



Queen's University
Belfast



Bulletin

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

April
2016
Issue 35



WORLD CANCER DAY 2016

On World Cancer Day, 4 February, the world came together to show that we CAN do something about cancer, and by joining forces every person can play their part in beating cancer sooner!

CCRCB marked World Cancer Day with several initiatives. Over 200 researchers, clinicians, nurses and supporters joined together to form a human chain uniting the Centre for Cancer Research and Cell Biology and the Clinical Cancer Centre in Belfast City Hospital.



Professor Mark Lawler joins Professor Dominique de Valeriola in the symbolic shaking of hands in Brussels for World Cancer Day

Also to mark World Cancer Day, scientists at Queen's University Belfast launched a Europe-wide initiative, 'Vision 70:35', to increase cancer survival to 70 per cent by 2035. Led by Professor Mark Lawler, from the Centre for Cancer Research and Cell Biology at Queen's University Belfast and Vice President European Cancer Concord (ECC), the initiative is in collaboration with the European Cancer Patient Coalition and other European partners.

Speaking at the launch, Professor Lawler said: "Vision 70:35 emphasises the scale of our ambition to improve cancer survival rates by an additional 20% over the next 20 years. We believe that this target is achievable, provided we share best practice and promote innovation and research across European nations and regions. It is further evidence of Queen's University's commitment to advancing knowledge and changing lives.



We are actively addressing issues such as early diagnosis, equal access and the role of precision cancer medicine to achieve our 70:35 target."

Margaret Grayson, Chairperson of the Northern Ireland Cancer Research Consumer Forum said: "Vision 70:35 is a patient focused initiative. It provides hope for our cancer patients and their loved ones, and emphasises how research can play a big part in improving cancer outcomes."

Professor Peter Selby, University of Leeds and President ECC, said: "Our Vision 70:35 can deliver, but only if we work together. ECC is partnering with many pan European Organisations including the European Cancer Organisation (ECCO), the European Cancer Patient Coalition (ECPC) the Association of European Cancer Leagues (ECL), the European Organisation for the Research and Treatment of Cancer (EORTC), The European Society of Medical Oncology (ESMO) and the European Alliance for Personalised Medicine (EAPM) in order to achieve this ambitious target."

Professor Patrick Johnston, President and Vice-Chancellor of Queen's University

Belfast, said: "This 70:35 Vision represents a significant opportunity to drive a European-wide initiative that champions the role of innovation and research in providing the best level of cancer care. I am delighted that Queen's is continuing to provide leadership in an ambitious strategy that has the potential to deliver real benefits for all European citizens."

Vision 70:35 is the key implementation phase of the European Cancer Patient's Bill of Rights, a Queen's University-led initiative which was launched in the European Parliament in Strasbourg in 2014.

In order to emphasise how working together can help improve cancer outcomes, a series of handshakes were performed between partner organisations on World Cancer Day, starting in London, passing through Brussels and a number of other European capital cities and culminating in a symbolic joining of hands by MEPs at the European Parliament in Strasbourg. Professor Lawler symbolically shook hands in Brussels with Professor Dominique de Valeriola, Director of the Institute Jules Bordet, Brussels, Belgium and President, Organisation of European Cancer Institutes.

INTERNATIONAL JOURNAL HIGHLIGHTS SUCCESS OF NI CANCER PROGRAMME

The progress that has been made in the last 20 years in delivering improved care for cancer patients in Northern Ireland has been recognised by a key publication in the international journal *Cancer*, the Journal of the American Cancer Society. The publication, entitled "Delivering a Research-Enabled Multi-stakeholder Partnership for Enhanced Patient Care at a Population Level: The Northern Ireland Comprehensive Cancer Program" highlights how a partnership approach that has involved academia, hospital trusts, bio-industry and patient advocacy groups has led to measureable improvements in survival rates for cancer patients. "Acceptance of this paper in a well-recognised international cancer journal highlights how our multi-stakeholder research focussed partnership approach has delivered real benefit for our patients," said Professor Mark Lawler, Chair of Translational Cancer Genomics at the Centre for Cancer Research and Cell Biology, Queen's University Belfast and lead author of the paper. "We have moved from a situation some 20 years ago when cancer care and cancer research were fragmented, resulting in some of the poorest survival rates for many cancers in

the UK, to a situation where for cancers such as breast cancer, we now have the best survival rates in the UK," he added.

An important component of the Northern Ireland Comprehensive Cancer Programme has been the ability to study cancer at a population level through the Northern Ireland Cancer Registry and to apply lessons learned from these studies to improving cancer care. "The Northern Ireland Cancer Registry (NICR) captures population level data and has 100% coverage, unlike many similar registries in Europe," said Dr Anna Gavin, Director of the NICR and co-author of the paper. "This level of detail, combined with the fact that our registry was the first entirely electronic total population based cancer registry in the world has contributed significantly to the success of our cancer programme," she added.

Key to the success of the initiative has been the research-enabled multi-stakeholder partnership approach, allowing discovery science to be translated into direct benefits for cancer patients. This Discovery to Recovery strategy, mediated through close interaction

between CCRCB and CPH at Queen's, the Northern Ireland hospital trusts and local bio-industry such as Almac and PathXL has fuelled a translational pipeline which has delivered new diagnostic tests and medical treatments that have and will continue to improve outcomes for cancer patients. "Realising this vision has been crucial to our success, bringing benefits for cancer patients but also enhancing our bio-industry sector, said Professor David Waugh, Director of CCRCB and senior author on this paper. "Our success has also been a catalyst for companies like CV6 Therapeutics to relocate from the US, and in partnership with Invest NI, we hope to attract many similar companies to establish a base in Northern Ireland," he added.

From a patient perspective, the advances of the last 20 years have been significant. "We have been delighted to be part of a successful partnership that has really delivered for cancer patients," said Margaret Grayson, Chair of the Northern Ireland Cancer Research Consumer Forum (NICRCF). "The importance of research cannot be understated. It is the way forward for cancer patients," she added.

CANCER RESEARCH UK LECTURE 2015

The 2015 CRUK Lecture, entitled "Precision Medicine in Melanoma", was delivered on 10 December 2015 by Professor Richard Marais from the CRUK Manchester Institute. The CRUK Lecture is held annually as part of the Belfast Cancer Research UK Centre initiative.

Professor Marais is the Director of the Cancer Research UK Manchester Institute and a Professor of Molecular Oncology at the University of Manchester. He is the Scientific Co-Director of the Belfast-Manchester Movember Centre of Excellence and the Centre Co-Lead of the CRUK Lung Cancer Centre of Excellence. Professor Marais is also the current President of the European Association for Cancer Research (2014-2016) and on the Board of Directors for the American Association for Cancer Research.

Professor Marais is a world-leading expert in the causes of melanoma, the most dangerous form of skin cancer. Much of his work has focused on the role of the protein kinase BRAF in melanoma progression, and he uses this knowledge to develop novel therapeutic strategies for melanoma patients. He has shown that oncogenic BRAF drives cell growth, and this work has led to the discovery of new drugs that are effective in this disease.



