster by Daryl Hinchcliffe



ULSTER RUGBY AND CRUK AIM TO 'KICK CANCER INTO TOUCH'

Ulster Rugby has partnered with Cancer Research UK as their charity of the year for this season, and the partnership, which aims to 'Kick Cancer Into Touch', was launched at the CCRCB on 28 August 2013.

Thirty Ulster Rugby players, management and staff were welcomed to the CCRCB by Professor David Waugh and had a tour of the labs. The players met the medical research staff and were able to hear at first-hand about the research within the labs in CCRCB. The President of Ulster Rugby, John Robinson, said: "Ulster Rugby is totally committed to this partnership as we feel it is very important to contribute as fully as we can to this charity which strives to overcome this awful disease that affects so many people in Ulster and further afield."



Researchers Gaurang Patel, Kirsty McLaughlin and Phil Burn and CRUK Senior Research Nurse Ruth Boyd with Ulster Rugby players Darren Cave, captain Johann Muller and Andrew Trimble

The partnership aims to raise over £20,000 throughout the course of the season. Four match day collections

will be held at Ravenhill and four fundraising events will be staged over the course of the year.

REPORT FROM THE 4TH INTERNATIONAL CONFERENCE IN 'QUANTITATIVE BIOLOGY AND BIOINFORMATICS IN MODERN MEDICINE'



Delegates at the conference in Riddel Hall

From 19-20 September 2013, 14 speakers from 5 countries gathered at the beautiful Riddel Hall in Belfast to present the newest findings of their research.

After the welcome address, provided by Professor Patrick Johnston, the keynote lecture with the title 'Modeling

Endocrine Resistance in Breast Cancer' was presented by Robert Clarke from the Lombardi Comprehensive Cancer Center, Georgetown University Medical Center (USA). Interestingly, the common theme that emerged from all the different talks presented during the 2-day meeting was the realization that complex diseases like

breast cancer can only be understood with a systems approach, casting the shadows of genomic and systems medicine. This culminated in the talk given by Sol Efroni, from The Mina and Everard Faculty of Life Science, Bar Ilan University (Israel), with the intriguing title 'The Network is a Biomarker in Cancer Signatures.'

Frank Emmert-Streib said: "We are proud that we were able to organize this conference for the fourth consecutive year. Initially started from funding provided by the Department for Employment and Learning through its "Strengthening the all-Island Research Base" initiative, which ended a couple of years ago, the conference is its living legacy, and we would like to thank everyone who helped us to make this a sustainable event."

The organizers of the conference, Frank Emmert-Streib, Peter Hamilton and Shu-Dong Zhang, would like to congratulate the winners of this year's poster competition, Fabio Liberante and Qing Wen, for their valued contribution.

BRCA LINK NI INFORMATION DAY

Cancer researchers from Queen's University hosted an information day on Friday 25 October for patients who are BRCA gene mutation carriers, and for those who wanted to find out more about hereditary cancers.

Held in conjunction with BRCA Link NI, a voluntary organisation raising awareness of hereditary breast and ovarian cancer, the event was open to people affected by the BRCA1 and BRCA2 genes, which increase susceptibility to breast and ovarian cancer in carriers. The event was a great success, with around 70 people attending with their families.

The keynote speaker was Wendy Watson, who told her inspirational story. Wendy fought in the early 1990's to convince her GP that some breast cancers might be hereditary (both her mother and grandmother had died from breast cancer). She convinced her doctors that

a prophylactic double mastectomy was the best course of action in risk reduction when there was no scientific backup. This is now the recommended treatment option for BRCA mutation carriers. Wendy instigated the first hereditary breast cancer awareness week and has raised millions for improved management of hereditary breast cancer patients. She now runs the Hereditary Breast Cancer Helpline and sits on numerous government bodies advising on the area.

The event also incorporated talks about a new high risk screening clinic based in Antrim Hospital as well as a new BRCA clinic in Belfast City Hospital. Those attending the information day also had a lab tour and took part in a 'Meet the Expert' session, where attendees could ask a panel of geneticists, surgeons, obs/gynae experts, oncologists and breast clinicians questions that were important to them.



Wendy Watson (Hereditary Breast Cancer Helpline) and Hazel Carson (BRCA Link NI)

Finally Professor Paul Harkin led a tribute to Dr Jennifer Quinn-O'Brien's research into the area and how she has had such an immense impact on the field.

Further information is available online at www.brcani.co.uk.

The annual 'Wear it Pink' Coffee Morning was also held on the Information Day and was a great success, raising £445.40 (£550 including Gift Aid) for Breast Cancer Campaign.

CANCER FOCUS NI LAB VISIT

Cancer Focus Northern Ireland research fellow Dr Kienan Savage recently gave the Cancer Focus London Marathon team a tour of the CCRCB laboratories. Jill Brennan, Linda Craig, Alan McKeown and Ivan McMinn together raised almost £100,000 for the charity.

Breast cancer patient Christine Garrett also visited Dr Savage's laboratory at CCRCB. Christine, from Lisbane near Comber, has a BRCA2 gene mutation, which is one of the areas Dr Savage and his team is researching. She has had a double mastectomy and recently had breast reconstruction surgery. Dr Savage's research focuses on the prevention and treatment of breast cancer.

