



Queen's University
Belfast



Bulletin

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LEUKAEMIA & LYMPHOMA NI ANNOUNCE FURTHER FUNDING OF £790,000 TO SUPPORT VITAL BLOOD CANCER RESEARCH AT QUEEN'S UNIVERSITY BELFAST



LLNI fund several researchers and students in CCRCB, including Dr Ana Gonzalez Sanchez

Leukaemia & Lymphoma NI (LLNI) operate with the main objective of improving survival rates for blood cancers by supporting the scientists and students researching these diseases in Northern Ireland. In the blood cancer research group based at the Centre for Cancer Research and Cell Biology (CCRCB) at Queen's University Belfast, there are a number of teams working on projects to identify, target and eliminate the abnormalities that cause blood cancer.

The new grant of £790,000 will be issued over the next five years to support the recruitment and development of a Senior Lecturer and a Clinical Research Fellow. The Senior Lecturer post will be the flagship package and the position will soon be advertised for application from global candidates.

Mr Richard Buchanan, Chairman of Leukaemia & Lymphoma NI, said: "It has been very exciting putting this package together with the Queen's Foundation. It is a fantastic opportunity and we are confident that the position will attract a real leader in the industry. Our aim has

always been to support research that will make a difference to the lives of patients here in Northern Ireland and this funding is a huge development."

The second phase of the funding package will be dedicated to the recruitment of a Clinical Research Fellow. This will be the second time Leukaemia & Lymphoma NI have created a role for a clinical professional within the haematology team and they have found their medical input invaluable. This phase will also provide support for established clinicians to participate in and support blood cancer research such as clinical trials.

Despite being predominantly research driven, Leukaemia & Lymphoma NI has taken some steps into clinical research in the past. In January 2016 the charity donated £30,000 to part fund the drug costs for the UK clinical trial AML18; they have also worked with Myeloma UK to co fund a Clinical Trials Nurse position in Belfast City Hospital. The recruitment of a new Clinical Research Fellow will strengthen the strong links with haematology consultant expertise and

utilise the patient samples and data to make research more accurate and robust.

Professor Ken Mills Chair of Experimental Haematology at Queen's University Belfast said: "This is a major investment by LLNI and recognises the impact that blood cancer research is having in Belfast and globally. There are numerous challenges in developing new therapies for some types of blood cancers and the exciting combination of laboratory and clinical research in this package will herald a new stage of research into leukaemia, myeloma or lymphoma in Belfast."

Leukaemia and Lymphoma NI is the only charity in Northern Ireland dedicated to funding research into the causes and cures of blood cancers. Established as the Northern Ireland Leukaemia Research Fund by the McDowell family in 1964 following the death of their daughter, the charity has now invested over £13 million pounds to life saving research.

You can find out more about the work of the charity on their website: www.leukaemiaandlymphomani.org

QUEEN'S RESEARCHERS MAKE BREAKTHROUGH DISCOVERY IN FIGHT AGAINST BOWEL CANCER

New research led by Queen's University Belfast has discovered how a genomic approach to understanding bowel (colorectal) cancer could improve the prognosis and quality of life for patients.

Researchers at Queen's, in collaboration with the University of Oxford and the University of Leeds have made a significant advance in the treatment of bowel cancer. The study, which has been published in the high impact journal *Nature Communications*, has shown how defining precise gene signatures within bowel cancer cells can allow us to develop novel prognostic and predictive markers for bowel cancer and help to drive personalised medicine approaches.

For clinicians, treating patients with bowel cancer can be particularly challenging. Professor Mark Lawler, Chair in Translational Genomics, Centre for Cancer Research and Cell Biology at Queen's and joint Senior Author on the study explains: "This study highlights how an interdisciplinary approach, interrogating cancer cells through a combination of genomics, molecular pathology and bioinformatics, can dissect out the key features that are required to develop novel prognostic and predictive markers for colorectal (bowel) cancer. Currently patients with bowel (colorectal) cancer are offered chemotherapy treatment. While this treatment may be successful for some patients, for others it will have no effect on fighting the cancer, though the patients may suffer debilitating side effects such as nerve damage that can result in a loss of sensation or movement in a part of the body. A 'one size fits all' approach isn't a viable option if we are to effectively tackle this disease."

"Big Data genomics is becoming increasingly relevant in cancer research, allowing us to uncover complex genetic interplay and its relationship to disease," said Dr Darragh McArt, Lecturer in Translational Cancer Bioinformatics at Queens and joint Senior Author of the study.

Dr Philip Dunne, Senior Research Fellow at Queen's said: "Through analysing the molecular and genetic data generated from patient tissue samples, we have discovered that there are different subtypes of bowel cancer. This research unequivocally identifies robust gene signatures that can be used to inform patient management. It will allow us to identify particular gene signatures that indicate sensitivity or resistance to specific therapies. Thus, we can tailor treatment to the individual patient, maximising its effectiveness while minimising potential side effects."

Dr Catherine Pickworth, science information officer at Cancer Research UK, a funder of the study, added: "Personalised medicine aims

to give the best treatment to each patient, sparing people unnecessary therapy if it won't help.