Professor Richard Marais

CCRCB RESEARCHER CO-CHAIRS ASCO ENDORSEMENT ON ACTIVE SURVEILLANCE IN PROSTATE CANCER

Dr Suneil Jain, Senior Lecturer and Honorary Consultant in Clinical Oncology, was recently honoured by being invited to Co-Chair Endorsement Guidelines on Active Surveillance in Prostate Cancer by the American Society of Clinical Oncology (ASCO). These guidelines have recently been published in the *Journal of Clinical Oncology* (JCO) and *Journal of Oncology Practice* with Dr Jain senior and corresponding author. ASCO is the most recognised oncology group in the world, with global reach, with many countries and organisations utilising their evidence-based guidelines. Many prestigious organisations including Memorial Sloan Kettering cancer centre, the Mayo clinic and Princess Margaret Hospital were represented.

These particular guidelines are very important because they are expected to help avoid overtreatment in men diagnosed with slow growing prostate cancer and thereby prevent unnecessary treatment related side-effects. "Active surveillance is increasingly recognized as an appropriate option for patients diagnosed with early, indolent prostate cancers that may not need immediate

treatment. As its use increases across the United States and beyond, guidelines on appropriate patient selection, surveillance frequency and methodology, and triggers for treatment are needed to help clinicians care for their patients," said Ronald C. Chen, MD, MPH, of the University of North Carolina, Chapel Hill.

Until recently, Dr Jain said, more than 90% of patients with low-risk localized disease were treated with active therapy. Active surveillance, Dr Jain said, "should be viewed as a process for stratifying men who require active treatment and those who do not." Possible downsides to active surveillance must be weighed against its benefits. There is a potential that more intensive treatments will be required when the cancer progresses. However, Dr Jain noted that in one study performed at the University of Toronto, more than 60% of men undergoing active surveillance remained treatment-free 10 years after diagnosis.

"These are exciting times. The fields of prostate cancer diagnosis and treatment are rapidly changing," Dr Jain said. "In the genomic era, it is likely that methods



Dr Suneil Jain

of prostate cancer diagnosis will move away from PSA-based detection toward the incorporation of other blood-based biomarkers and clinical data to determine who should be referred for prostate biopsies. The use of active surveillance for the management of localized prostate cancer is increasing, and the timing is right for robust, evidence based guidelines," Dr Jain said.

INAUGURAL WORKSHOP ON THE USE OF FIBRE OPTICS FOR RADIATION RESEARCH

On 27 November 2015 members of the Advanced Radiotherapy Group (ARG) hosted the first workshop on the applications of optical fibres within radiation research. This one day workshop, organised by Dr Mark Grattan from Radiotherapy Physics, brought together groups from CCRCB and NICC, The City University London, University of Limerick and the University of Surrey to discuss areas of mutual interest, identify areas of expertise and highlight opportunities for future collaborative work. Input was also received from Galway University Hospital.

The workshop was attended by physicists, engineers, radiation biologists and oncologists, with presentations being delivered from experts in the fibre optic sensing and manufacturing groups at City University London, University of Limerick and University of Surrey, radiobiology input from CCRCB and clinical input from CCRCB/NICC and Galway University Hospital.

The discussions arising from the day allowed participants to focus the direction for future collaborations in a number of strands. It is anticipated that there is potential for these extremely small optical fibres to provide measurements of multiple parameters in real-time within radiation applications, where currently such measurements are proving to be extremely challenging.



Some of the participants in the workshop (L-R) Professor Elfed Lewis (University of Limerick), Dr Karl Butterworth (CCRCB), Dr Wenhui Zhao (UoL), Dr Mark Grattan (NICC), Professor Alan Hounsell (NICC/CCRCB), Professor Ken Grattan (City University London), Professor David Bradley (University of Surrey), Professor Tong Sun (City University London), Professor Kevin Prise (CCRCB), Dr Sinead O'Keeffe (UoL), Lingxia Chen (UoL), Ana Vaniqui (Galway). Not in picture are Dr Suneil Jain (CCRCB) and Dr Frank Sullivan (Galway).

ADVANCED RADIOTHERAPY GROUP CLINICAL RESEARCH UPDATE



The McCloskey group in CCRCB working on BUSTIN and SPORT bladder toxicity biomarkers. L-R: Dr Kirtiman Srivastava, Prof Karen McCloskey, Mr Kevin Harkin, Ms Victoria Smith, Ms Aedin O'Kane and Mr Conor Breen

The Advanced Radiotherapy Group (ARG) continues to strive towards improving cancer treatments by collaborating on the development of new and advanced radiation treatments through basic laboratory research, pre-clinical studies and clinical treatments.

FAST Clinic

Dr Suneil Jain has led the development of a dedicated prostate research interventional clinic, known as the FAST clinic. This exciting initiative demonstrates what can be achieved as result of a successful collaboration between clinical academic researchers and the health service.

Within prostate cancer clinical trials there has been an increasing move towards hypo-fractionated and Stereotactic Ablative Radiotherapy (SABR) regimes. This has led to an

increased requirement for fiducial marker Image guided Radiotherapy (IGRT). This dedicated service will facilitate the implantation of fiducial markers enabling participation in national trials and facilitate home-grown studies. Targeted prostate biopsies for research and bio-banking will also be possible within this research funded clinic.

Ongoing Studies - BUSTIN

BUSTIN has been running since November 2012 and focuses on consistency of bladder volume during Intensity Modulated Prostate Radiotherapy and this identification of novel urinary biomarkers for bladder toxicity. Radiation bladder toxicity is common and while early symptoms of urinary frequency, urgency and nocturia often resolve, for some patients, unexpected late toxicity can occur months or even years after treatment. This collaborative study between the Cancer Centre and the CCRCB in QUB

is led by Professor Joe O'Sullivan as Chief Investigator and Professor Karen McCloskey who leads the biomarker and toxicity study; the latter aspect is funded by an MRC grant.

Participants are randomised to bladder filling protocols which involve drinking either 2 or 4 cups of water prior to each radiotherapy session. Bladder volumes are measured with an ultrasound device and samples of blood and urine are collected during treatment and at follow up appointments. Bladder toxicity is recorded using the international RTOG scoring system and International Prostate Symptom Score (IPSS) questionnaires. The identification of novel biomarkers which could predict late toxicity in patients during their radiation therapy programme would be of significant clinical benefit. To date, 45 participants have enrolled and the study is expected to run for a further two years.

Recently opened clinical trials

A number of clinical trials in the areas of advanced radiotherapy and radionuclide therapy have opened recently. These clinical trials have been developed and led by members of the ARG group in collaboration with the clinical colleagues in the Cancer Centre, the NI Cancer Trials Centre and with support from various external funders.

CASPIR Trial: Calcifications as an Alternative to surgically implanted

fiducial markers for Prostate Image Guided Radiotherapy.