Cancer Focus needs to raise £3.5m each year, mostly from public donations, to carry out its vital work funding research, providing care services for people with cancer and their families across Northern Ireland, cancer prevention and campaigning to influence public policy.

For more information visit www.cancerfocusni.org, call 028 9066 3281 or email hello@cancerfocusni.org.



Dr Kienan Savage showing slides to Christine Garrett

A GIRLS' NIGHT IN FOR CANCER FOCUS NI



Dr Kienan Savage promoting the 'Girls' Night In' fundraising campaign

As part of breast cancer awareness month, Cancer Focus Northern Ireland asked local women to host a Girls' Night In during October to raise funds for pioneering breast cancer research at Queen's University Belfast.

Cancer Focus, the new name for Ulster Cancer Foundation, promotes and supports internationally competitive, high quality research into the causes, treatment and prevention of cancer. Currently the

charity is funding a research fellowship at CCRCB that is focusing on the prevention and treatment of breast cancer.

Roisin Foster, Cancer Focus Chief Executive, said: "Research is an extremely important element of what we do. Each year we invest £300,000 - £400,000 in cancer research to help identify the causes of cancer and discover improved methods of diagnosis and treatment. Many cancers previously thought to be incurable

are now being treated successfully as a result of scientific research."

Dr Kienan Savage, who received a Cancer Focus NI Fellowship, has recently identified a number of new cancer genes that appear to be involved in the development of breast and ovarian cancers, and some forms of leukaemia.

"These cancers often arise due to damage to genes within our DNA, known as 'gatekeeper' genes. The genes control how often cells divide, allowing cells to grow out of control forming a tumour. The new cancer genes which have been discovered appear to play a role in repairing damage to DNA and thereby aid the repair of damaged 'gatekeeper' genes, helping to prevent cancer," Dr Savage said.

"My research will add significantly to our understanding of how these genes work to prevent the development of cancer. It may also lead to the development of new quick and effective tests to help decide which treatments specific cancer patients will benefit from, and may help to identify new proteins that could be targeted for future therapies. It's fantastic to get this opportunity to develop my own independent research which has the potential to be hugely significant for cancer patients everywhere."

NEW CRUK RESEARCH ENGAGEMENT MANAGER – MARGARET CARR



Margaret Carr, Belfast CRUK Research Engagement Manager

Margaret joined us as the Belfast Cancer Research UK Centre's new Research Engagement Manager at the beginning of August.

As the Belfast Research Engagement Manager, Margaret's role is to engage a wide range of people in Belfast and across Northern Ireland with the research taking place in their community. Audiences include people affected by cancer and their families, CRUK supporters, politicians and journalists, as well as the general public.

Margaret engages these different audiences in a variety of ways, arranging

talks about CRUK funded clinical and lab-based research and bringing the research to life through interactive tours of the labs in the CCRCB. Research engagement also means finding opportunities for researchers to go out and speak about their work at community events in order to reach more people and build greater support for the pioneering research taking place here at the Centre.

Teachers and students are also a vital audience for the Centre, which has a clear commitment to hosting events and activities that inspire the next generation of cancer researchers. Margaret will be working with colleagues in the CCRCB to

expand the annual teachers' and schools' days, and to develop the new schools' competition, which launched for the first time this year.

Margaret also works closely with the press teams at CRUK and the other Centre partners to ensure that exciting new research developments make the news and raise the profile of the Centre.

Margaret will also be instrumental in keeping the central CRUK Policy team up to date on issues in Northern Ireland affecting cancer research, diagnosis and treatment, such as early diagnosis, research funding and regulation and radiotherapy provision. She will work with local politicians, statutory health bodies and others to promote CRUK's policies on these issues.

Before joining us, Margaret was most recently Engagement Officer for Age NI, working with older people's groups across Northern Ireland to widen and strengthen their input into consultations on health and social care. Prior to that, Margaret was Fair Trade Manager for Oxfam Ireland for 12 years.

To contact Margaret or find out more about her role email: margaret.carr@cancer.org.uk or call: 028 9097 2715.

INAUGURAL CRUK PATIENT ENGAGEMENT EVENT

On 6 September 2013, the first Cancer Research UK Patient Engagement event was held simultaneously at 10 Centres across the UK.

The event in Belfast was the first to reach its attendance capacity, and 30 cancer patients, survivors and family members attended the full day workshop. The aim of the day was to seek input as to how CRUK research, information, advocacy and engagement work should reflect the views and needs of people affected by cancer, and to get them involved in CRUK's work.

The day included small group discussion sessions on patient involvement in CRUK research and the work of CRUK campaign ambassadors, and a presentation by Professor David Waugh on the work of the Centre. Regular Tweets from all the participating Centres throughout the day ensured there was lively cross-centre engagement on the day's discussions, and the day ended with a live simulcast to all 10 participating Centres from Dr Harpal Kumar, CRUK's Chief Executive.



Dr Sandra Irvine, one of the facilitators for the CRUK Patient Engagement event, in discussions with her group

CANCER RESEARCH WITH THE X-FACTOR!