"This study is a step forward in achieving this, giving us genetic signatures to look out for in bowel cancer patients. The next steps will be to find out which treatment works best for each genetic signatures so that cancer treatments can be tailored to each patient, so they have the best chance of beating cancer."

Bowel cancer is the fourth most common cancer in the UK, with 41,200 people newly diagnosed each year. A number of treatment options are available but mortality rates remain high, with bowel cancer the second most common cause of cancer death in the UK.

This research was performed as part of Stratified Medicine in Colorectal Cancer (S:CORT), an MRC-Cancer Research UK funded stratified medicine consortium, bringing together the best of UK science and clinical care in bowel cancer to develop personalised medicine treatment approaches in this common malignancy.

S:CORT involves key partnerships with patients and patient advocacy groups. Ed Goodall, a survivor of bowel cancer and a member of S:CORT explains: "In the past, a tumour was a tumour. Patients are offered chemotherapy and this may not be effective or necessary depending on the patient yet they will still endure all the horrors this treatment can cause including nausea and hair loss.

"If the oncologist knows more about the subtype of bowel cancer, they will know whether the treatment will be necessary or effective. From a patient point of view, discovering the subtypes of this cancer is really ground breaking work because it will have massive implications for patient care and treatment."

Professor Tim Maughan, Professor of Clinical Oncology at the University of Oxford and Principal Lead of the S:CORT Consortium said: "This research emphasises how a collaborative approach can give significant insight into bowel cancer disease biology, but also to begin to translate this knowledge into clinically-relevant applications. As part of the work of the S:CORT consortium, we will now focus on making sure that the research is put into practice so that it can become part of the standard of care for patients."

Deborah Alsina MBE, Chief Executive of Bowel Cancer UK, the UK's leading bowel cancer research charity and a partner in S:CORT said: "This important study highlights how increasing our understanding of what makes normal cells go wrong is key

to developing new approaches that can improve outcomes for patients. With nearly 16,000 people dying from bowel cancer each year, it is essential that we increase our understanding of what drives the disease and then improve and extend the range of treatment options available. The results of this study take us a step closer to achieving this."

Professor Lawler added: "The publication of this research during Bowel Cancer Awareness Month highlights how increasing our understanding of what makes normal cells go wrong is key to developing new approaches that are relevant for patients."

The research was recently presented at the American Association for Cancer Research Congress (the premier cancer research meeting in the world) in Washington DC, USA.

To view the BBC news interview please visit: <http://www.bbc.co.uk/news/uk-northern-ireland-40100132>

S:CORT
Stratification in COLORectal cancer



Caroline Crothers (CRUK) with Mike Nesbitt MLA

BALMORAL SHOW

For the first time local Cancer Research UK teams took a stand at Balmoral Show which took place on 10-13 May 2017. With over 100,000 visitors over the four days this was a great opportunity to showcase the local research and opportunities available in Northern Ireland.

Visitors to the stand could take a virtual reality lab tour of Cancer Research UK Manchester Institute, see if they were a supertaster, take our policy quiz (highlighting the need for a Cancer strategy in NI), or enter our prize draw to win flights courtesy of FlyBe.

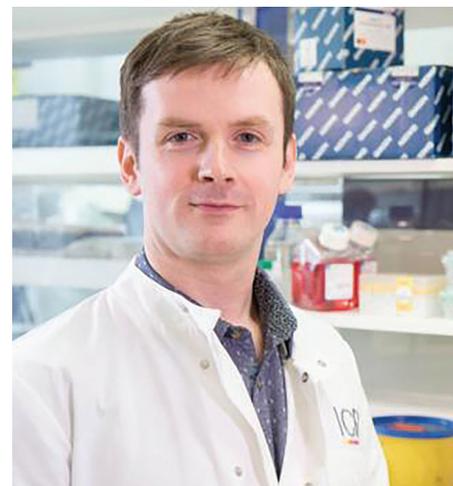
We had great conversations with all ranges of people from politicians to school children who showed a positive interest in the work of Cancer Research UK. The planning has already begun for 2018!

NEW APPOINTMENTS

Dr Nick Orr

Dr Nick Orr joined CCRCB as Reader in Cancer Genetics from August 2017. His research focuses on the discovery and characterisation of genes that are involved in cancer predisposition. Dr Orr moved to CCRCB from the Institute of Cancer Research (ICR), London, where he was initially a staff scientist from 2008, before being promoted to career development faculty in 2012. He established the Complex Trait Genetics Team at the ICR in 2012 and is currently supported by programmatic funding from Breast Cancer Now totalling

more than £1.7M. At ICR he was a lead investigator on the Breast Cancer Now Generations Study, a large cohort study of breast cancer aetiology comprising 115,000 UK women and the Breast Cancer Now Male Breast Cancer Study, a case-control study of more than 1,700 male breast cancer cases, which is the largest study of breast cancer in men worldwide. At CCRCB, Dr Orr will use functional genetics and molecular pathology to characterise predisposition to breast and other cancers, in order to better understand how germline genetics influences cancer risk and to identify biological targets for cancer preventative interventions.