Co-Investigators: Professor Joe O'Sullivan, Angela O'Neill, Professor Alan Hounsell, Dr Suneil Jain. Collaborators: Dr Ray King, Dr Ciara Lyons, Dr Conor McGarry.

Fiducial markers (FMs) are increasingly employed to aid prostate image guided radiotherapy (IGRT). FMs are more radio-opaque than the prostate itself and help to overcome the lack of soft tissue definition inherent in most IGRT

modalities. They have been proven to facilitate consistent and efficient verification of the prostate and its varying position. Implantation of FM requires a surgical procedure with associated costs and risks, including infection and haemorrhage.

Prostate calcifications (PCs) are reported to be present in almost 90% of prostatectomy specimens. They are often detected co-incidentally on radiological images including trans-rectal ultrasound (TRUS) and Computed

Tomography (CT), including Cone beam CT (CBCT). It is estimated that between 28 % and 35% of prostate radiotherapy patients have PCs visible on CBCT. Local evidence suggests the proportion may be higher at around 60%-70%. They present a potential non-surgical alternative to FMs.

CASPIR is a prospective feasibility study designed and led by members of the ARG and funded by the PHA R&D Office. The study will recruit up to 90 prostate patients in Belfast receiving radical external beam radiotherapy (EBRT) +/- brachytherapy. Investigators were delighted to open the study in November 2015 which has to date recruited 3 patients. All participants will have FMs implanted in the aforementioned FAST clinic and all will have daily CBCT image guidance during treatment. In this regard, participants will benefit from marker guided radiotherapy which currently is not funded by the NHS in Northern Ireland. This study will establish the feasibility of using natural PCs as an alternative to surgically implanted FMs for prostate IGRT, thereby potentially reducing the need for a surgical procedure with all the associated risks costs and resource implications, while still ensuring maximum prostate treatment accuracy.

SPORT High Risk

SPORT High-Risk is the first Belfast-led trial of a novel type of radiotherapy for men with prostate cancer opened

in January 2016. Dr Suneil Jain is the lead investigator of this study which is a randomised feasibility study carried out within the Northern Ireland Cancer Centre in partnership with the Advanced Radiotherapy Group (ARG) in the CCRCB. This is the first UK trial of stereotactic radiotherapy (SABR) in men with high-risk localized prostate cancer.

SABR uses fewer, but larger dose per fraction treatments to deliver relatively higher doses of radiation. In this trial, radiotherapy is delivered in only five treatments instead of the conventional 39 treatments. SABR exploits the way in which prostate cancer responds to radiation, allowing the delivery of higher doses to the prostate without increasing the risk of later toxicity. It is well known that dose escalation improves outcomes in prostate cancer; this is even more important in the case of men with high-risk disease, who have the poorest outcomes and hence potentially the most to gain from improved treatments.

Thirty men with high-risk localized prostate cancer will be randomised to receive SABR to the prostate alone or to the prostate and pelvic lymph nodes. Serial sampling of blood, urine and prostate tissue will be carried out before, during and after radiotherapy. All men will have intra-prostatic fiducial markers and a spacer device placed prior to SABR to respectively improve the accuracy of treatment delivery and reduce the risk of later rectal toxicity.

This trial was developed based on the technological advances in the delivery of radiotherapy that have taken place in the NICC in conjunction with the laboratory expertise available in the CCRCB. On the translational side, it builds on previous work carried out by Professors O'Sullivan and Prise evaluating bio-dosimeters (gamma H2AX) and markers of small bowel toxicity (citrulline) and bladder toxicity (Professor McCloskey group) in conventionally fractionated radiotherapy.

Unlike many other cancers, there are no novel biomarkers in clinical use in the management of prostate cancer. This trial will investigate almost twenty biomarkers relevant to prognosis, radiation response and toxicity, all increasingly important areas in terms of individualisation of treatment.

These analyses will primarily take place within the CCRCB, but will also involve collaborations with the University of Manchester, Dublin Institute of Technology, and the University of Nantes. Detailed clinical, dosimetric and patient-reported quality of life data will be available for all patients, which, when combined with the proposed biomarker analyses, will provide an excellent foundation for hypothesis development and further investigation of promising candidates in a subsequent Belfast-led multi-institutional trial.

ADRRAD update

World first radiotherapy trial from the Advanced Radiotherapy Group at CCRCB and the Cancer Centre enrolls first patient.

Professor O'Sullivan, Dr Jain and Dr Turner, the co-investigators on the ADRRAD trial, were delighted to confirm in January that the Belfast Trust Research and Development office had given approval for the trial to open. This Belfast designed feasibility trial is set to explore the combination of hormone therapy, external beam radiotherapy and intravenous radionuclide (radium 223) treatment in men with hormone sensitive, metastatic prostate cancer. This particular combination of treatments is not being trialled anywhere else globally and all the team involved are immensely proud to be part of this truly ground-breaking trial here in Belfast.

The primary objectives of the trial relate to assessing the safety of delivering this

combination of treatments together. Additionally and very much in keeping with the philosophy of clinical research at CCRCB, this trial is designed as a real partnership between patient-centred research in the Cancer Centre and pre-clinical laboratory research led by the Advanced Radiotherapy Group. Key translational questions are being addressed in the laboratory of Professor Prise and include the behaviour and potential predictive capacity of circulating tumour cells in men with this variety of prostate cancer. Those same tumour cells, once isolated, will be examined for evidence of DNA damage from either external beam radiation or alpha particles from radium-223 as a potential method of facilitating molecular dosimetry. Finally, and similarly on a molecular dosimetry theme, normal blood cells from volunteers in the trial will be examined for evidence of heritable DNA lesions caused by alpha irradiation of blood cell progenitors during their time in the bone marrow.

The work will feed into new biophysical models of the interactions of bone seeking radionuclides.

In a final series of studies, Professor Alan Hounsell and his team in Medical Physics will be studying the radiotherapy plans generated during the trial in an attempt to better understand the dosimetry involved in combined external radiotherapy and intravenously delivered radionuclide therapy.

To meet these objectives, the trial is truly multidisciplinary, linking physics, biology and clinical research led by the Advanced Radiotherapy Group as well as having strong links with collaborator labs in both the University of Manchester and a further collaboration planned with Brunel University. The trial is designed to recruit 30 patients over the next 15 months and all within the trials team are delighted to have ADRRAD open and the first patient enrolled.

LEUKAEMIA & LYMPHOMA NI SUPPORT LOCAL CLINICAL RESEARCH



Professor Mary Frances McMullin

Leukaemia & Lymphoma NI are forging a 'Bedside to Bench' approach to clinical research by funding 10 patients in a clinical trial to be run in Belfast, an exciting step as the charity has never directly funded patient care in the past.

A big problem faced by the research teams and the patients here is that some of the potentially life-saving and extending treatments available in England have not been approved for use in Northern Ireland due to the perceived cost. This results in patients losing out on the opportunity to take part in ground breaking trials and researchers losing out on valuable samples that could be integral to their projects.