'Cancer Research with the X-Factor' was a public information event hosted by the NI Cancer Research Consumer Forum (NICRCF) on 16 October 2013, to help raise awareness about the work of researchers and staff, working in radiotherapy, and fervently committed to driving advances in cancer care through research.

The audience gathered in the Cancer Centre, Belfast City Hospital, and the Chair of the NICRCF, Margaret Grayson, opened the evening by describing the role of Personal and Public Involvement in cancer research. The audience listened with fascination as Investigators described how research-driven innovations in radiotherapy and radionuclide treatments had led to faster availability of more effective treatment for patients in Northern Ireland. Research was a vital quality driver, and hence core to a high quality health service. Current research included delivery of higher radiotherapy doses tightly targeted to the cancer, while minimising radiation to surrounding tissue. This had

several potential benefits; increased chance of curing cancer, decreased side-effects and reduced treatment visits. A key to the success of the research strategy was a multi-professional approach, involving close collaboration of experts in clinical radiotherapy, radiation science and physics, within BHSCT and the Centre for Cancer Research and Cell Biology, QUB. The NI Cancer Trials Centre and research funders were also thanked, including Cancer Research UK, Friends of the Cancer Centre, HSC Research and Development Division and Movember.

Mr Allister Murphy, a member of the NICRCF commented: "From a cancer patient perspective I was amazed to see the huge advances that have been made in radiotherapy technology in only a few years. The influence of research is clearly evident in every aspect of radiotherapy development and credit must go to the research teams and the patients who volunteer. Events like this help the public see the tangible benefits of research."



Back row: Dr Aidan Cole (Specialist Registrar, BHSCT/Clinical Research Fellow, QUB), Professor Joe O'Sullivan (Consultant Clinical Oncologist, BHSCT/Professor of Radiation Biology, QUB), Dr Gerry Hanna (Consultant Clinical Oncologist, BHSCT) Front row: Dr Suneil Jain (Consultant Clinical Oncologist, BHSCT/Senior Lecturer, QUB), Mrs Margaret Grayson (NICRCF Chair)

QUEEN'S HOSTS WORKSHOP ON THE USE OF EPO IN THE TREATMENT OF ANAEMIA IN CANCER PATIENTS



Delegates at the EPOCAN Workshop at Riddell Hall

The EPOCAN Consortium, funded by an FP7 grant from the European Commission, held a Workshop at Queen's on 7 and 8 October 2013, attended by 30 leading investigators drawn from universities and SMEs in Switzerland, Germany, Spain, the Netherlands, Austria, the UK and Israel.

Erythropoietin (EPO) is the hormone that controls red blood cell production, and is used to treat anaemia. The intention of the European collaboration is to determine whether EPO treatment is suitable for all cancer patients who suffer from the very debilitating effects of anaemia due to their chemotherapy treatment, or whether it should be restricted to certain individuals.

The project aims to work towards better and safer treatment for all cancer patients who suffer from anaemia, including patients being treated in Northern Ireland.

As part of the meeting programme, the EPOCAN delegates and colleagues from Queen's were greeted by the Deputy Lord Mayor of Belfast, Alderman Christopher Stalford, before attending a Gala Dinner at Belfast City Hall.

The leader of the QUB research group, Professor Terry Lappin, said: "It is a great privilege to work with this wonderful group of European experts. I commend the dedication and persistence of my QUB colleagues in the EPOCAN group, Dr Perry

Maxwell, Dr Mohamed El-Tanani and Dr Kyle Matchett and many others who had collaborated on EPO projects over the years, particularly Professor Peter Maxwell."

EPOCAN SEMINAR TALKS

As part of the EPOCAN Workshop held at CCRCB on Tuesday 8 October 2013, two of the group members, Dr John Thompson from Aldevron Freiburg GmbH and Professor Thomas Rüllicke from the University of Veterinary Medicine in Vienna, gave seminar talks. Dr Thompson and Professor Rüllicke are pictured with Professor Terry Lappin.



PRIZES AND MEASURES OF ESTEEM



Professor Phillip M. Devlin presents the St Luke's Medal to Dr Aidan Cole

Congratulations to **Dr Aidan Cole** who has received this year's St Luke's Medal for the best clinical radiotherapy research project in Ireland.

The medal was awarded for his study investigating radiobiological modelling and dose escalation in lung cancer, following the introduction of 4D-CT scanning in the Northern Ireland Cancer Centre. Dr Cole was presented with his medal by Professor Phillip M. Devlin from the Dana-Farber Cancer Institute on 28 September 2013 at the Royal College of Surgeons in Dublin.

Congratulations to **Professor Richard Kennedy** who was named the winner of the Vice-Chancellor's Impact Prize at an awards ceremony on Friday 15 November

2013. Professor Kennedy and his team have developed tests to personalise cancer treatment worldwide.

Dr Karl Butterworth won a National Institute of Health funded Scholarship to attend the 22nd annual course on Experimental Models of Human Cancer at the Jackson Laboratory, Bar Harbour, ME.

Dr Karl Butterworth won a Cancéropôles Grand Ouest travel award to speak at the 7th annual meeting on the Future of Radiation Oncology in Berder Island, Brittany, France.

PhD student **Miss Gemma Logan** won the prize for the best oral presentation at the Haematology Association of Ireland Annual Meeting.