Dr Nick Orr



Dr Ian Overton

Dr Ian Overton

Dr Ian Overton takes up a Senior Lecturer appointment at CCRCB from August 2017. His research models gene function in phenotypic plasticity with emphasis on metastasis, Epithelial to Mesenchymal Transition (EMT) and drug resistance. His top-down network analysis approaches investigate fundamental biology and also inform statistical, machine learning applications towards new clinical tools. Ongoing translational projects include diagnostics collaborations with LifeArc (the new name for MRC Technology). A Royal Society of Edinburgh Scottish Government Fellowship (2009-14) started his independent research career at the MRC Human Genetics Unit (Edinburgh), currently University of Edinburgh where he led an 'Integrative Network Biology' research group for almost

eight years before moving to CCRCB. He spent sabbaticals at Harvard Medical School department of Systems Biology (2012, 2013) and Vanderbilt University School of Medicine (2013), supported by Marie Curie Actions. Ian's postdoctoral work at the University of Dundee (2004-09) included establishing algorithms to predict protein biophysical properties and genome scale network inference. Doctoral studies at the University of Manchester (2001-04) involved analysis of multiple 'omics datasets for genome annotation, SNP discovery and for mass spectrometry proteomics search database generation from Expressed Sequence Tags (ESTs). Ian will continue to develop interests in systems medicine, data integration and molecular pathology; working in multiple cancers including colon, oesophageal, renal and prostate.

Dr Adone Tielienius Kruythoff-Mohd Sarip

Dr Adone Mohd-Sarip was appointed to the post of Lecturer in Chromatin Biology and joined the CCRCB in May 2017. Adone began her PhD journey at the Leiden University Medical Center (LUMC, Netherlands) but moved to the Erasmus University Medical Center (Erasmus MC) in Rotterdam and was awarded her PhD there.

During her PhD, Adone worked in the laboratory of Professor Peter Verrijzer whose group was the first to show functional selectivity among chromatin remodelling factors and contributed to understanding several aspects of the molecular mechanisms by which transcriptional regulators function. The focus of Adone's PhD was to elucidate the role of how Polycomb Group (PcG) proteins are targeted to cis-acting epigenetic DNA elements known as Polycomb Response Elements (PREs) using *Drosophila* as a model organism. Her work focused on the role of Pleiohometric (PHO) in recruiting, targeting and docking PcG proteins to specific DNA sites, which assembled into silencesomes.

During her postdoctoral years in the same lab, this research paved Adone's way to the

discovery of two novel PcG subcomplexes harbouring the demethylase dKDM2 with trans-histone functions of ubiquitylation and demethylation. She further revealed in biochemical purifications of PcG proteins that they exist as part of distinct multiprotein complexes which modulate chromatin structure and mediate both developmental gene silencing and regulate cell cycle progression.

Adone was awarded a career development fellowship from Erasmus MC and an early career scientist VID1 fellowship from NWO (Netherlands Organisation for Scientific Research) for her work on the epigenetic control of the INK/ARF tumour suppressor locus by SWI/SNF and PcG proteins in malignant rhabdoid tumours (MRTs). This was followed by an appointment as Assistant Professor and an Athena-VENI (Chemical Sciences) award from NWO.

Using *Drosophila* as a stepping stone, Adone expanded and combined two fields of 'silenced' research: PcG- and Nucleosome Remodeling and Deacetylase (NuRD) co-repressor complexes. She revealed in biochemical purifications that NuRD complex associates with previously unidentified

proteins that are frequently altered in human malignancies and target specific cancer pathways such as Epithelial-Mesenchymal Transition (EMT); currently an unexplored territory. Her ultimate goal is to illuminate the role of PcG and NuRD complexes during phenotypic plasticity by facilitating the generation of models relating the biological functions of these complexes to cancer. Adone's primary focus is to study the role of chromatin and epigenetic processes in the regulation of cancer metastasis.



Dr Adone Tielienius Kruythoff-Mohd Sarip

SHARE THE DATA AND SAVE LIVES: A GLOBAL CURE FOR A GLOBAL DISEASE

In an article released on the 25 May 2017 in the New England Journal of Medicine (NEJM), the premier medical journal in the world, a Queen's University Belfast-led study highlights how a culture of data sharing can improve outcomes for cancer patients. Professor Mark Lawler, Chair in Translational Cancer Genomics at the Centre for Cancer Research and Cell Biology at Queen's University Belfast, Lead Author of the paper said: "Cancer does not respect national borders, so the international community needs to work together in new ways to make progress in this common disease that kills over 8.5 million people worldwide each year."

Professor Lawler is co-chair of the Global Alliance for Genomics and Health (GA4GH) Clinical Cancer Genome Task Team and the NEJM paper brings together many of the leaders in cancer research and data analytics from across the world in a "Call to Action" to dedicate more resources (people, data, infrastructure and policy change) to help break down the barriers and make effective cancer data sharing a reality for the benefit of patients. "Patients want to share their data, we need to help them to do that," said Professor Lawler.