Professor Curly Morris the Chair of the Medical and Scientific Advisory Board elaborates: "For several years now through the cancer drugs fund, patients in England have been getting access to treatments that are currently denied to those in Northern Ireland. This has denied Northern Ireland patients receiving drugs which could be part of their cure or extend the length and quality of their life."

Evidence has shown that patients who take part in clinical trials do tend to benefit from

better results regardless of the success of the drug. This can be attributed to being more closely monitored by a clinical nurse and other benefits of group therapy.

The trial being funded is already active in other parts of the UK. Known as AML 18, it has been developed for older patients with Acute Myeloid Leukaemia (AML) and High Risk Myelodysplastic Syndrome (MDS). The drug involved is called Mylotarg and in previous trials it has been shown that the addition of Mylotarg to the therapeutic regimen reduced the risk of AML coming back in most patients except those with poor risk factors.

Professor Mary Frances McMullin, Consultant Haematologist and Professor of Clinical Haematology at Queen's University said: "The support of Leukaemia & Lymphoma NI to provide treatment provision in the current National Trials for acute myeloid leukaemia provides an important opportunity for patients here, allowing them access to state of the art treatment."

Patients are referred to Belfast City Hospital from all over Northern Ireland for this treatment.

QUEEN'S PROFESSOR STARS IN PLAY AT BIODATA WORLD CONGRESS

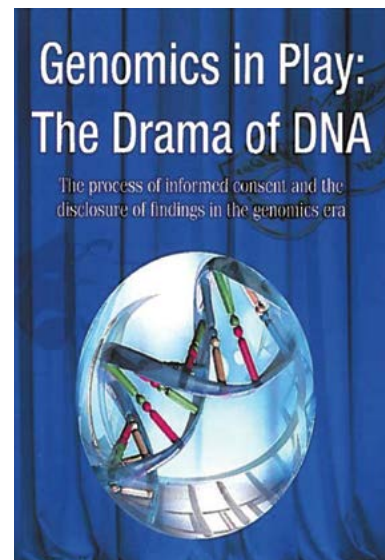
At the recent Biodata World Congress at the Wellcome Trust Conference Centre in Cambridge, Professor Mark Lawler (Centre for Cancer Research and Cell Biology) not only gave two well received scientific talks, but also appeared in a play that seeks to highlight the challenges that the new genomics poses for patients and clinicians. 'Genomics in Play: The Drama of DNA' involves the Friedman family as they face the ethical and social challenges of genetic testing in the genomics era. Professor Lawler played Bobby Friedman, a 19 year old with a degenerative metabolic genetic disorder. The play examines the complexity of the bioethical challenges that surround the promise of genomic sequencing and the power of the information it can generate.

"This play brings to life the challenges to personal and professional relationships that surround the ethical landscape of genomics," said Professor Karen Rothenberg, co-author of the piece. "It allows us to apply a reality prism to discuss how genetic data should be discussed with patients and their families and

the thorny issue of incidental findings that approaches like Next Generation Sequencing can reveal," she added.

A capacity audience watched and listened as the members of the Friedman family (all played by speakers at the Biodata World Congress) struggled to come to terms with the complexities of genomic testing and the unexpected findings that this powerful technology can uncover. "It was a really interesting experience," said Professor Lawler. "It is a very thought provoking way to make people aware of the huge potential of genomics and precision medicine, but also to appreciate the complex bioethical issues that can arise. I'm aiming to bring this play to Northern Ireland as I think it would be a great way to educate people on both the promise and the challenges of genomics in medicine in a way that is both understandable and relevant," he added.

A lively Q&A session followed the conclusion of the play.



QUALITY IN CARE AWARD

Congratulations to Dr Gerry Hanna and the Stereotactic Ablative Radiotherapy (SABR) Lung Implementation Team, who were recently awarded the Quality in Care UK Cancer Team Collaboration of the Year Award 2016 at a prestigious awards ceremony in London; http://www.qualityincare.org/awards/oncology/qic_oncology_results/qic_oncology_2016_results/cancer_team_collaboration_initiative_of_the_year

This award recognises the hard work of a dedicated multidisciplinary group, led by Dr Hanna. Two years of intense local development, collaboration and training between local clinicians, radiographers and medical physicists, led to the successful implementation of SABR Lung in Belfast. The entire process was subject to peer review by colleagues from St James Institute of Oncology, Leeds.

Previously, lung cancer patients in Northern Ireland, if eligible for SABR, had to travel to mainland UK to benefit from this potentially curative, advanced form of radiotherapy. SABR employs hypo-fractionated doses of radiation of up to 18Gy per fraction and requires intensive, state of the art image guidance to ensure safe and precise delivery. The technique is now established as routine practice in the Cancer Centre.



Members of the Lung SABR Implementation Team, Belfast, led by Dr Gerry Hanna, who were awarded the Quality in Care UK Cancer Team Collaboration of the Year Award 2016. L-R: Arlene McCrum (BHSC), Sarah Walker (BHSC), Rose-Anne Harley (BHSC), Dr Jonathan McAleese (BHSC), Dr Gerry Hanna (CCRCB/BHSC), Dr Ruth Johnston (BHSC), Angela O'Neill (CCRCB/BHSC), Linda Young (BHSC), Hannah Curran (BHSC), Jean Smith (BHSC)

ROCHE PRIZE WINNER 2015



Dan Longley (CCRCB) and Julie McAlinden (Roche) present Kirtiman Srivastava with the Roche Prize for 2015

Congratulations to Dr Kirtiman Srivastava who has been awarded the Roche Prize for 2015. Dr Srivastava, who is a post doctoral research fellow in Professor Karen McCloskey's research group, was presented with a medal and cheque for £400 at the Centre for Cancer Research and Cell Biology on 15 December 2015. His winning presentation was entitled 'p63 drives invasion in keratinocytes expressing HPV16 E6/E7 genes through regulation of Src-FAK signalling.'

The Roche Researcher of the Year Award was launched by Roche Diagnostics Ireland, to highlight and support excellence in life science research within the academic centres of Ireland, both in the Republic and Northern Ireland.

PRIZES AND MEASURES OF ESTEEM

Congratulations to **Karen McCloskey**, who has been promoted to the position of Professor.

Congratulations to **Dr Stephen McMahon**, from the Advanced Radiotherapy Group, whose recent article in *Nanoscale*, mapping our future utility of different metal based nanoparticles, has been highly publicised through the MedPhysWeb; <http://medicalphysicsweb.org/cws/article/research/64004>. Stephen is currently on a Marie Curie fellowship based at MGH Boston working with Professor Harald Paganetti.

Dr Conor McGarry from the Advanced Radiotherapy Group has been awarded an Institute of Physics and Engineering in Medicine (IPEM) Research and Innovation Award to purchase a 3D printer for testing the 'Feasibility of using individualised phantoms created using 3D printing for the validation of IGRT Techniques.'