Mr Ryan Hutchinson, PhD student:

- presented a webinar for the Moffitt Cancer Centre, Tampa, Florida, USA (July 2013)
- won a Pathological Society Travel Award (September 2013)
- gave a Poster Presentation at ASCP (CCRCB/Cardiff University and MRC)
- won a Pathology Visions Speaker Award (September/October 2013)
- was 1 of 30 people selected to attend a Genomics Workshop at ASCP (Certificate awarded)
- was a Workshop Co-Presenter with Dr Charles Frevert (University of Washington) and Adam Smith (Merck Serono) (Pathology Visions 2013)
- was a Round-table Co-Chair with Dr Charles Frevert (Pathology Visions 2013)
- gave Poster Presentations at Pathology Visions (CCRCB/Janssen and CCRCB/Northern Ireland State Pathologist's Department).

It was announced at the Haematology Association of Ireland Annual Meeting on Friday 18 October 2013 that **Dr Lisa Crawford** won the Haematology Association of Ireland/The Royal College of Pathologists Research Fellowship Award for 2014. The award is for €20,000 and the title is 'Defining new ubiquitin proteasome system targets in Multiple Myeloma'. The award will further the work on the Ubiquitin Proteasome System, which is carried out in collaboration with Professor Brian Walker, School of Pharmacy and Dr Mary Drake, Belfast Health and Social Care Trust.

DEVELOPING OPPORTUNITIES FOR INTERNATIONAL YOUNG RESEARCHERS IN THE RADIATION SCIENCES

Dr Karl Butterworth from the radiation biology group has been taking an international lead in developing initiatives for young scientists in the radiation sciences.

At the US Radiation Research Society annual meeting in New Orleans, Karl took up his position as Chair of the Scholars-in-training Committee of the Radiation Research Society. He now leads an international committee of 10 young investigators, representing the interests of over 400 Scholars-in-Training within the top International Radiation Research Society (www.radres.org). Within Europe, Karl has also been working with a group of scientists led by Dr Luca Marriotti from the University

of Pavia, Italy, (who is a previous visiting researcher from the Radiation Biology Group at CCRCB) to establish a similar initiative for European Radiation Research Scientists called EURays. This seeks to provide support and sustainability for young scientists in the radiation research field in Europe. Details can be found at www.eurays.eu.

The initiative was recently launched at the annual European Low Dose Programme meeting. EU funded research in low dose radiation protection is being coordinated by a platform called the Multidisciplinary European Low Dose Initiative (MELODI). Queen's University Belfast recently became an official member of the MELODI platform.



Dr Karl Butterworth

Professor Kevin Prise who will represent the University in MELODI said: "Our membership is testament to our strong radiation science program and puts us at the heart of the future European strategy for Low Dose Radiation Research."

SECOND SUMMER SCHOOL IN COMPUTATIONAL BIOLOGY

This year the second summer school in Computational Biology took place from 16-18 September 2013.

The meeting gathered 25 students from 5 countries, making it the largest summer school so far. During 3 intense days, 18 lectures were provided by 10 instructors, covering topics from introductory lectures for the statistical programming language R, microarray and next-generation sequencing (NGS) data to advanced analysis methods, including clustering, classification and survival analysis. The underlying theme of this year's summer school was the importance of

reproducible research. In this respect, the key role of the statistical programming language R was discussed as a natural and efficient mediator between data, analysis methods and the conservation of the whole analysis process in a way that allows an error-free exchange/communication of a conducted analysis.

As a highlight of the summer school Benjamin Haibe-Kains, from the Institut de Recherches Cliniques de Montreal (Canada), was invited to give a talk entitled 'Significance Analysis of Prognostic Signatures.' This allowed the students to 'see' the translation of

analysis methods into clinical practice, which helped to realize the importance of computational biology. Frank Emmert-Streib said: "We are pleased to see the increased interest in the summer school, because it forms an integral part for the education of students at Queen's, together with the newly established MSc in Computational Biology and the Conference in Quantitative Biology and Bioinformatics in Modern Medicine." The third summer school in Computational Biology is anticipated to take place in September 2014.

LEUKAEMIA & LYMPHOMA NI

Have you seen the exciting changes taking place for Leukaemia & Lymphoma NI (previously known as Northern Ireland Leukaemia Research Fund) as we approach our 50th Anniversary in 2014? It's not a change to the core of the charity, funding research into leukaemia and lymphoma - this will never change - but a new name and new look!

As the Northern Ireland Leukaemia Research Fund we have had a very proud history, 49 years' experience and over £9 million spent supporting leukaemia and

lymphoma research in Northern Ireland. As we look to our future, our primary focus remains to continue to fund life-saving research. On average 2 people in Northern Ireland are diagnosed every day with a blood cancer such as leukaemia, lymphoma or myeloma and we want that number to drop to zero.

We hope you will continue to join us on our new journey and help us spread the word about Leukaemia & Lymphoma NI! To continue with our life-saving research we need to raise at least £500k every year.

