Queen's University Belfast

CCRCB Centre for Cancer Research & Cell Biology

Bulletin

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ARGENT MARIE CURIE TRAINING NETWORK ANNUAL MEETING

Attendees at the annual meeting held in CCRCB on 22-24 February 2017

The second annual meeting of the EU Marie Curie Training Network on *Advanced Radiotherapy, Generated by Exploiting Nanoprocesses and Technologies* (ARGENT) was held at CCRCB from the 22 - 24 February 2017.

ARGENT Marie Curie Training Network brings together a European team training the next generation of researchers in multidisciplinary radiation science and nanotechnology. This is a consortium of 6 academic, 3 industrial and 6 associated partners (http://itn-argent.eu/) in this key strategic area developing the next generation of nanotechnologies for advanced radiotherapy. It is currently training 13 early stage researchers from a range of backgrounds including physics, chemistry and biology and is coordinated by Professor Sandrine Lacombe from CNRS/University Paris-Sud. At Queen's, it is jointly led by Professor Kevin Prise from the Advanced Radiotherapy Group at CCRCB and Professor Fred Currell from the Centre for Plasma Physics. The project is a shining example of the cross-faculty research skills in translational radiation biology and nanotechnology empowering international collaborations.

JUNIOR ACADEMY HEALTH SCIENCES TASTER DAY

Following the success of last year's event, CCRCB recently hosted the Widening Participation Unit Junior Academy Health Sciences Taster Day, with an aim to raise awareness of the degree pathways available within the Faculty of Medicine, Health and Life Sciences.

On 7 February 2017, around eighty Year 10 pupils from schools around Northern Ireland visited the Faculty of Medicine, Health and Life Sciences. During their time at CCRCB, pupils took part in an interactive workshop. A short presentation delivered by Dr Pamela Maxwell informed pupils of key facts on cancer as a disease and how research has improved treatment options for patients. The pupils then had the opportunity to take part in two hands-on activities - extracting DNA from strawberries and making Jelly Baby DNA models - with a team of researchers from CCRCB. Plenty of questions were asked during the interactive sessions and pupils, teachers and CCRCB staff all enjoyed the event.

Pupils at the Widening Participation Unit Junior Academy Health Sciences Taster Day

QUEEN'S PROFESSOR LAUNCHES NEW VISION TO SAVE LIVES AND IMPROVE CANCER OUTCOMES ACROSS EUROPE

A 60-strong coalition of patient advocates, healthcare professionals and scientists from 20 European countries (including 3 Nobel Laureates) have come together to publish a blueprint for increasing cancer survival to 70 per cent by 2035 and achieving better quality of life for cancer survivors across Europe. All are members of the European Cancer Concord (ECC) - an equal partnership between patients and cancer experts - which launched the European Cancer Patient's Bill of Rights (BoR) on World Cancer Day in 2014.

Professor Mark Lawler, from the Centre for Cancer Research and Cell Biology at Queen's University Belfast and Vice President ECC, was the lead architect of the BoR and is first author of the current publication which is the ECC's first-ever paper on Vision 70:35, a European-wide Initiative 'which aims to tackle the global problem of cancer, advancing knowledge and saving lives.'

The paper highlights that these ambitious aims will be achieved by working in collaboration across Europe and by identifying examples of best practice and embedding these in cancer care systems throughout Europe. It also states the importance of translating precision oncology research innovation - where a detailed understanding of the biology of cancer informs care pathways - into new diagnostics and therapeutics for the benefit of patients.

Professor Mark Lawler said: "Vision 70:35 emphasises the scale of our ambition. We believe that this target is achievable, provided we share best practice and promote innovation and research across European nations and regions. We must work together, we need to compete, not against each other, but against our common enemy – cancer. The challenge is to ensure that this vision is achieved in all European countries. This will require investment at European level, as was envisaged by European Health Ministers through the Vilnius Declaration, in order to ensure that all countries, not just the wealthy ones, achieve the 70:35 Vision, even in this time of economic austerity."

President of ECC, Professor Peter Selby from the University of Leeds, said: "We believe that our Vision 70:35 can deliver real benefit for patients, if we work together in a collaborative way. The document is the product of the work of a large group of collaborators and ECC is partnering with many pan-European Organisations in order to achieve this ambitious target."