Dr Pankaj Chaudhary from the Radiation Biology Group was awarded a Best Poster Prize at the International Conference on Translational Research in Radiation Oncology and Physics for Health in Europe (ICTR-PHE) held in Geneva. Pankaj presented his work from the EPSRC funded A-SAIL project on 'Laser accelerated ultra-high dose-rate protons induced DNA damage under hypoxic conditions.'

NI SCIENCE FESTIVAL

The 2nd NI Science Festival took place this year from 18 – 28 February with a number of exciting events taking place including our own 'Pick n Mix Science' led by Cancer Research UK's Dr Jonathan Lawson and CCRCB's Dr William Andrews and Dr Gaurang Patel.

This event let the audience take control of the science, exploring the big questions, exciting solutions and unexpected allies in current cancer research. The audience got to pick their own selection of science stories and demonstrations in this enlightening and family-friendly exploration of one of the most complex and intriguing challenges in modern medical science.

The audience could also take a virtual reality lab tour of Cancer Research UK's Manchester Institute and take part in our genetic taste test experiment.



Dr Jonathan Lawson (CRUK) at the 'Pick n Mix Science' event

PHOTO GALLERY



Pictured are participants at the British Institute of Radiation (BIR) / UK Stereotactic Ablative Radiotherapy Consortium (SABR) Scientific Meeting held on 19 and 20 November 2015 in Riddell Hall. From left to right are: Professor Kevin Prise (CCRCB), Dr Jonathan McAleese (Northern Ireland Cancer Centre), Dr Gerry Hanna (CCRCB), Dr Kevin Franks (St James's University Hospital Leeds), Professor Maria Hawkins (University of Oxford), Dr Mathew Hatton (University of Sheffield), Professor Joe O'Sullivan (CCRCB), Dr Suneil Jain (CCRCB), Dr Patrick Cheung (Sunnybrook Health Sciences Centre, Canada) and Professor Bob Timmerman (UT Southwestern Medical Centre, USA)



Prof Mark Lawler (CCRCB) pictured speaking to an audience of over 200 school children as part of the NUIG Mini Med School in Galway.



A number of academic and research staff from CCRCB attended a meeting of the Belfast-Manchester Movember Centre of Excellence Team, held in Manchester on 4 February 2016, World Cancer Day.



Dr Kyle Matchett (pictured third left) and Dr Suzanne McPherson (pictured far right) with some attendees from Ballywalter Young Farmers Club

LLNI hosted a successful open evening on 28 January, the night was an opportunity for supporters old and new to come along and see the type of work that the charity funds. LLNI funded speakers Dr Kyle Matchett and Dr Suzanne McPherson gave presentations on their projects researching novel therapies for blood cancers. There were plenty of questions for the experts on the night and we hope this will encourage more engagement with the public.

DONATIONS



Roland Shaw (Head of Legal, CitiGroup), Annette Whelan (Head of Charity Committee, Citibank), Professor David Waugh (Director, CCRCB), Amy Kerr and Emma Allen (members of Charity Committee, Citibank) watch an experiment during their lab tour.

In January 2016, we were very pleased to host representatives from CitiGroup Belfast who came in to CCRCB to meet Professor David Waugh and take a tour of the labs. In 2015, Cancer Research UK had been CitiGroup's charity of the year and the staff raised a fantastic £73,617.58 through various activities such as the Belfast City Marathon, Dryathlon, Pretty Muddy and abseils to name a few of them.

On behalf of everyone at Cancer Research UK and CCRCB we would like to thank them for their fundraising and support.

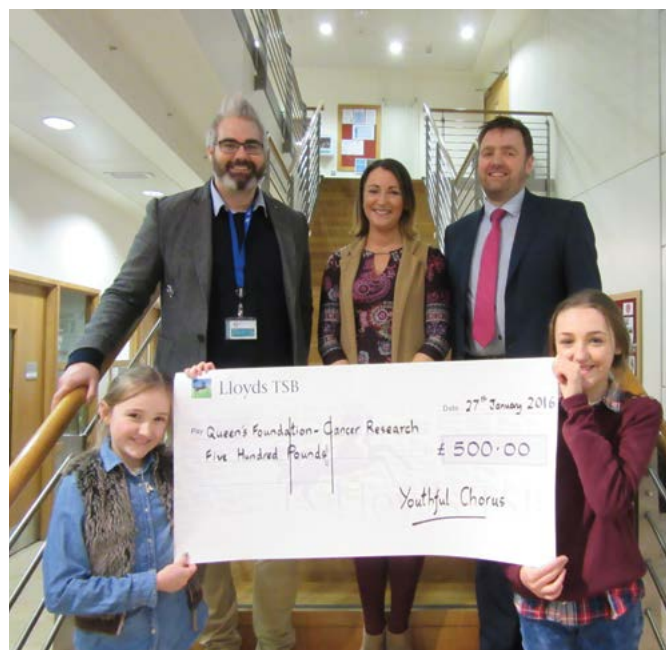


The Captain, Dr John Lewis, of the Drumbo Golf Society recently presented a cheque for £1,000 to Professor Joe O'Sullivan. Proceeds from this will be used to fund prostate cancer research. Pictured are: Dr Kelly Redmond, Dr Chris Armstrong, Professor Joe O'Sullivan, Mr Kevin Coyle and Dr John Lewis.

If you are interested in supporting the work of CCRCB please contact Alice O'Rawe, Fundraising Manager (Medicine), email: alice.orawe@qub.ac.uk or tel: 028 9097 5233.



Congratulations to PhD student Matt Alderdice and his father, Dr David Alderdice, who raised over £1,000 for the Sean Crummey Memorial fund by climbing Mount Kilimanjaro on 24 January 2016.



Thank you to the Henderson Family who raised £500 through the sales of their mini album following a busy Christmas of carol services and concerts. The album collated by father Wesley Henderson features his daughters Amy and Elise Henderson known as 'Youthful Chorus'. The family recently visited the Centre of Cancer Research and Cell Biology at Queen's University Belfast, where they presented their donation to Dr Kienan Savage. Pictured are: Dr Kienan Savage, Sonia and Wesley Henderson, Elise and Amy Henderson.