If you would like to support us or would like more information please email info@LeukaemiaAndLymphomaNI.org or see our new website: www.LeukaemiaAndLymphomaNI.org



NEW RESEARCH STUDENTS

Students:	Supervisors:
Matthew Alderdice	Prof M Salto-Tellez & Dr V Coyle
James Beirne	Dr P Mullan, Prof M Salto-Tellez & Prof R Kennedy
Charlotte Burt	Prof K Mills & Dr A Thompson
Catherine Davidson	Prof R Kennedy, Dr P Mullan & Dr S Jain
Bailey Evans	Dr K McCloskey & Prof R Kennedy
Nicholas Forsythe	Dr S Van Schaeybroeck & Prof P Johnston
Jennifer Fox	Dr D Longley & Dr C Scott
Dominique French	Dr S Jain & Prof K Prise
Peter Gilliland	Dr R Williams & Dr S Van Schaeybroeck
Ciara Lyons	Prof J O'Sullivan & Prof D Waugh
Christopher McCann	Prof D Waugh & Dr D Longley
Alexander McIntyre	Dr D Longley & Dr S McDade
Benjamin Park	Prof M Lawler & Prof P Johnston
Alexey Stupnikov	Dr F Emmert-Streib & Prof M Salto-Tellez
Amy Templeman	Dr P Mullan & Dr R Williams
Jekaterina Vohhodina	Prof P Harkin & Dr K Savage
Emma Waring	Prof K Prise & Dr A Kissenpfennig

PHOTO GALLERY



A group of work colleagues from CCRCB took 'team work' to an extreme and together participated in Queen's University PEC's Spinathon on 31 May 2013, raising a fantastic £3,250 for local charity Cancer Focus Northern Ireland. Five of the team kept spinning for the full 6 hour spin class! Pictured are Mihaela Ghita (Research Assistant), Dr Michael Moran (Clinical Research Fellow), Dr Susie Gray (Postdoctoral Research Fellow), Jacqueline McQuade (Spinathon Organiser) and Niamh McGivern (PhD Student).



Dr Darren Mitchell (Consultant Clinical Oncologist), Dr Suneil Jain (Clinical Senior Lecturer) and Dr Aidan Cole (Clinical Research Fellow), who took part in recent Marathons to raise funds for Friends of the Cancer Centre.



Professor David Waugh (Director, CCRCB) receiving a donation from Mr Raymond Mulligan for £530.



On 18 August CCRCB post doctoral researcher Dr Keara Redmond put her fears behind her and rose to the challenge of a sponsored skydive to benefit the Cancer Research UK Newry fundraising committee. Keara along with twin sister Kelly raised a total of £1,118 through sponsorship from friends and family, some of which was raised from a coffee morning held in CCRCB.



Six CCRCB researchers joined with over 4,000 others in the first ever Belfast Colour Run. Runners in the 5K race through the Titanic Quarter had various bright coloured powders thrown at them at each kilometre. So the white t-shirts that started the race are definitely not white by the end! Kirsty McLaughlin and her sister Emma, Joel Riley, Naomi Dickson, Phil Burn, Jody Hay and Laura Kettle in the August event which benefitted Stand Up to Cancer.

RECENT GRANTS AWARDED

Investigator(s)	Sponsor	Title	Amount	Start Date	End Date
Emmert-Streib, Frank	Invest NI – PoC	Visualisation of Complex Networks	£102,507	01/01/14	31/12/14
Harkin, Paul Savage, Kienan	Invest NI – PoC	Novel Cancer Genes	£105,999	01/10/13	30/09/14
O’Sullivan, Joe	Friends of the Cancer Centre	Clinical Research Fellowship in Clinical Oncology	£180,000	01/01/14	31/12/16
Williams, Rich Mullan, Paul	PCUK	Development of a Legumain based Therapeutic for the Treatment of Prostate Cancer	£384,294	01/03/14	28/2/17
Prise, Kevin (PI Sandrine Lacombe, CNRS, Paris, France)	European Union FP7 Marie Curie Training Network	Advanced Radiotherapy, Generated by Exploiting Nanoprocesses and Technologies – ARGENT	€736,000 (of €7,500,000 grant)	01/03/14	30/09/17
Van Schaeybroeck, Sandra Johnston, Patrick Salto-Tellez, Manuel Wilson, Richard Kennedy, Richard Longley, Dan Lawler, Mark	EU	MErCuRIC	£265,322	01/10/14	30/09/19
Van Schaeybroeck, Sandra Johnston, Patrick	QUB Foundation	Tom Moran Studentship	£64,397	01/10/13	30/09/16
Waugh, David	Friends of the Cancer Centre	Infrastructure for NI Cancer Trials Centre	£900,000	01/09/13	31/08/16
Williams, Rich	Invest NI – PoC	Development of Inhaler based Cathespin S Inhibitor for treating COPD	£105,934	01/09/13	31/08/14
Wilson, Richard	Cancer Research UK	CTAAC grant A15828 for BALLAD trial (A Global Study To Evaluate The Potential Benefit Of Adjuvant Chemotherapy For Small Bowel Adenocarcinoma)	£613,167* * to CRUK CTU Glasgow	01/11/13	31/10/18