In the paper in the NEJM, Lawler and his colleagues highlight the need for a dedicated funding mechanism that allows national governance structures to work

together to support data sharing. "The data that we can collect and share is extremely valuable, but we must also dedicate sufficient resources to release this value for our patients," said Professor Lawler.

"If we get this right, we can really use the data to help us in our aspiration to improve outcomes in this deadly disease," said Charles Sawyers of the Memorial Sloan-Kettering Cancer Center in New York, who co-chairs the Clinical Cancer Genome Task Team with Professor Lawler and is a co-author on the NEJM paper.

And patients can play their part also. A group of patients with a rare mutation in a gene called ROS 1 (which can cause a number of different cancers including lung cancer) frustrated by the lack of progress in the treatment of their disease, came together online. This online group (who call themselves the ROS1ers) soon grew to over 130 individuals from 11 different countries and this allowed them to approach a disease foundation (the Bonnie J Addario Lung Cancer Foundation) to help them in the first steps in the development of a clinical trial that would target the particular abnormality (the ROS1 mutation) that is in their cancer cells. Professor Lawler is working with the Bonnie J Addario Foundation to help them to realise their goal.

"Efforts to "Free the Data", as Professor Lawler and his colleagues from across the world are advocating in this exciting paper, will make a huge difference for patients," said Margaret Grayson, a Breast Cancer Survivor and Chair of the Northern Ireland Cancer Research Consumer Forum, a patient advocacy group dedicated to promoting cancer research.

The U.S. Cancer Moonshot has indicated the need to bring together genomic, epidemiologic, and clinical data to improve patient outcomes. Such an aspiration depends on both effective collaboration as well as dedicated resources. "We hope that our "Call to Action" for a "global cancer knowledge network" energises the community to act decisively and provide the resources to embed data sharing for the benefit of cancer patients globally," said Professor Lawler. "If we do, then Big Data really can save lives," he added.

Professor Lawler has written an article entitled "Big Data saves Lives" for the Huffington Post which is available at: http://www.huffingtonpost.co.uk/mark-lawler/big-data-saves-lives_b_16816526.html



Global Alliance
for Genomics & Health

QUEEN'S GRADUATE AWARDED THE NEW ALISON WILLIAMSON/LEUKAEMIA & LYMPHOMA NI PHD STUDENTSHIP

Harmony Black recently graduated from Queen's University with a first class honours degree in Biomedical Science and it won't be long before she's back to start a PhD at the University's Centre for Cancer Research and Cell Biology. Harmony has been awarded the Alison Williamson/Leukaemia & Lymphoma NI PhD studentship.

Alison Williamson died last year from cancer at only 31 years old, survived by her husband and two young children. In her memory, her husband Barry Williamson climbed the four highest mountains in the UK in 48 hours, raising over £55,000 to fund research into blood cancers including leukaemia, myeloma and lymphoma. Leukaemia & Lymphoma NI used the funding to set up the Alison Williamson

PhD studentship to drive vital research in this area. During her final year at Queen's, Harmony successfully applied for the PhD studentship to carry out research into repair mechanisms for blood cancers.

On receiving the award, she said: "I feel incredibly grateful to have received this award, not only because it allows me to continue working in the lab and doing research in the field of blood cancers, which I am very passionate about, but it's also a very personal award, as I am continuing research to find a cure in memory of Alison Williamson and for many others like her. I'm looking forward to continuing my education at Queen's and I'm determined to honour Alison's memory to make a difference to those suffering from blood cancers."



Harmony Black, who has been awarded the LLNI/ Alison Williamson PhD Studentship

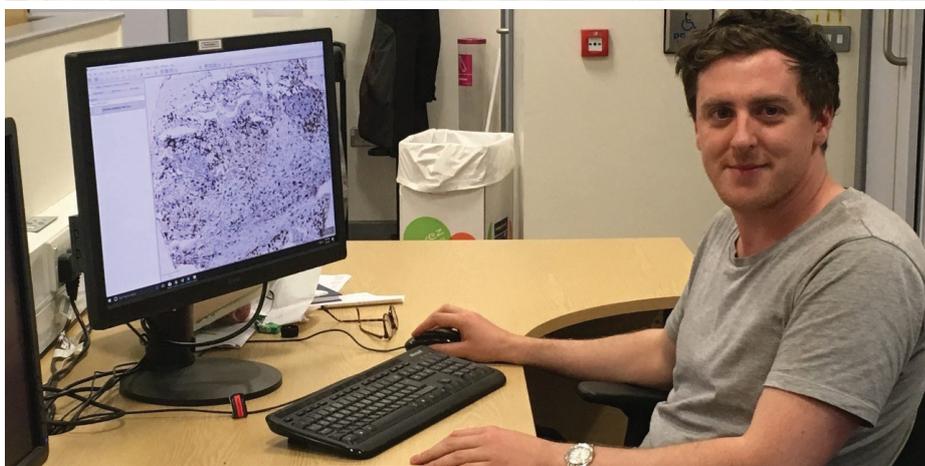
BELFAST PATHOLOGY 2017: PATHSOC / BDIAP CAME TO TOWN

The most important UK pathology meeting of 2017 took place in Belfast in June 20th-23rd, in Belfast Waterfront. The last time Belfast hosted the PathSoc meeting was more than 25 years ago, and the memory of many was clearly dictated by extracurricular activities. While these were still relevant to our guests on this visit, Belfast hosted what has been labelled by attendees as the "best pathology conference in the UK in the last decade." With a considered blend of traditional pathology, modern molecular diagnostics and pathology-driven science, the meeting was the perfect showcase for our Molecular Pathology programme, Belfast translational science and our wonderful city.