Sharing best practice and implementing these findings across Europe will underpin improvements in cancer control and cancer care. However, in order to achieve the 70:35 Vision, it is also essential to increase the intensity of research and innovation in Europe and facilitate the rapid translation of discovery science into clinical practice.

A key component of the vision is the importance of engaging all relevant stakeholders, with cancer patients and their carers working together with a wide range of healthcare and life science professionals, from primary care experts to molecular scientists.

Professor Ian Banks, Vice President of ECC and Chair of the Patient Advocacy Committee, said: "We are delighted to be publishing this initiative that has the potential to benefit so many patients in Europe. Involving all stakeholders, including primary care professionals, can significantly improve our chances of success."

Lawler et al The European Cancer Patient's Bill of Rights: Update and Implementation, *ESMO Open* is available to download in full at: http://esmoopen.bmj.com/content/1/6/e000127

LaTe LaB3

Now in its third year, the Ulster Museum's giant science party exploded back into life on 24 February, for the 2017 NI Science Festival.

This event is an opportunity to join brilliant scientists as they push the boundaries of science and let you step into their experiments, enjoy risqué and breath-taking live science shows, drink with dinosaurs and share intimate sets with hot bands of the moment.

Eight researchers from CCRCB showcased three activities bringing cancer research to life for the 1,541 attendees of the event.

From 'Molecular Mixology' with colour changing Gin & Tonics to virtual reality lab tours, the event was a great success supported by Cancer Research UK.

CCRCB researchers taking part in the LaTe LaB3 event at the Ulster Museum

QUEEN'S RESEARCHERS HIGHLIGHT HOW PRECISION ONCOLOGY INNOVATION CAN DELIVER A NEW "HEALTH IS WEALTH" AGENDA FOR NORTHERN IRELAND

Innovation in the life sciences has a central role to play in preserving the health of the Northern Ireland citizen and promoting wealth generation within the Northern Ireland economy. Cancer is one of the biggest killers in Northern Ireland but represents an area of strength in biomedical research and its translation for patient benefit. In launching the Precision Oncology Report "Evidence-enabled outcomes research to inform precision oncology innovation adoption by health systems" and presenting it before the Stormont Health Committee during their meeting at the Centre for Cancer Research and Cell Biology (CCRCB) at Queen's, Professor Mark Lawler, Chair in Translational Cancer Genomics in CCRCB highlighted how a precision oncology approach, where a detailed understanding of the biology of cancer informs care pathways, is increasingly underpinning the delivery of personalised care for the cancer patient and contributing to the growing biotech sector in Northern Ireland.

Professor Chris Elliott, Cat Seeley (former MLA), Professor Jose Bengoechea, Professor Mark Lawler, Mark H Durkan MLA, Paula Bradley MLA (Chair of most recent Health Committee), Gary Middleton MLA, Robbie Butler MLA and Professor David Waugh

"Northern Ireland punches above its weight in this rapidly evolving area which is providing us with new approaches to prevent and treat this killer disease and preserve and improve the lives of cancer survivors in Northern Ireland," said Professor Lawler. "The report highlights the role of CCRCB as both an innovator and an enabler of a precision oncology agenda that is patient focussed, allied to a clear pathway for industry-academia partnerships that promote mutual benefit," said Professor David Waugh, Director, CCRCB.

In lung cancer, research lead by Dr Gerry Hanna, CCRCB and Northern Ireland Cancer Centre on the use of Stereotactic ABlative Radiotherapy (SABR), an innovative method that allows very precise delivery of high doses of radiotherapy to particular targets in the body, has led to the commissioning of SABR for early lung cancer. The success of this initiative has led to the SABR Lung Implementation Team receiving the UK Cancer Team Collaboration of the Year Award at the 2016 Quality in Care Awards in London recently. "The adoption of SABR as standard-of-care is an extremely exciting development," said Dr Hanna. "It emphasises how innovation can drive a new approach and offer hope in a disease which kills over 1,100 citizens in Northern Ireland each year."