RECENT PUBLICATIONS

- ANDERSEN, C.L., McMULLIN, M.F., EJERBLAD, E., ZWEEGMAN, S., HARRISON, C., FERNANDES, S., BAREFORD, D., KNAPPER, S., SAMUELSSON, J., LÖFVENBERG, E., LINDER, O., ANDREASSON, B., AHLSTRAND, E., JENSEN, M.K., BJERRUM, O.W., VESTERGAARD, H., LARSEN, H., KLAUSEN, T.W., MOURITS-ANDERSEN, T. and HASSELBALCH, H.C. (2013) A phase II study of vorinostat (MK-0683) in patients with polycythaemia vera and essential thrombocythaemia, *Br J Haematol.*, 162(4):498-508.
- ARSENAULT, P.R., PEI, F., LEE, R., KERESTES, H., PERCY, M.J., KEITH, B., SIMON, M.C., LAPPIN, T.R., KHURANA, T.S. and LEE, F.S. (2013) A Knockin Mouse Model of Human PHD2-Associated Erythrocytosis Establishes a Haploinsufficiency Mechanism, *J Biol Chem.*, 11 October 2013 (Epub ahead of print).
- BENTO, C., PERCY, M.J., GARDIE, B., MAIA, T.M., VAN WIJK, R., PERROTTA, S., RAGIONE, F.D., ALMEIDA, H., ROSSI, C., GIRODON, F., ASTRÖM, M., NEUMAN, D., SCHNITTGER, S., LANDIN, B., MINKOV, M., RANDI, M.L., CASADEVALL, N., VAINCHENKER, W., RIVES, S., HERMOUET, S., RIBEIRO, L., McMULLIN, M.F. and CARIO, H.; on behalf of ECE-Consortium (2013) Genetic basis of Congenital Erythrocytosis: mutation update and online databases, *Hum Mutat.*, 20 September 2013 (Epub ahead of print).
- BOYLE, D.P., McCOURT, C.M., MATCHETT, K.B. and SALTO-TELLEZ, M. (2013) Molecular and clinicopathological markers of prognosis in breast cancer, *Expert Rev Mol Diagn.*, 13(5):481-98.
- BRADY, D., O'SULLIVAN, J.M. and PRISE, K.M. (2013) What is the role of the bystander response in radionuclide therapies?, *Frontiers in Radiation Oncology*, 3:215.
- BUCKLEY, N.E., NIC, A.N., TSAOIR, C.B., BLAYNEY, J.K., ORAM, L.C., CRAWFORD, N.T., D'COSTA, Z.C., QUINN, J.E., KENNEDY, R.D., HARKIN, D.P. and MULLAN, P.B. (2013) BRCA1 is a key regulator of breast differentiation through activation of Notch signalling with implications for anti-endocrine treatment of breast cancers, *Nucleic Acids Res.*, 41(18):8601-8614.
- BURNETT, A.K., RUSSELL, N.H., HUNTER, A.E., MILLIGAN, D., KNAPPER, S., WHEATLEY, K., YIN, J., McMULLIN, M.F., ALI, S., BOWEN, D., HILLS, R.K. and UK National Cancer Research Institute AML Working Group. (2013) Clofarabine doubles the response rate in older patients with acute myeloid leukemia but does not improve survival, *Blood*, 122(8):1384-94.
- BUTTERWORTH, K.T., McMAHON, S.J., HOUNSELL, A.R., O'SULLIVAN, J.M. and PRISE, K.M. (2013) Bystander signalling: Exploring clinical relevance through new approaches and new models, *Clinical Oncology*, 25:586-592.
- BUTTERWORTH K.T., McMAHON S.J., TAGGART L.E. and PRISE K.M. (2013) Applications of Gold Nanoparticles in Radiation Research, submitted to *Translational Cancer Research*, 2:269-279.
- CAMPBELL, E., HUNT, S., KINNEY, M.O., GUTHRIE, E., SMITHSON, W.H., PARSONS, L., IRWIN, B., MORRISON, P.J., MORROW, J., CRAIG, J. and RUSSELL, A.J. (2013) The effect of socioeconomic status on treatment and pregnancy outcomes in women with epilepsy in Scotland, *Epilepsy Behav.*, 28(3):354-357.
- CARIO, H., McMULLIN, M.F., BENTO, C., POSPISILOVA, D., PERCY, M.J., HUSSEIN, K., SCHWARZ, J., ASTRÖM, M. and HERMOUET, S. (2013) Erythrocytosis in children and adolescents-classification, characterization, and consensus recommendations for the diagnostic approach, *Pediatr Blood Cancer*, 60(11):1734-8.
- CICHON, A-C.*, PICKARD, A.*, McDADE, S.S., SHARPE, D.J., MORAN, M., JAMES, J.A. and McCANCE, D.J. (2013) AKT in stromal fibroblasts controls invasion of epithelial cells. *Oncotarget*, 4: 1103-1116. (* = joint first authors)
- DONLEY, C., McCLELLAND K., McKEEN H.D., YAKKUNDI, A., JITHESH, P.V., BURROWS, J., VALENTINE, A., PRISE, K.M., MCCARTHY, H.O. and ROBSON, T. (2013) RBCK1 regulates FKBPL/ Estrogen receptor signaling and modulates tumor growth and response to tamoxifen, *Oncogene*, 5 August 2013 (Epub ahead of print).
- JAIN, S., POON, I., SOLIMAN, H., KELLER, B., KIM, A., LOCHRAY, F., YEUNG, L. and CHEUNG, P. (2013) Lung stereotactic body radiation therapy (SBRT) delivered over 4 or 11 days: A comparison of acute toxicity and quality of life, *Radiotherapy and Oncology*, 108(2):320-325.
- JOVANOVIĆ, J.V., IVEY, A., VANNUCCHI, A.M., LIPPERT, E., OPPLIGER LEIBUNDGUT, E., CASSINAT, B., PALLISGAARD, N., MAROC, N., HERMOUET, S., NICKLESS, G., GUGLIEMELLI, P., VAN DER REIJDEN, B.A., JANSEN, J.H., ALPERMANN, T., SCHNITTGER, S., BENCH, A., TOBAL, K., WILKINS, B., CUTHILL, K., McLORNAN, D., YEOMAN, K., AKIKI, S., BRYON, J., JEFFRIES, S., JONES, A., PERCY, M.J., SCHWEMMERS, S., GRUENDER, A., KELLEY, T.W., READING, S., PANCRAZZI, A., McMULLIN, M.F., PAHL, H.L., CROSS, N.C., HARRISON, C.N., PRCHAL, J.T., CHOMIENNE, C., KILADJIAN, J.J., BARBUI, T. and GRIMWADE, D. (2013) Establishing optimal quantitative-polymerase chain reaction assays for routine diagnosis and tracking of minimal residual disease in JAK2-V617F-associated myeloproliferative neoplasms: a joint European LeukemiaNet/MPN&MPN-EuroNet (COST action BM0902) study, *Leukemia*, 27(10):2032-2039.