Prof Manuel Salto-Tellez and Dr Maurice Loughrey orchestrated proceedings, Prof Mark Lawler delivered the most sublime public lecture, Prof David Gonzalez de Castro, Dr Jackie James and Dr Perry Maxwell, among others, chaired excellent scientific sessions, and the work of some of the young scientists in our Centre was rightfully rewarded. Northern Irish pathologists, from within the region and from the Diaspora, enthusiastically supported the meeting. It was, indeed, a great celebration of the first five years of our Molecular Pathology programme, and a great indicator of what the new Centre of Excellence in Molecular Pathology will start offering in months to come.

And as the delegates were going back to their microscopes, their sequencers and their manuscripts, a strong note of advice clearly resonated: let's not wait for so long to meet in Belfast again!

Congratulations to Dr James Sampson who was presented with the Society's Sir Alastair Currie Prize for the best poster



Dr James Sampson

at the meeting for his research entitled 'Morphological Assessment of the Tumour Microenvironment in Oropharyngeal Squamous Cell Carcinomas'. James is a histopathology trainee from Newcastle-Upon-Tyne currently undertaking the QUB Molecular Pathology of Cancer MSc course and is the recipient of a prestigious Cancer Research UK Accelerator Bursary.

Finally, congratulations to Ryan Hagan, a MSci student in the School of Biological Sciences who undertook his research project in NI-MPL on colorectal cancer (CRC) and cancer immunology, and who also received a poster prize for his work on the relevance of ICOS and IDO1 in CRC. Ryan will start a PhD in Translational Molecular Pathology in CCRCB next academic year.

CCRCB SUMMER RESEARCH PROGRAMME 2017

Eighteen students joined the CCRCB Summer Research Programme on Monday 26 June 2017. This year the students came from backgrounds in biomedical science, biochemistry, medicine, dentistry, and natural science. Alongside several QUB students, there were also students taking part from Strathclyde, Trinity College Dublin, Paris (France), University of Catania (Italy) and University of Applied Sciences Krems (Austria).

Once again, the CCRCB PIs offered a range of projects on bioinformatics, medicinal chemistry, blood, breast, prostate, gastrointestinal and genitourinary cancers, radiation biology and bioinformatics. The results from the projects will be displayed in a

poster session on Thursday 17 August in the basement seminar room.

Summer students from CCRCB, CEM and CBSME also enjoyed a social event involving a bus tour of Belfast (including a stop at Stormont), followed by bowling at the SSE arena.

The continued success of the programme relies not only on those PIs who offer projects but also the funding streams from the School of Medicine, Dentistry and Biomedical Sciences, Centre of Dental Education, Centre of Biomedical Science Education, Leukaemia & Lymphoma NI and the Marguerite Dymrna Gullery Studentship.



Students and supervisors taking part in the CCRCB Summer Research Programme

INTERNATIONAL CLINICAL TRIALS DAY



Ruth Boyd, Professor Joe O'Sullivan, Caroline Crothers and Robin Gray (NICRCF)

International Clinical Trials Day is celebrated around the world, on or near 20 May each year, to raise awareness of the importance of clinical trials for advances in research and healthcare. On Friday 19 May 2017, Senior Research Nurse Ruth Boyd, along with members of the NI Cancer Research Consumer Forum and Cancer Research UK, held a clinical trials showcase in the foyer of the Cancer Centre at Belfast City Hospital. Visitors could take part in clinical trial related activities and hear about how local trials are having an impact.

RACE FOR LIFE



PhD student Andrea Lees (second left) speaking at Race for Life

On 28 May 2017 nearly 3,000 women walked, jogged or ran 5k or 10k in Stormont Estate taking part in Cancer Research UK's Race for Life event. A number of scientists and nurses either took part in the event or volunteered, helping to raise over £140,000 to help beat cancer sooner.

Andrea Lees, a PhD student from CCRCB notably took to the stage with the Cool FM crew before the 10k event to thank the participants and share how vital money raised from events like this are to keep funding research.

QUB SHOWCASE



Caroline Crothers with Mihaela Ghita and Pamela Maxwell

CCRCB were invited to take an exhibition stand at the QUB Showcase in Belfast City Hall on 30 May 2017. This event allowed members of the public to interact with Queen's staff and students to gain an insight into the University's research and how it connects with people locally and across the world. Dr Pamela Maxwell and Dr Mihaela Ghita along with Caroline Crothers (Cancer Research UK) represented CCRCB and had interactive activities such as 'identify the cancer cell' and 'see if you're a supertaster', as well as providing information on the research taking place in CCRCB.