The human papilloma virus (HPV) is implicated in the development of cervical cancer and is a major contributor to sexually transmitted disease. Research presented in the report emphasises the role of HPV in cancers which occur in both sexes such as head and neck and anal cancers, both of which are on the rise in Northern Ireland. "This evidence, combined with health economic analysis demonstrating the cost effectiveness of HPV vaccination for both sexes, supports our proposal for a universal vaccination policy for adolescent girls and boys in Northern Ireland," said Dr Gillian Prue, Lecturer in the School of Nursing and Midwifery, QUB.

In early breast cancer, there is a need to determine which patients benefit from treatment with chemotherapy, while sparing those patients who derive no benefit, and for whom the debilitating side effects of chemotherapy can negatively impact on their Quality-Of-Life. Research presented here, in collaboration with colleagues in the Republic of Ireland, highlights the efficacy of a 21-gene signature test in stratifying breast cancer patients to receive either chemotherapy or hormonal therapy, thus ensuring the right treatment is provided to the right patient using the best available information. Health economic analysis indicates that use of this 21-gene signature test is cost effective and potentially cost saving, thus supporting the report's recommendation for its employment to inform treatment decision-making in early breast cancer in Northern Ireland.

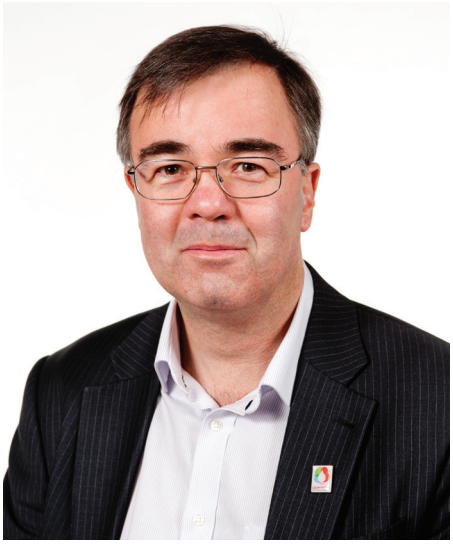
Northern Ireland has a significant international reputation in colorectal cancer research. A crucial component of this recognition has been the close collaboration between academia and industry, as exemplified by the research enabled partnership between CCRCB and Almac, one of Northern Ireland's leading indigenous companies and an industry leader in both the pharmaceutical and biotech/molecular diagnostics sectors. "Supporting this type of academic-industry partnership is key to translating high quality discovery science into improved outcomes for cancer patients and measureable assets for the growing life sciences sector in Northern Ireland," said Professor Richard Kennedy, Vice President at Almac Diagnostics and McClay Professor of Medical Oncology at Queen's.

The report emphasises the need for publication and implementation of a new cancer strategy for Northern Ireland that promotes innovation and sets targets for improved outcomes and better quality of life for cancer patients in Northern Ireland. "In order to establish this Health is Wealth agenda, we recommend the establishment of a multi-stakeholder Innovation Forum and the creation of an evidence-focussed Outcomes Research Unit to accumulate and evaluate evidence for adoption of innovations that can impact positively on cancer prevention, cancer control and improve quality of life for Northern Ireland citizens," said Professor Lawler.

"Promoting a cross sectoral innovation agenda is a key enabler for the biotech and biopharmaceutical sector in Northern Ireland," said Colette Goldrick, Director of the Association of the British Pharmaceutical Industry, Northern Ireland. "The recommendations in this report, including the establishment of an Outcomes Research Unit will provide the evidence base for innovation adoption in Northern Ireland."

The Precision Oncology Report "Evidence-enabled outcomes research to inform precision oncology innovation adoption by health systems" is available at: http://www.qub.ac.uk/research-centres/CentreforCancerResearchCellBiology/News/

LEUKAEMIA & LYMPHOMA NI UPDATE



Richard Buchanan, LLNI Chairman

New Chair Appointed

Following their recent AGM Leukaemia & Lymphoma NI are pleased to announce the appointment of their new chairman Richard Buchanan. Richard has been a member of the central committee for the past two years; having lost his daughter Catherine to leukaemia at just 17 years old, Richard understands too well how integral blood cancer research is here in Belfast. Working alongside previous chairman Bill Pollock and the central committee, Richard will guide and oversee the charity's continued growth and success.