- KHAN, K., HANNA, G.G., CAMPBELL, L., SCULLIN, P., HUSSAIN, A., EAKIN, R.L. and McALEESE, J. (2013) Re-challenge chemotherapy with gemcitabine plus carboplatin in patients with non-small cell lung cancer, *Chinese Journal of Cancer*, 32(10):539-45 (Epub ahead of print).
- KUMAR, A.P., LOO, S.Y., SHIN, S.W., TUAN, Z.T., CHON, B.E., SINGH, R., PUTTI, T.C., ONG, C.W., SALTO-TELLEZ, M., GOH, B.C., PARK, J.I., THIERY, J.P., PERVAIZ, S., and CLEMENT, M.V. (2013) Targeting MnSOD in Basal Breast Carcinoma using Agonists of PPAR α : a new strategy for enhancing chemosensitivity, *Antioxid Redox Signal.*, 21 August 2013 (Epub ahead of print).
- LAWLER, M. and SELBY, P. (2013) Personalized cancer medicine: are we there yet?, *Oncologist*, 18(6):649-50.
- McART, D.G., BANKHEAD, P., DUNNE, P.D., SALTO-TELLEZ, M., HAMILTON, P. and ZHANG, S.D. (2013) cudaMap: a GPU accelerated program for gene expression connectivity mapping, *BMC Bioinformatics*, 14(1):305.
- McART, D.G., DUNNE, P.D., BLAYNEY, J.K., SALTO-TELLEZ, M., VAN SCHAEYBROECK, S., HAMILTON, P.W. and ZHANG, S.D. (2013) Connectivity Mapping for Candidate Therapeutics Identification Using Next Generation Sequencing RNA-Seq Data, *PLoS One*, 26 June 2013, 8(6):e66902.
- McCAUGHEY, C., BLACKWOOD, B., GLACKIN, M., BRADY, M. and McMULLIN, M.F. (2013) Characteristics and outcomes of haematology patients admitted to the intensive care unit, *Nurs Crit Care*, 18(4):193-9.
- McCOURT, C.M., McART, D.G., MILLS, K., CATHERWOOD, M.A., MAXWELL, P., WAUGH, D.J., HAMILTON, P., O'SULLIVAN, J.M. and SALTO-TELLEZ, M. (2013) Validation of next generation sequencing technologies in comparison to current diagnostic gold standards for BRAF, EGFR and KRAS mutational analysis, *PLoS One*, 26 July 2013, 8(7).
- McMAHON, S.J., McGARRY, C.K., BUTTERWORTH, K.J., O'SULLIVAN, J.M., HOUNSELL, A.R. and PRISE, K.M. (2013) Implications of intercellular signalling for radiation therapy: A Theoretical Dose-planning study. *International Journal of Radiation Oncology Biology and Physics*, 9 October 2013 (Epub ahead of print).
- NÉMETH, A.H., KWASNIEWSKA, A.C., LISE, S., PAROLIN SCHNEKENBERG, R., BECKER, E.B., BERA, K.D., SHANKS, M.E., GREGORY, L., BUCK, D., ZAMEEL CADER, M., TALBOT, K., DE SILVA, R., FLETCHER, N., HASTINGS, R., JAYAWANT, S., MORRISON, P.J., WORTH, P., TAYLOR, M., TOLMIE, J., O'REGAN, M., UK ATAXIA CONSORTIUM, VALENTINE, R., PACKHAM, E., EVANS, J., SELLER, A. and RAGOUSIS, J. (2013) Next generation sequencing for molecular diagnosis of neurological disorders using ataxias as a model, *Brain*, 136:3106-18.
- OOMMEN, D. and PRISE, K.M. (2013), Downregulation of PERK enhances resistance to radiation. *Biochemical and Biophysical Research Communications*, 5 August 2013 (Epub ahead of print).
- RATTENBERRY, E., VIALARD, L., YEUNG, A., BAIR, H., MCKAY, K., JAFRI, M., CANHAM, N., COLE, T.R., DENES, J., HODGSON, S.V., IRVING, R., IZATT, L., KORBONITS, M., KUMAR, A.V., LALLOO, F., MORRISON, P.J., WOODWARD, E.R., MACDONALD, F., WALLIS, Y. and MAHER, E.R. (2013) A comprehensive next generation sequencing based genetic testing strategy to improve diagnosis of inherited pheochromocytoma and paraganglioma, *J Clin Endocrinol Metab*, 98(7):E1248-56.
- SO, J., RAJNAKOVA, A., CHAN, Y.H., TAY, A., SHAH, N., SALTO-TELLEZ, M., THE, M. and NORIYA, U. (2013) Endoscopic Tri-Modal Imaging Improves Detection of Gastric Intestinal Metaplasia Among a High-Risk Patient Population in Singapore, *Dig Dis Sci.*, 1 September 2013 (Epub ahead of print).
- YAN, B., LIM, M., ZHOU, L., KUICK, C.H., LEONG, M.Y., YONG, K.J., AUNG, L., SALTO-TELLEZ, M. and CHANG, K.T. (2013) Identification of MET genomic amplification, protein expression and alternative splice isoforms in neuroblastomas, *J Clin Pathol.*, 25 June 2013 (Epub ahead of print).
- YONG, K.J., GAO, C., LIM, J.S., YAN, B., YANG, H., DIMITROV, T., KAWASAKI, A., ONG, C.W., WONG, K.F., LEE, S., RAVIKUMAR, S., SRIVASTAVA, S., TIAN, X., POON, R.T., FAN, S.T., LUK, J.M., DAN, Y.Y., SALTO-TELLEZ, M., CHAI, L. and TENEN, D.G. (2013) Oncofetal gene SALL4 in aggressive hepatocellular carcinoma, *N Engl J Med*, 368(24):2266-76.
- SURESH, S., McCALLUM, L., CRAWFORD, L.J., SHARPE, D., LU, W. and IRVINE, A.E. (2013) The matricellular protein CCN3 regulates NOTCH1 signalling pathway in Chronic Myeloid Leukemia, *J Pathol*, 231: 378-387.