CCRCB STUDENT SYMPOSIUM WINNERS 2017



Congratulations to the winners of the CCRCB Student Symposiums, which were held earlier in the year. Pictured are Andrea Lees (1st year), Dr Ian Mills (Associate Director, Postgraduate Studies), James Smith (3rd year), Hajrah Khawaja (2nd year), Arman Javadi (3rd year) and Aideen Campbell (2nd year).

PROSTATE CANCER UK FELLOWSHIP AWARDED

A Queen's University scientist has recently been awarded an early career Fellowship. Dr Chris Armstrong, from the Centre for Cancer Research and Cell Biology, was successful in obtaining the Travelling Prize Fellowship from Prostate Cancer UK. The awarded amount of £293,368 will enable Dr Armstrong to advance his research interest in to mechanisms of radiotherapy resistance in men diagnosed with prostate cancer.

The Travelling Prize Fellowship is a relatively new scheme with Dr Armstrong being only the second recipient of the award. Describing the purpose of the award, Prostate Cancer UK said: "We aim to use this new Fellowship scheme to support the most outstanding researchers at a vital stage in their career. This is the point where the right type of funding could fast-track the development of their own research programme, expand their research horizons and develop scientific independence. This means they will be able to make a difference for men with prostate cancer sooner. These rising stars will also gain vital experience from working with the best researchers in the UK and overseas, sharing knowledge and techniques and generating new collaborations in the fight against prostate cancer."

A crucial component of the Travelling Prize Fellowship scheme is the requirement to spend at least six months in a laboratory separate from the host institution. Dr Armstrong will therefore be travelling to Seattle, where he will become embedded in the internationally-renowned laboratory of Professor Colm Morrissey and Professor Eva Corey at the University of Washington. The team in Seattle have specific world-leading expertise in investigating metastatic disease – an area in which Dr Armstrong intends to apply his existing skill-set in radiation biology.

Dr Armstrong said: "It is an honour to be awarded this Fellowship from Prostate Cancer UK. This award really provides me with the best of both worlds: allowing me to continue to work under the already established Movember Centre of Excellence framework in Belfast whilst learning from the best at studying metastatic disease at the University of Washington. This is a further example of the continued support from Prostate Cancer UK towards the research being conducted at Queen's and can only be of benefit to men fighting prostate cancer in Northern Ireland and the rest of the UK."



Dr Chris Armstrong

PRIZES AND MEASURES OF ESTEEM

Congratulations to **Dr Chris Armstrong** who has been awarded the Prostate Cancer UK Travelling Prize Fellowship for a total of £293,368.

Dr Donna Graham and **Dr Eileen Parkes** have received an ASCO Conquer Cancer Foundation Merit Award. The merit award program recognises high quality abstracts submitted by fellows and residents and encourages their attendance at the ASCO Annual Meeting. Eileen and Donna are only the third and fourth trainees from Northern Ireland to receive Merit Awards.

Dr Eileen Parkes has been awarded the Northern Ireland Medical and Dental Training Agency Excellence in Research Award, which is given for the best published paper from Northern Irish trainees in 2016-2017.

Dr Donna Graham won best oral presentation at the Cancer Research UK International Oesophageal Cancer Symposium, held in Cambridge on 27-28 April 2017.

Congratulations to **Dr Karl Butterworth** and **Dr Stephen McMahon** who received Early Career Investigator Awards, and **Hisa Fukunaga** and **Carla Maiorino** who received Scholar-in-Training Awards to attend the Annual Meeting of the US Radiation Research Society being held in Cancun in October 2017.

Professor Mark Lawler has been appointed to the inaugural Scientific Committee of the European Cancer Patient Coalition, the largest cancer patient organisation in Europe.

Professor Lawler has also been elected to the Board of the European Alliance for Personalised Medicine in Brussels, an organisation which is at the forefront of the integration of personalised medicine into healthcare across Europe.

Dr Kyle Matchett was an invited speaker at the UK Childhood Cancer Conference which was held in London on 9 June 2017.



Dr Maria Tumelty (seated) with Dr Stephen McQuaid, Miss Stephanie Craig and Dr Jackie James

Well done to **Dr Maria Tumelty** who was awarded a research travel bursary from the British Society for Oral Medicine when her research abstract was ranked the highest for the Society's recent annual meeting. Maria has just completed a research placement in the Northern Ireland Molecular Pathology Laboratory as part of her academic F2 training rotation. She undertook her research entitled 'T cell infiltrate in oral dysplasia and progression to oral squamous cell carcinoma' with Dr Jackie James, Dr Stephen McQuaid and Professor Manuel Salto-Tellez.

DONATIONS



Bangor coffee morning raises hundreds for cancer research
 Our thanks go to Louise Reading (pictured with Alice O'Rawe, Development Manager, Health) who handed over a cheque for £921 for bowel and BRCA breast cancer research in CCRCB. The proceeds came from a coffee morning organised and hosted by Louise's neighbour, Valerie Steele.



