



Queen's University
Belfast



Bulletin

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DATE FOR YOUR DIARY! CCRCB OPEN DAY 2016

On Saturday 22 October, CCRCB will be opening its doors to the public once again and showcasing our world-class innovative research. There will be a range of activities from talks to lab tours and activities for the family from 11.00 am – 3.00 pm.

Registration and programme for the day will go live in late August so keep checking our website: www.qub.ac.uk/ccrcb.



NEW APPOINTMENT DAVID GONZÁLEZ DE CASTRO



Professor David González de Castro

Professor David Gonzalez de Castro was appointed as Professor of Genomic Medicine in May 2016. His research is centred around molecular biomarker analysis and developing genomic stratification tools for precision medicine with particular focus on developing biomarker strategies for immunotherapeutics and using circulating biomarkers to better classify and monitor disease.

He is involved in several translational research projects identifying diagnostic, predictive and prognostic molecular biomarkers in haematological and solid tumours. Professor Gonzalez de Castro has been one of the principal investigators on the CRUK stratified medicines programme since 2011,

working in close collaboration with clinicians and pharmaceutical and biotechnology industry.

For the last 12 years he has been the Head of the Molecular Diagnostics department at the Royal Marsden and the Institute of Cancer Research in London, where he has been leading the implementation of genomic medicine-driven clinical trials in multiple cancer types, including leukaemias, soft-tissue sarcomas, gastric, colon, lung, skin, prostate, breast and other tumours.

He joins now CCRCB and the NI-MPL as a Consultant Clinical Scientist, where he aims to further develop genomic stratification protocols to improve patients' outcomes.

IMMEDIATE PAST PRESIDENT OF THE AMERICAN ASSOCIATION FOR CANCER RESEARCH DELIVERS MITCHELL LECTURE

The Mitchell Lecture for 2016 was delivered by Dr Charles Sawyers, Chair of the Human Oncology and Pathogenesis Program at Memorial Sloan Kettering Cancer Center in New York, where he is also an Investigator of the Howard Hughes Medical Institute. Dr Sawyers is a member of the National Academy of Sciences and the Institute of Medicine and immediate past president of the American Association for Cancer Research. He was recently appointed to the US National Cancer Advisory Board by President Obama and is also a key figure in the Cancer Moonshot initiative of US Vice President Joe Biden.

Dr Sawyer's work with Dr Brian Druker (University of Oregon) led to the development of the ABL kinase inhibitor imatinib mesylate (Gleevec) which has been practice changing in the treatment of Chronic Myeloid Leukaemia (CML) and became the poster child for the personalised medicine revolution. Dr Sawyers shared the 2009 Lasker-DeBakey Clinical Medical Research Award for this work and for the development of the second generation BCR-ABL inhibitor dasatinib, which was designed to overcome imatinib resistance and is now routinely used to combat resistance in CML treatment.

Not content with having a breakthrough in the treatment of one cancer, Dr Sawyers then switched his attention to prostate cancer and co-discovered the anti-androgen drug enzalutamide, which



Professor David Waugh, Centre Director, CCRCB, Professor Charles Sawyers, Mitchell Lecturer and Professor Mark Lawler, Chair in Translational Cancer Genomics, CCRCB

has significantly advanced the treatment of prostate cancer. He continues to work actively in prostate cancer and is Co-Lead of the Stand Up to Cancer-Prostate Cancer Foundation Dream Team.

Dr Sawyers has a Queen's connection as he co-chairs the Cancer Task Team of the Global Alliance for Genomics and Health with Professor Mark Lawler (CCRCB), and they have published together recently in the high impact journals *Cancer Discovery* and *Nature Medicine* on how effective but responsible data sharing can enhance cancer research efforts and impact positively in patient care.

Dr Sawyers gave a superb lecture on 'Genetic and Epigenetic Mechanisms of Cancer Drug Resistance' to a packed audience in the South Lecture Theatre in the MBC, highlighting how his work has translated from bench science to clinical application. In addition to his Mitchell Lecture, Dr Sawyers also met with many of the Principal Investigators in CCRCB and was the special guest in a Postdoctoral Research Fellow Round Table Q&A Session moderated by Professor Lawler, where his insights on his career progression and his advice on career development were greatly appreciated by the attending postdoctoral research fellows.