Leukaemia & Lymphoma NI PhD Studentship

Leukaemia & Lymphoma NI have announced further funding to support a PhD studentship to start in October 2017. The Leukaemia & Lymphoma NI / Alison Williamson Studentship will focus on DNA repair mechanisms as therapeutic targets in myeloid blood cancers. This project builds on current studies within the laboratory that implicate DNA repair pathways which could be manipulated to enhance therapeutic potential in these diseases that have poor outcome in the elderly and for which there is an unmet need for novel therapies.

The proposed project will be a companion and complementary study to the research of the primary (myeloid malignancies) and secondary (DNA repair) supervisors, and will combine laboratory studies with bioinformatics analysis for the determination of the role of DNA repair in the development of myeloid malignancies and in particular disease progression evolution.

Celtic Mountain Challenge

Leukaemia & Lymphoma NI are embarking on a Celtic Mountain Challenge this June, join us for an adventure of a lifetime and climb four of the highest peaks in Ireland all within 48 hours. We'll start in Newcastle, Co Down with an early morning climb of Slieve Donard, then it's off to Donegal to climb Mount Errigal. An overnight drive will allow us to ascend Croagh Patrick in time to see the sunrise. Then to finish we'll head to Wexford and the highest peak of the challenge, Lugnaquilla.

We're asking that everyone taking part in this challenge raises a minimum of £700 in sponsorship. To register and get your sponsorship pack please email us at info@leukaemiaandlymphomani.org

PRIZES AND MEASURES OF ESTEEM

Congratulations to **Professor Ken Mills**, who has been elected Chair of the NI Regional Council of the Royal College of Pathologists. Professor Mills has also been seconded as Acting Deputy Director of the Centre for Biomedical Science Education.

Professor Manuel Salto-Tellez has been appointed as Clinical Director for Molecular Diagnostics, based in the BHSCT but with a Northern Ireland remit. Professor Salto-Tellez is tasked with crafting a plan for a single, consolidated molecular diagnostic platform for the whole of Northern Ireland.

In January 2016 Professor Salto-Tellez was also a member on the NIHR Senior Investigators Appointment Panel (Department of Health).

On 2 February 2017 Professor Salto-Tellez was an Expert speaker at the Arab Health Congress, held at the Dubai International Convention and Exhibition Centre, Dubai, UAE. The session was entitled "Leaders in Healthcare - innovation in healthcare automation and technology" and the talk was entitled "Digital pathology workflows to deliver personalised medicine." http://www.arabhealthonline.com/conferences/list-2017/leaders-in-healthcare/

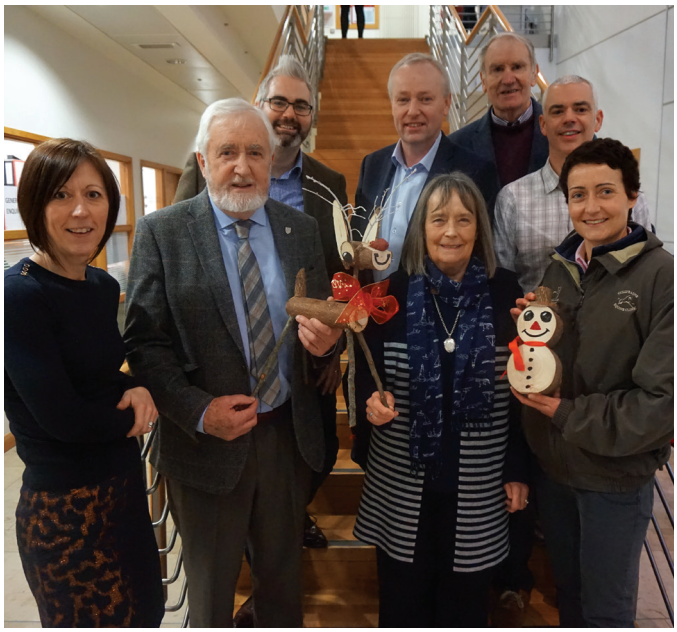
Dr Karl Butterworth has been appointed by the Royal College of Radiologists as a Specialist Examiner in Radiobiology for the FRCR Examining Board.