Donor meets Scholarship recipient
 Several generous Queen's alumni are providing scholarships for students to undertake eight week summer placements and PhDs within CCRCB. Ontario based Dr William Gracey and his wife, Deirdre, both medical alumni of Queen's, are currently providing support for student, Charles Haughey to undertake his PhD in prostate cancer research. Charles' research focuses on seeking to improve outcomes for patients with this cancer through developing models to test novel drugs and radiation therapies. Dr Gracey (pictured with Charles, Professor David Waugh, Dr Suneil Jain and Helen Surgenor) visited CCRCB recently and had the opportunity to meet Charles for the first time to hear about his work.



Hollywood community raises £500 for breast cancer research
 Our thanks go to Albert Martin (pictured with Dr Niamh Buckley), and the Hollywood community who raised £500 for breast cancer research.

The impact of giving to cancer research at Queen's
 More than 40 donors and their friends attended an update evening on cancer research - 'Innovations in Cancer Treatment' - on Wednesday 24 May. The audience heard from Professors David Waugh and Joe O'Sullivan on the impact of giving and gained insights in to some of the most recent research in pancreatic, prostate, breast and ovarian and colorectal cancer research. Philanthropic support for research is vital and very much appreciated. Gifts from our donors allow us to invest in talent and people, training bright young minds and improving the skills of tomorrow's doctors. Feedback from the event was excellent. One attendee said:

'Extremely informative and interesting event. I enjoyed listening to each speaker, amazed at their knowledge and delighted with their enthusiasm. Thank you.'

Pictured at the event are Dr Philip Dunne, Helen Surgenor, Dr Vicky Coyle and Professor David Waugh.



£9,035 raised from fire walk
 Pictured are Helen and Damien McGlone who raised £9,035 from a mass fire walk. More than 50 people walked across broken glass and hot coals to raise funds for lung cancer research at CCRCB. Helen and Damien presented their donation to Dr Gerry Hanna (pictured centre).

RECENT GRANTS AWARDED

Investigator(s)	Sponsor	Title	Amount	Start Date	End Date
Armstrong, Chris	Prostate Cancer UK Fellowship	YKL40 signalling as a mechanism of relapse following radiotherapy in PTEN-deficient prostate cancer	£293,368	01/07/17	30/06/20
Longley, Dan Lawler, Mark Salto-Tellez, Manuel McArt, Darragh Dunne, Philip	HSC R&D office US-Ireland Partnership Programme	Systems Modeling of Tumor Heterogeneity and Therapy Response in Colorectal Cancer	£664,307	01/04/17	31/03/22
McIntosh, Stuart	Association of Breast Surgery	Neoadjuvant systemic therapy in breast cancer (NeST) – a prospective multicentre audit	£10,000	01/08/17	31/07/18
Scott, Christopher Burden, Roberta	Knowledge Transfer Partnership (Fusion Antibodies Ltd)	Development of new human antibody screening strategies	£230,000	01/05/17	30/04/20
Scott, Christopher Burrows, James	Knowledge Transfer Partnership (Causeway Sensors Ltd)	Evaluation of a new surface plasmon resonance technology	£230,000	01/05/17	30/04/20
Waugh, David	Prostate Cancer UK	Targeting Myeloid-Derived Suppressor Cells through CXCR2 inhibition to improve outcome from Castrate-Resistant Prostate Cancer	£547,731	01/06/17	31/05/20

PHOTO GALLERY



Dr Suneil Jain and Dr Darren Mitchell present Dr Brendan Carey with a Lifetime Achievement Award at the 2017 UK and Ireland Prostate Brachytherapy Annual Meeting held in Belfast in May 2017.

150 academics and clinicians from the UK, Canada, Australia and USA attended the meeting to hear the latest updates on prostate cancer research, biomarkers and clinical trials.

Expert presenters included Professor David Waugh and Professor Richard Kennedy from Belfast, Professors Gerard Morton, John Sylvester and Ananth Ravi from North America and Professor Joe Bucci from Australia.



Before



After

Emily Lawler would like to thank everyone who supported 'Emily's Big Chop' to help make wigs for children with cancer and to support the Cancer Fund for Children. Thanks to your generosity over €2,500 was raised for the Cancer Fund for Children, which helps support children with cancer and their families on the island of Ireland.

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PROFESSOR PATRICK "PADDY" G JOHNSTON 1958–2017: A PERSONAL HOMAGE BY PROFESSOR MARK LAWLER

I had known Paddy for nearly 20 years, and it was a privilege to be both a colleague and a friend. Just over five-and-a-half years ago he asked me would I come to Queen's as a Visiting Professor, and work on an initiative that he was just beginning on cancer inequalities across Europe. Not only did he host me in Queen's, he also insisted that I stay with him, Iseult and the boys when I came up for one to two days each week. Inside 18 months, we had achieved what many thought was not possible, a Bill of Rights for cancer patients across Europe. It was one of the proudest days of my life when the Dubliner and the Derry man stood shoulder to shoulder and launched the European Cancer Patient's Bill of Rights on World Cancer Day in the European Parliament in Strasbourg – testament to Paddy's vision of always putting the patient first.