NEW APPOINTMENTS

Welcome to the following new staff who have recently joined the Centre:

Clinical Research Fellows:
Dr Catherine Davidson

Almac Seconded Staff:

- Dr Oliver Barker
- Mr Alan Brown
- Dr Frank Burkamp
- Dr Gerald Gavory
- Dr Peter Hewitt
- Dr Dominic Janssen
- Dr Linda Jordan
- Dr Keeva McClelland
- Mrs Mary McFarland
- Dr Hugues Miel
- Dr Colin O'Dowd
- Dr Krzysztofa Odrzywol
- Dr Natalie Page
- Dr Shane Rountree
- Dr Steven Shepherd
- Dr Andrea Valentine
- Dr Andrew Wilkinson

Research Staff:

- Dr Hilary Colyer
- Dr El Habib Dakir
- Mr Joel Riley
- Dr Daniela Schmid

Administrative/Clerical:

- Miss Jane Arbuthnot
- Miss Claire Atchison
- Ms Margaret Carr
- Miss Julie McClean

Visiting Researchers:

- Ms Sara Fernandez
- Ms Siobhan Holden

Honorary Staff:

- Dr Tim Davison
- Dr Ian Harley
- Dr Conor McGarry
- Dr Stuart McIntosh
- Dr Damian McManus
- Dr Declan O'Rourke
- Dr Giuseppe Schettino

CCRCB EVENTS

Mitchell Lecture 2013/14

20 February 2014 at 4.00pm
CCRCB Building
Professor Michael Stratton
Wellcome Trust Sanger Institute

EVENTS

Signalling and Acquired Resistance to Targeted Cancer Therapeutics

5 – 7 January 2014
Robinson College
Cambridge, UK
For further information and registration please refer to:
<http://www.biochemistry.org/Conferences.aspx>

ISREC Symposium: Metastatic colonization: Micro-environments, mechanisms and therapeutic targeting

22 – 25 January 2014
Crans Montana, Switzerland
For further information and registration please refer to:
<http://isrec2014.epfl.ch/>

2nd EACR Conference on Cell Death in Cancer

30 January – 1 February 2014
De Rode Hotel
Amsterdam, The Netherlands
For further information and registration please refer to:
<http://www.eacr.org/celldeath2014/>

IACR 2014 Conference

27 – 28 February 2014
Galway Bay Hotel
Galway, Ireland
For further information and registration please refer to:
<http://www.ia-cr.ie/>

ASCO 50th Annual Meeting

30 May – 3 June 2014
McCormick Place
Chicago, Illinois, USA
For further information and registration please refer to:
<http://am.asco.org/>

Comments on the CCRCB Bulletin or suggestions for future editions should be forwarded to katie.stewart@qub.ac.uk