RECENT GRANTS AWARDED

Investigator(s)	Sponsor	Title	Amount	Start Date	End Date
Buckley, Niamh	BHSCT Charitable Funds	Investing KCNK Proteins as Potential Novel Biomarkers and Therapeutic Targets in High Grade Serous Ovarian Cancer	£66,909	01/03/16	28/02/17
Hamilton, Peter McArt, Darragh	MRC	Accelerated Computation of Bioinformatic Data Integration	£112,164	03/10/16	02/10/20
Irvine, Alexandra Crawford, Lisa	Bloodwise	Investigation of the E3 ligase HUWE1 as a therapeutic target in Multiple Myeloma	£202,080	01/04/16	31/03/19
Jain, Suneil	Prostate Cancer UK	Health Professionals Call	£89,840	01/12/15	30/11/17
Kennedy, Richard	Invest NI/Almac	Accelerating Personalised Medicine	£1,391,487	07/10/15	28/02/19
Lawler, Mark Murray, Liam Gavin, Anna	Cancer Focus NI	Cancer Health Economist	£149,908	01/01/16	31/12/18
Longley, Dan Harrison, Tim	Wellcome Trust Seeding Drug Discovery (Late Stage)	Small molecule inhibitors of the anti-apoptotic protein FLIP for the treatment of cancer	£5,680,616	01/04/16	31/03/20
Longley, Dan Vaugh, David	Astex Therapeutics Ltd	Rational Targeting of Inhibitor of Apoptosis Proteins (IAPs) for effective Treatment of Colorectal Cancer	£244,881	01/09/15	31/08/17
McDade, Simon McArt, Darragh	MRC Proximity to Discovery Scheme	Validation of Temp0-Seq Assays	£18,000	01/03/15	31/08/16
McMullin, Mary Frances Mills, Ken	LLNI	Support for Northern Ireland patients in trials NCRI AML 18 and NCRI AML 19	£30,000	01/01/16	31/12/16
Mills, Ian	Janssen-Cilag Ltd	Inhibition of nucleotide biosynthesis to enhance responses to drugs targeting androgen biosynthesis and the androgen receptor	£76,200	01/01/16	31/12/16
Murray, Liam Lawler, Mark Donnelly, Michael (and International Collaborators in Vietnam/ London)	Newton Institutional Links Grant	An evidence-based approach to the evaluation and planning of Breast Cancer Services in Vietnam	£280,00	01/05/16	30/04/18
Scott, Chris Longley, Dan Straubinger, Robert	NIH/NCI R01CA198096	Tumor priming sequences combined with novel nanoparticle drug carriers for enhanced therapeutic efficacy in pancreatic cancer: a tripartite USA/Northern Ireland/Republic of Ireland consortium	£735,000	01/07/15	30/06/20