Of his many qualities, the one that I'd like to focus on would be Paddy's ability to interact with people from all walks of life, whether they be royalty - Her Majesty the Queen and Prince Charles spring to mind - or Presidents (e.g. Bill Clinton), gardeners or kitchen staff. Paddy was comfortable in any company. Of the hundreds of calls, emails, texts, and chats I've had with people during the days since his untimely death, such as Nobel Prize winners, presidents of universities, leaders of industry etc, I recall one story which was related to me by my colleague and friend David Waugh, Director of the Centre for Cancer Research and Cell Biology (CCRCB). One of our CCRCB technical colleagues was walking across the Queen's campus a few weeks ago when suddenly Paddy came over

to him, having recognised him from afar. Not only did Paddy address him by name (despite probably not having met him in 3-4 years, or even longer), but Paddy engaged him in conversation for a good period of time. Our colleague could not believe it - here was the Vice Chancellor of the University, a very busy man, and yet he was taking the time to talk to him. And that was Paddy all over - he had time for everyone and everyone was important to him - it formed the basis of his vision for Our University.

My second memory of Paddy, and the quality that he has imbued in all of us who worked with him, was the importance of constantly challenging what we do. Paddy

challenged us (his "so what?" questions were legendary!); he challenged himself and he gave us licence to be disruptive; to not accept the status quo; to be ambitious; to always try things. The many people who have come through under his tutelage and mentorship have embraced those qualities - to be challenging, to be innovative, and not to fear failure. As he said himself in his recent TedX Talk "Embracing failure, and harnessing the power which comes from it, can lead to the kind of success which empowers individuals, and therefore society, to move from competency to excellency."

So let's do just that, and deliver the vision that Paddy dreamed of!

QUEEN'S CANCER EXPERT HIGHLIGHTS THE NEED TO TACKLE INEQUALITIES FOR EUROPE'S CANCER PATIENTS



EUROPEAN
CANCER
PATIENT
COALITION

Professor Mark Lawler, Chair of Translational Cancer Genomics at Queen's University Belfast and Vice President of the European Cancer Concord highlighted the need to address inequalities that cancer patients face every day of their lives. Speaking at the Annual Congress of the European Cancer Patient Coalition, the largest cancer patient organisation in Europe, Professor Lawler presented the results of a recent study on cancer inequalities in Europe which was published as a cancer policy paper as part of

CanCon, the European Union Joint Action in Cancer Control. Professor Lawler is senior author of the policy paper entitled "Tackling Social Inequalities in Cancer Prevention and Control for the European Population."

In his address, Professor Lawler indicated how an equal partnership between cancer patients and healthcare professionals, which led to the launch of the European Cancer Patient's Bill of Rights in the European Parliament in Strasbourg on World Cancer Day 2014, is helping to drive the 70:35

vision, an ambitious effort by the European Cancer Concord to achieve 70% long term survival across Europe for cancer patients by 2035.

Ending his talk, Professor Lawler paid tribute to Professor Patrick (Paddy) Johnston, Vice Chancellor of Queen's University Belfast and founder of CCRCB, whose vision it was to address inequalities for cancer patients across Europe, and assured the audience that Paddy's vision will be realised.

NEW APPOINTMENTS

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

New Staff:

Dr Nicholas Orr
Dr Ian Overton

Research Staff:

Miss Stephanie Craig
Dr Nicholas Forsythe
Dr Peter Gilliland
Dr Matthew Humphries
Miss Anamarija Jurisic
Miss Katrina Lappin
Dr Ian Lobb
Dr Sarah Maguire
Dr Alex McIntyre
Dr Ninu Poulouse
Dr Gholamreza Rafiee
Miss Rebecca Steele
Ms Éilis Sutton
Miss Syed Umbreen

Technical Staff:

Mr Ryan Delaney

Clerical Staff:

Ms Carly Atkinson
Mrs Paula Smyth
Ms Lindsay Smyth
Ms Eda Tarnai-Nagy

Visiting Researchers:

Dr Manisha Maurya
Mr Shane McLaughlin
Dr Roisin Hamilton

EVENTS

3rd World Congress on Controversies in Breast Cancer (CoBrCa) 26-28 October 2017

Tokyo, Japan

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

BioData World Congress 2-3 November 2017

Wellcome Genome Campus Conference Centre, Cambridge

For further information and registration please refer to:
<http://www.terrapinn.com/conference/biodata/index.stm>

NCRI Cancer Conference 5-8 November 2017

BT Convention Centre, Liverpool

For further information and registration please refer to:
<http://conference.ncri.org.uk/>

Irish Radiation Research Society 2017 Scientific Meeting 10-11 November 2017

Environmental Protection Agency Headquarters, Wexford

For further information and registration please refer to:
<http://www.irrs.eu/>

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/>

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



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