UKONS EVENT

On 26 April 2016, UK Oncology Nursing Specialists (UKONS) and Cancer Research UK held a special event for nurses to find out how research in Northern Ireland has a global impact, and how the Stratified Medicine Consortium is going to personalize bowel cancer treatment by matching patients to the most effective therapies. Over 30 nurses heard from Professor Mark Lawler on current developments in lab research and the work of S-CORT, the Stratified Medicine Programme, and from Dr Lisa Jeffers from the Northern Ireland Regional Genetics Service on 'The Impact of Cancer Research on my Nursing Practice.' They also received tours of the labs in CCRCB.



Delegates at the UKONS event in CCRCB on 26 April

CCRCB RESEARCHERS LEAD THE WAY IN CUTTING-EDGE RESEARCH

CCRCB scientists will play a key role in groundbreaking research into the final stages of cancer. Researchers from the Belfast Cancer Research UK Centre will be collaborating with scientists across the UK, following the announcement of the charity's Centres Network Accelerator Awards.

Designed to inspire new approaches to beating cancer, the awards will invest around £4 million, over five years, in a UK-wide initiative to expand the first national post-mortem cancer study. The research aims to understand how cancer changes and evolves in advanced stages of the disease to help develop better treatments for cancer that has spread.

Researchers in Belfast will join forces with scientists from Leicester, Cambridge, Glasgow, Manchester and London to roll out the study collecting blood and tissue samples from patients who have died from cancer. This work will be vital for understanding the evolution and final stages of the disease and the genetics of certain tumours that are hard for doctors

to take samples from when patients are alive, like brain tumours.

Scientists will be able to study how tumours develop and spread in advanced cancer, how and why tumours become resistant to treatment and how the body reacts to the disease during the final stages, as well as looking at potential ways to boost the immune system to fight cancer.

Professor Manuel Salto-Tellez is the lead researcher at the Cancer Research UK Centre. He said: "We're delighted to be a part of this grant from Cancer Research UK. It will help to further our understanding of cancer and give patients the choice to contribute to research after their death. The vital investment in this study will help us complete the whole cancer picture – from diagnosis to end of life – which we need to understand how the disease changes and evolves over time. It's these changes which make the cancer difficult to treat because it can stop responding to treatment. We are so incredibly thankful to the patients who

have agreed to take part. With their help we can do research that will help more people survive this devastating disease."

Cancer Research UK's Centres Network Accelerator Awards will invest a total of around £16 million in four ground-breaking projects - including the post-mortem cancer study - which are helping to speed up advances in research into hard to treat cancers.

Dr Iain Foulkes, executive director for research funding at Cancer Research UK, said: "Effective partnerships are crucial for delivering the greatest science and boosting advancements in fighting cancer. We're excited to be investing in collaborative and innovative research in Belfast and across the UK. It's by working together and uniting expertise that we will accelerate cutting-edge research and save more lives."

The post-mortem cancer study is not yet open for patients across the UK. For more information about Cancer Research UK visit www.cruk.org.

CANCER RESEARCH WORKSHOP FOR YEAR 9 PUPILS

The CCRCB welcomed more than 90 pupils and teachers from the Magherafelt Schools Partnership to a Cancer Research Workshop on Monday 13 June 2016. The Year 9 pupils learned about Cancer Biology and created models of DNA from Jelly Babies before extracting DNA from strawberries. The event is a Research Council UK funded project "Inspiring Lives-Creating Futures" to QUB led by Professor Karen McCloskey in CCRCB. The CCRCB team included Dr Chris Armstrong, Dr Caitriona Holohan, Dr Joanna Majkut, Dr Pamela Maxwell, Dr William Andrews, Dr Folake Orafidiya, Dr Kelly Redmond and Mrs Patricia McLean from the Centre for Biomedical Sciences Education. The workshop ended with an interactive quiz and pupils provided positive feedback on their experience.

"I loved this activity. Thank you all so much and I hope to come to QUB in the future."

"Excellent experiments to show about cancer research."

"I had loads of fun and found the experience really interesting. Thankyou!"



Professor Karen McCloskey with two pupils who attended the cancer research workshop

BIG DATA SAVES LIVES, SAYS QUEEN'S UNIVERSITY CANCER EXPERT

The sharing of genetic information from millions of cancer patients around the world could be key to revolutionising cancer prevention and care, according to a leading cancer expert from Queen's University Belfast.