Dr Philip Dunne has been awarded the JD Williamson Prize for Best Post-Graduate Medical Research in 2016, jointly with Dr Aideen Maguire (CPH). Dr Dunne's research paper was entitled "Immune-derived PD-L1 gene expression defines a subgroup of stage II/III colorectal cancer patients with favourable prognosis who may be harmed by adjuvant chemotherapy."

Dr Dunne has also won a QUB Exceptional Performance Award, and the Entwistle Family Travel Scholarship.

Dr Dunne has been appointed as a Visiting Research Fellow at the University of Torino, and has also been appointed to the senior management group of the £5M Stratification in COloRecTal cancer (S-CORT) Consortium.

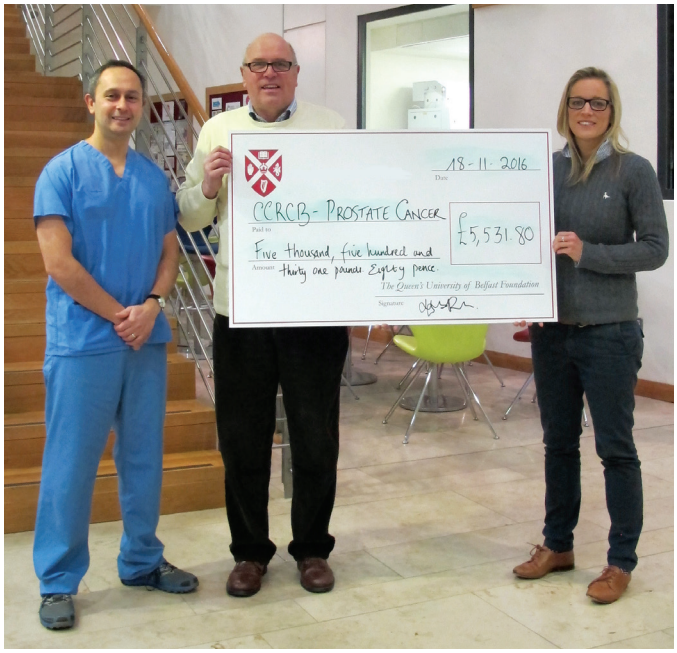
DONATIONS



Supporting cancer research at the Centre for Cancer Research and Cell Biology at Queen's University are: (L-R) Amanda Ramsay, Wilfred Keys, Dr Kienan Savage, 'Rudolph', Adrian Bingham, Ann Keys, Arthur Gibson (back), 'Frosty', Kyle Irvine and Dianne Keys.

Wilfred and his family and friends – along with businesses in Newcastle – raised over £5,000 by making and selling 'Rudolph' and 'Frosty' characters in the run-up to Christmas.

The **Reid Family** from Newtownards presented a cheque for £2,000 to support cancer research to Alice O'Rawe (Development Manager, Health). The family set up the 'Love Amy' Charity, named in honour of Amy Ellen Reid who passed away from cancer in 2013.



Congratulations to **Lynsey Patterson** who ran Belfast City Marathon last year and raised £5,531.80 on JustGiving for prostate cancer research at CCRCB.

When diagnosed with prostate cancer, Lynsey's father (Arnie Patterson), benefited from treatment that was made possible by the innovative research efforts of the prostate cancer research group based in CCRCB.

Pictured: Dr Suneil Jain, Arnie Patterson and Lynsey Patterson.

Your Fundraising Guide
Queen's Foundation have launched a new online fundraising guide for people who would like to raise money directly for CCRCB.

The simple guide provides tips on planning and promoting a fundraising event, using JustGiving and it includes poster / flyer templates and a sponsorship form.

Check it out online at daro.qub.ac.uk/FundraisingGuide or contact Alice O'Rawe alice.orawe@qub.ac.uk

Pictured: Laura Shields - Development Manager, Health and Helen Surgenor - Head of Health Fundraising (Individual Giving).