RECENT PUBLICATIONS

- ANDREASSEN, O.A., DESIKAN, R.S., WANG, Y., THOMPSON, W.K., SCHORK, A.J., ZUBER, V., DONCHEVA, N.T., ELLINGHAUS, E., ALBRECHT, M., MATTINGSDAL, M., FRANKE A., LIE B.A., MILLS I.G., AUKRUST P., McEVOY L.K., DJUROVIC S., KARLSEN T.H. and DALE A.M. (2015) Abundant genetic overlap between blood lipids and immune-mediated diseases indicates shared molecular genetic mechanisms, *PLoS One*, 10:e0123057.
- ARMSTRONG, C.W.D., MAXWELL, P.J., ONG, C.W., REDMOND, K.M., McCANN, C., NEISEN, J., WARD, G.A., CHESSARI, G., JOHNSON, C., NYREE T. CRAWFORD, N.T., MELISSA J. LABONTE, M.J., PRISE, K.M., ROBSON, T., SALTO-TELLEZ, M., LONGLEY, D.B. and WAUGH D.J.J. (2016) PTEN deficiency promotes macrophage infiltration and hypersensitivity of prostate cancer to IAP antagonist/radiation combination therapy, *Oncotarget*, 20 January 2016 (Epub ahead of print).
- BINGHAM, V., ONG, C.W., JAMES, J., MAXWELL, P., WAUGH, D., SALTO-TELLEZ, M. and McQUAID, S. (2016) PTEN mRNA detection by chromogenic, RNA in situ technologies: a reliable alternative to PTEN immunohistochemistry *Hum Pathol*, 47(1), p95-103.
- BOLLINENI, R.C., GULDVIK, I.J., GRONBERG, H., WIKLUND, F., MILLS, I.G. and THIEDE, B. (2015) A differential protein solubility approach for the depletion of highly abundant proteins in plasma using ammonium sulfate, *The Analyst*, 140, p8109-8117.
- BRIEN, G.L., HEALY, E., JERMAN, E., CONWAY, E., FADDA, E., O'DONOVAN, D., KRIVTSOV, A.V., RICE, A.M., KEARNEY, C.J., FLAUS, A., McDADE, S.S., MARTIN, S.J., McLYSAGHT, A., O'CONNELL, D.J., ARMSTRONG, S.A. and BRACKEN, A.P. (2015) A chromatin-independent role of Polycomb-like 1 to stabilize p53 and promote cellular quiescence, *Genes Dev*, 29(21), p2231-2243.
- BUCKLEY, N.E.*, BOYLE, D.P.*, McART, D.G., IRWIN, G., HARKIN, D.P., LIOE, T.F., McQUAID, S., JAMES, J., MAXWELL, P., HAMILTON, P.W., MULLAN, P. and SALTO-TELLEZ, M. (2015) Molecular classification of non-invasive breast lesions for personalised therapy and chemoprevention, *Oncotarget*, 6(41), p43244-54 (*these authors contributed equally).
- CHEN, R. C., RUMBLE, R.B., LOBLAW, D.A., FINELLI, A., EHDAIE, B., COOPERBERG, M.R., MORGAN, S.C., TYLDESLEY, S., HALUSCHAK, J.J., TAN, W., JUSTMAN, S. and JAIN, S. (2016) Active surveillance for the management of localized prostate cancer (Cancer Care Ontario guideline): American Society of Clinical Oncology Clinical Practice guideline endorsement, *Journal of Clinical Oncology*, 16 February 2016 (Epub ahead of print).
- CHEN, R.C., RUMBLE, R.B. and JAIN, S. (2016) Active surveillance for the management of localized prostate cancer (Cancer Care Ontario guideline): American Society of Clinical Oncology clinical practice guideline endorsement summary, *Journal of Oncology Practice*, 16 February 2016 (Epub ahead of print).
- CHIANG, A., THIBAUT, I., WARNER, A., RODRIGUES, G., PALMA, D., SOLIMAN, H., JAIN, S., POON, I. and CHEUNG, P. (2016) A Comparison between Accelerated Hypofractionation and Stereotactic Ablative Radiotherapy (SABR) for Early-stage Non-small Cell Lung Cancer (NSCLC): Results of a Propensity Score-matched Analysis, *Radiotherapy and Oncology*, 18 January 2016 (Epub ahead of print).
- COLE, A.J. and HANNA, G.G. (2015) Stereotactic radiotherapy for early stage lung cancer, *Ulster Medical Journal*, 84(1), p69-70.
- DIEZ-CECILIA, E., CARSON, R., KELLY, B., VAN SCHAEYBROECK, S., MURRAY, J.T. and ROZAS, I. (2015) Probing a 3',4'-bis-guanidinium diaryl derivative as an allosteric inhibitor of the Ras pathway, *Bioorg Med Chem Lett*, 25(19), p4287-92.
- GHITA, M., COFFEY, C.B., BUTTERWORTH, K.T., McMAHON, S.J., SCHEITINO, G. and PRISE, K.M. (2015) Impact of fractionation on out-of-field survival and DNA damage responses following exposure to intensity modulated radiation fields, *Physics in Medicine and Biology*, 61(2), p515-526.
- GOULD, R., McFADDEN, S.L., HORN, S., PRISE, K.M., DOYLE, P. and HUGHES, C.M. (2015) Assessment of DNA double strand breaks induced by intravascular iodinated contrast media during in vitro irradiation and in vivo during paediatric cardiac catheterisation, *Contrast Media and Molecular Imaging*, 8 November 2015 (Epub ahead of print).
- GRINSZTEJN, E., PERCY, M.J., McCLENAGHAN, D., QUINTANA, M., CUTHBERT, R.J. and McMULLIN, M.F. (2015) The prevalence of CALR mutations in a cohort of patients with myeloproliferative neoplasms, *Int J Lab Hematol*, 11 November 2015 (Epub ahead of print).
- HANDFORTH, C., TURNER, N., JACKSON, D., CLEGG, A., HALL, P., SPENCER, K., HALL, G., LAWLER, M. and SELBY, P. (2016) Cancer in Older People: an Overview. In Ring, A., Harari, D., Kalsi, T., Mansi, J. and Selby, P. (eds) *Problem Solving in Older Cancer Patients*, Clinical Publishing, p1-4.
- HERNÁNDEZ-RAMÍREZ, L.C., GABROVSKA, P., DÉNES, J., STALS, K., TRIVELLIN, G., TILLEY, D., FERRAU, F., EVANSON, J., ELLARD, S., GROSSMAN, A.B., RONCAROLI, F., GADELHA, M.R., KORONITS, M. and International FIPA Consortium (2015) Landscape of Familial Isolated and Young-Onset Pituitary Adenomas: Prospective Diagnosis in AIP Mutation Carriers, *J Clin Endocrinol Metab*, 100(9):E1242-54.
- HORGAN, D. and LAWLER, M. (2015) Guest Editors: Getting Personal: The Future of Medicine and Clinical Trials, *Public Health Genomics*, 18 (6).
- ITKONEN, H.M., ENGEDAL, N., BABAIE, E., LUHR, M., GULDVIK, I.J., MINNER, S., HOHLOCH, J., TSOURLAKIS, M.C., SCHLOMM, T. and MILLS, I.G. (2015) UAP1 is overexpressed in prostate cancer and is protective against inhibitors of N-linked glycosylation, *Oncogene*, 34, p3744-3750.
- KONERT, T., VOGEL, W., MACMANUS, M.P., NESTLE, U., BELDERBOS, J., GRÉGOIRE, V., THORWARTH, D., FIDAROVA, E., PAEZ, D., CHITI, A. and HANNA, G.G. (2015) PET/CT imaging for target volume delineation in curative intent radiotherapy of non-small cell lung cancer: IAEA consensus report 2014, *Radiotherapy and Oncology*, 116(1), p27-34.
- LAWLER, M., GAVIN, A., SALTO-TELLEZ, M., KENNEDY, R.D., VAN SCHAEYBROECK, S., WILSON, R.H., HARKIN, D.P., GRAYSON, M., BOYD, R.E., HAMILTON, P.W., McART, D.G., JAMES, J.A., ROBSON, T., LADNER, R.D., PRISE, K.M., O'SULLIVAN, J.M., HARRISON, T., MURRAY, L.J., JOHNSTON, P.G. and WAUGH, D.J. (2015) Delivering a research-enabled multi-stakeholder partnership for enhanced patient care at a population level: The Northern Ireland Comprehensive Cancer Program, *Cancer*, 122, p664-673.
- LEWIS, C., O'DONNELL, A., McQUAID, S. and JAMES, J. (2015) Contribution of Biobanks to Care Services, *Cancer Nursing Practice*, 14(9) p21-24
- LIBERANTE, F., POURAYHYA, T., McMULLIN, M-F, ZHANG, S-D.* and MILLS, K.I.* (2015) Identification and validation of the dopamine agonist bromocriptine as a novel therapy for high-risk myelodysplastic syndromes and secondary acute myeloid leukemia, *Oncotarget*, 28 December 2015 (Epub ahead of print) *these authors contributed equally to this work.
- MATEO, J., CARREIRA, S., SANDHU, S., MOSSOP, M., PEREZ-LOPEZ, R., RODRIGUES, D., ROBINSON, D., OMLIN, A., TUNARIU, N., BOYSEN, G., PORTA, N., FLOHR, P., GILLMAN, A., PAULDING, C., SEED, G., JAIN, S., HUSSAIN, S., JONES, R., ELLIOTT, T., MCGOVERN U., BIANCHINI, D., GOODALL, J., ZAFEIRIOU, Z., WILLIAMSON, C.T., FERRALDESCHI, R., RIISNAES, R., EBBS, B., FOWLER, G., RODA, D., YUAN, W., WU, Y.M., CAO, X., BROUGH, R., PEMBERTON, H., A'HERN, R., SWAIN, A., KUNJU, L.P., EELES, R., ATTARD, G., LORD, C.J., ASHWORTH, A., RUBIN, M.A., KNUDSEN, K., FENG, F., CHINNAIAN, A., HALL, E. and DE BONO, J. (2015) DNA repair defects and PARP inhibition in Metastatic Prostate Cancer, *New England Journal of Medicine (NEJM)*, 373(18), p1697-708.
- MAXWELL, P., MELENDEZ-RODRÍGUEZ, F., MATCHETT, K.B., ARAGONES, J., BEN-CALIFA, N., JAELK, H., HENGST, L., LINDNER, H., BERNARDINI, A., BROCKMEIER, U., FANDREY, J., GRUNERT, F., OSTER, H.S., MITTELMAN, M., EL-TANANI, M., THIERSCH, M., SCHNEIDER GASSER, E.M., GASSMANN, M., DANGOOR, D., CUTHBERT, R.J., IRVINE, A., JORDAN, A., LAPPIN, T., THOMPSON, J. and NEUMANN, D. (2015) Novel antibodies directed against the human erythropoietin receptor: creating a basis for clinical implementation, *Br J Haematol*, 168(3), p429-42.
- MAXWELL, P. and SALTO-TELLEZ, M. (2016) Validation of immunocytochemistry as a morphomolecular technique, *Cancer Cytopathol*, 2 February 2016 (Epub ahead of print).
- McGARRY, C.K., AGNEW, C.E., HUSSEIN, M. TSANG, Y., McWILLIAM, A., HOUNSELL, A.R. and CLARK, C.H. (2016) The role of complexity metrics in a multi-institutional dosimetry audit of VMAT, *The British Journal of Radiology*, 89, p.1057.
- McMAHON, S.J., PAGANETTI, H. and PRISE, K.M., (2016), Optimising element choice for nanoparticle radiosensitizers, *Nanoscale*, 8, p581-589.
- McMULLIN, M.F. and CARIO, H. (2015), LNK mutations and myeloproliferative disorders, *Am J Hematol*, 91(2), p248-251.
- McMULLIN, M.F., WILKINS, B.S. AND HARRISON, C.N. (2015) Management of polycythaemia vera: a critical review of current data, *Br J Haematol*, 172(3), p337-349.
- McQUAID, H.N., MUIR, M.F., TAGGART, L.E., McMAHON, S.J., COULTER, J.A., HYLAND, W.B., JAIN, S., BUTTERWORTH, K.T., SCHEITINO, G., PRISE, K.M., HIRST, D.G., BOTCHWAY S.W. and CURRELL, F.J. (2016) Imaging and radiation effects of gold nanoparticles in tumour cells, *Scientific Reports*, 6, p19442.
- NESS, K.A., EDDIE, S.L., HIGGINS, C.A., TEMPLEMAN, A., D'COSTA, Z., GADDALE, K.K., BOUZZAOUI, S., JORDAN, L., JANSSEN, D., HARRISON, T., BURKAMP, F., YOUNG, A., BURDEN, R., SCOTT, C.J., MULLAN, P.B. and WILLIAMS, R. (2015) Development of a potent and selective cell penetrant Legumain inhibitor, *Bioorg Med Chem Lett*, 25(23), p5642-5.
- NESS, K.A., EDDIE, S.L., BURTON, S., HARRISON, T., MULLAN, P. and WILLIAMS, R. (2016) Flat SAR of P3-methylsulphonamide based small molecule legumain inhibitors, *Bioorg. Med. Chem. Lett.*, 26, p413.
- REPPE, S., WANG, Y., THOMPSON, W.K., McEVOY, L.K., SCHORK, A.J., ZUBER, V., LEBLANC, M., BETTELLA, F., MILLS, I.G., DESIKAN, R.S., DJUROVIC S., GAUTVIK K.M., DALE A.M., ANDREASSEN O.A. and GEFOCS CONSORTIUM. (2015). Genetic Sharing with Cardiovascular Disease Risk Factors and Diabetes Reveals Novel Bone Mineral Density Loci, *PLoS One*, 10:e0144531.
- RUDDOCK, M.W., SIMOES, R.M., O'ROURKE, D., DUGGAN, B., STEVENSON, M., O'KANE, H.F., CURRY, D., ABOGONRIN, F., EMMERT-STREIB, F., REID, C.N., MAXWELL, P., ARTHUR, K., MALLON, M., CARSON, G., KENNEDY, G. and WILLIAMSON, K. (2015) Urinary Thrombomodulin Levels Were Significantly Higher Following Occupational Exposure to Chemicals, In The Presence of Dipstick Protein, But Not in the Presence of Dipstick Blood, *Biol Med(Aligarh)*, 7, p260.
- SALTO-TELLEZ, M. and KENNEDY, R.D. (2015) Integrated molecular pathology: the Belfast model, *Drug Discov Today*, 20(12), p1451-1454.
- SHAW, G.L., WHITAKER, H., CORCORAN, M., DUNNING, M.J., LUXTON, H., KAY, J., MASSIE, C.E., MILLER, J.L., LAMB, A.D., ROSS-ADAMS, H., RUSSELL, R., NELSON, A.W., ELDRIDGE, M.D., LYNCH, A.G., RAMOS-MONTOYA, A., MILLS, I.G., TAYLOR, A.E., ARLT, W., SHAH, N., WARREN, A.Y. and NEAL, D.E. (2015) The Early Effects of Rapid Androgen Deprivation on Human Prostate Cancer, *Eur Urol*, 10 November 2015 (Epub ahead of print).
- SUKUMAR, P. McCALLUM, C., HOUNSELL, A.R. and McGARRY, C.K. (2016) Characterization of two-dimensional liquid-filled ion chamber detector arrays using flattened and unflattened beams for small fields, small MUs and high dose-rates, *Biomedical Physics & Engineering Express* (Epub ahead of print).
- TAMURA, S., TAMURA, T., GIMA, H., NISHIKAWA, A., OKAMOTO, Y., KANAZAWA, N., RELVAS, L., CUNHA, E., McMULLIN, M.F. and BENTO, C. (2015) A Japanese Family with Congenital Erythrocytosis Caused by Haemoglobin Bethesda, *Intern Med*, 54, p2389-93.
- WILKINSON, R.D., MAGARRIAN, S.M., YOUNG, A., SMALL, D.M., SCOTT, C.J., BURDEN, R.E. and WILLIAMS, R. (2015) CCL2 is transcriptionally controlled by the lysosomal protease Cathepsin S in a CD74-dependent manner, *Oncotarget*, 6(30), p29725-39.
- WILKINSON, R.D., WILLIAMS, R., SCOTT, C.J. and BURDEN, R.E. (2015) Cathepsin S: therapeutic, diagnostic and prognostic potential, *Biological Chemistry*, 396(8), p867-82.