RECENT GRANTS AWARDED

Investigator(s)	Sponsor	Title	Amount	Start Date	End Date
Lawler, Mark	HSC R&D Office	Clinical Fellowship Programme in Precision Cancer Medicine	£421,500	01/08/17	31/07/22
Longley, Dan	Medical Research Council	MRC CASE Studentship: Development of Bispecific Antibodies to Promote Proapoptotic Immunotherapy in Pancreatic Cancer	£114,031	02/10/17	01/10/21
Mills, Ian	Horizon 2020 Marie Sklodowska Curie Innovative Training Network	TRANSPOT – Translational Research Training in Prostate Cancer	£142,517	01/01/17	31/12/20
Mills, Ken	Children's Cancer and Leukaemia Group/Little Princess Trust	Repurposing Mebendazole and Albendazole as novel therapies in Paediatric Acute Myeloid Leukaemia	£86,458	01/04/17	30/09/18
Mills, Ken	Leukaemia & Lymphoma NI	Alison Williamson Studentship: DNA Repair in AML	£97,133	01/10/17	30/09/20
Mills, Ken	Myeloma UK	Clinical Research Nurse at BHSCT for Myeloma Research	£16,387	01/02/17	01/02/18
Mullan, Paul	Breast Cancer Now	Characterising a Novel TBX2-KDMIA Transcriptional Repression Complex with Roles in Senescence-bypass and Breast Cancer Prognosis	£191,875	01/05/17	30/04/20
Prise, Kevin	Medical Research Council	MRC CASE Studentship: Physical and Biological Characterisation of Clinically Relevant Combined MRI-radiation exposures with Conventional and Nanoparticle Contrast Agents	£73,217	01/10/17	30/09/20
Scott, Chris	Medical Research Council CiC	Evaluation of Antibody-targeted Nanoparticles as a next generation antibody-drug conjugate format	£49,897	01/03/17	31/12/17

RECENT PUBLICATIONS

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NEW APPOINTMENTS

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

Academic Staff:
Dr Adone Sarip

Research Staff:
Dr Guillaume Bentzinger
Ms Jana Gazdova
Ms Emma Graham
Miss Niamh McCabe
Dr Reema Singh
Dr Peter Stewart

Clinical Research Fellows:
Dr Ciaran Fairmichael
Dr Peter Gallagher

Technical Staff:
Dr Heba Emam
Mrs Kirsty Trewellard

Clerical Staff:
Ms Kathryn Young

Visiting Researchers:
Ms Laura Gribben
Mr Francisco Liberal
Mr Yusuke Matsuya
Miss Veronica Ruiz-Torres
Mr Vu-Long Tran

EVENTS

Association of Breast Surgery AGM
15-16 May 2017
Waterfront Hall, Belfast
For further information and registration please refer to:
http://www.associationofbreastsurgery.org.uk/abs-events/abs-conference/

UK and Ireland Prostate Cancer Brachytherapy Annual Meeting
19-20 May 2017
Ulster Museum, Belfast
For further information and registration please refer to:
https://www.prostatebrachytherapy.org.uk/

ASCO 2017 Annual Meeting
2-6 June 2017
McCormick Place
Chicago, Illinois
For further information and registration please refer to:
https://am.asco.org/

10th Joint Meeting of the BDIAP and the Pathological Society
20-23 June 2017
Waterfront Hall, Belfast
For further information and registration please refer to:
http://www.pathsoc.org/

UK SABR/BIR Conference on Stereotactic Radiotherapy
16-17 November 2017
Waterfront Hall, Belfast
For further information and registration please refer to:
http://www.sabr.org.uk/

European Alliance for Personalised Medicine Congress: 'Personalising Your Health: A Global Imperative'
27-30 November 2017
Waterfront Hall, Belfast
For further information and registration please refer to:
http://www.euapm.eu/

QUEEN'S UNIVERSITY BELFAST – INNOVATIONS IN CANCER TREATMENT

The Queen's Foundation and CCRCB will be hosting an information evening for donors and potential donors to the cancer research programmes on Wednesday 24 May 2017 from 6.00 – 8.00pm in The Great Hall at Queen's University Belfast. This will provide an update on current research ongoing in CCRCB.

If you would like to attend, please contact Natasha Moroney – T: 028 9097 3159 or E: n.moroney@qub.ac.uk.

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