NEW APPOINTMENTS

Welcome to the following new staff recently appointed to the Centre:

Academic Staff:
Professor David Gonzalez de Castro

Research Staff:
Dr Kathryn Clarke
Dr Aaron Gregson
Dr Folake Orafidiya
Dr Tamas Sessler
Miss Xanthi Stachtea
Dr Richard Wilkinson

Clinical Research Fellows:
Dr Colin McIlmunn

Technical Staff:
Ms Catherine Jamison
Mr Samuel Mahadeo
Dr Melanie McKechnie
Mr Christopher Wise

Clerical Staff:
Mrs Tracie Andreasson

CCRCB EVENTS

CCRCB Mitchell Lecture 2016
15 June 2016

Professor Charles Sawyers
Director of the Human Oncology and Pathogenesis Program
Memorial Sloan-Kettering Cancer Centre

CCRCB Open Day 2016
22 October 2016

EVENTS

AACR 2016 Annual Meeting
16 - 20 April 2016

Ernest N Morial Convention Center
New Orleans, Louisiana

For further information and registration please refer to:
<http://www.aacr.org>

ASCO 2016 Annual Meeting
3 - 7 June 2016

Chicago, Illinois

For further information and registration please refer to:
<http://am.asco.org>

EACR 24: From basic research to precision medicine
9 - 12 July 2016

Manchester Central Convention Complex
Manchester

For further information and registration please refer to:
<http://eacr24.eacr.org>



Joanne Badger joined the Centre as the Coordinator for Leukaemia & Lymphoma NI in late November. As Coordinator Joanne's role is to drive support for LLNI and the Centre by increasing local engagement with the life-saving research that happens here. Providing more long term and sustainable funding for the research here is a priority and Joanne is working closely with the Central Committee, researchers, clinicians, fundraisers, volunteers and external stakeholders in order to make this happen.

Using the press and social media campaigns Joanne has been trying to raise awareness of the impact of LLNI on blood cancers and the benefit this has for local people. A recent development where the charity have agreed to fund 10 leukaemia patients on a clinical trial here in Belfast has been of particular interest as it is the first occasion where local people are directly benefitting from the work being done here.

Prior to working for the charity Joanne had been living in Hong Kong, the UAE and Australia where she worked as a Fundraising Coordinator for the Peter MacCallum Cancer Centre.

To contact Joanne or find out more about her role please email: j.badger@qub.ac.uk or call: 028 9097 2928.

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