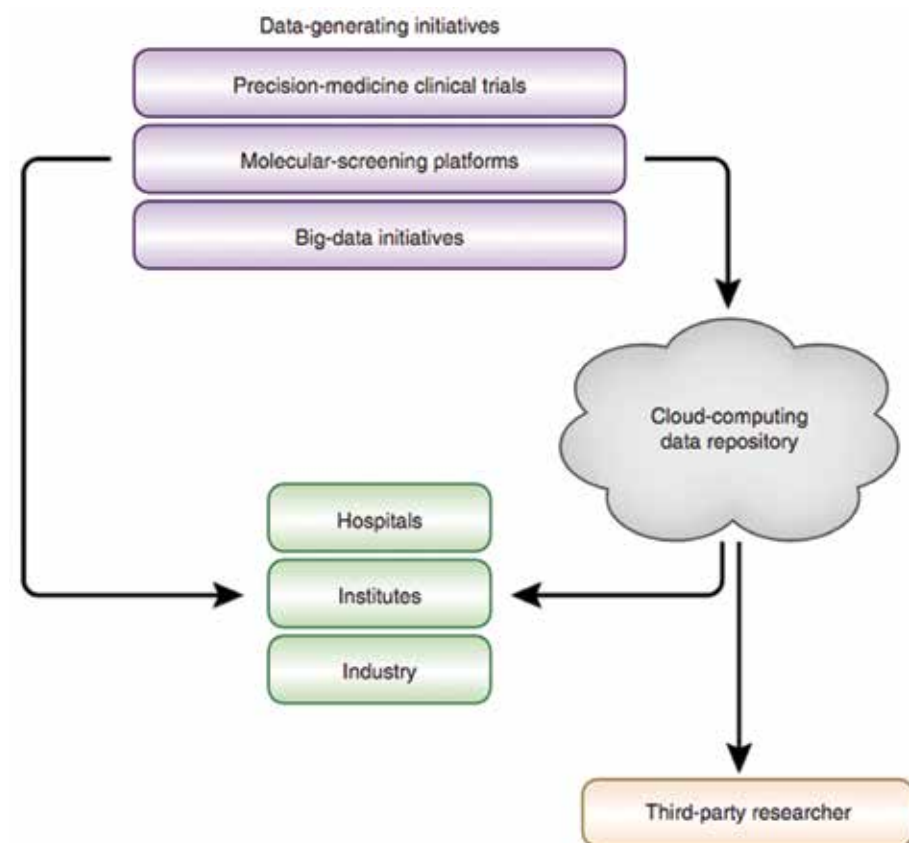
Professor Mark Lawler is corresponding author of a paper published in the prestigious international journal *Nature Medicine*, highlighting the potential of 'big data' to unlock the secrets inside cancer cells and enable the development of more effective personalised treatments.

Professor Lawler is Co-Chair of the Cancer Task Team of the Global Alliance for Genomics and Health (GA4GH), which was established in 2013 to create a common framework for the responsible, voluntary and secure sharing of patients' clinical and genomic data. GA4GH is a partnership between scientists, clinicians, patients and the IT and Life Sciences industries involving over 400 organisations in over 40 countries, and has published this paper as a blueprint to enable the sharing of patient data to improve patient outcomes.

Professor Lawler said: "The term 'big data' refers to huge amounts of information that can be analysed by high-performance computers to reveal patterns, trends and associations. In medical terms, this includes clinical and genomic data that is derived from patients during, for example, diagnostic testing and treatment."

"With the development of new technologies that have enabled the rapid and affordable profiling of cancer tumours, there has been an explosion of clinical and genomic data," said Professor Lillian Siu, Princess Margaret Cancer Centre and the University of Toronto, who is joint lead author with Professor Lawler on this study. "Hospitals, laboratories and research facilities around the world hold huge amounts of this data from cancer patients. But this information is currently held in isolated 'silos' that don't talk to each other. It is this lack of information sharing that threatens the advancement of tailored patient care," she added.

According to Professor Lawler: "Cancer is an incredibly complex disease, and it is constantly changing. Each person's cancer



is different. The key to staying ahead in the fight against cancer is to properly understand how the disease evolves. We need to look at the big picture and identify patterns between groups of patients, whose information currently resides in different databases and institutions. To do this, we must break down the 'data silos' that Lillian referred to and ensure that genetic and clinical information is shared."

"The aim is to create a type of 'cancer genomic internet'. Imagine if we could create a searchable cancer database that allowed doctors to match patients from different parts of the world with suitable clinical trials. This genetic matchmaking approach would allow us to develop personalised treatments for each individual's cancer, precisely targeting

rogue cells and improving outcomes for patients."

"This data sharing presents logistical, technical and ethical challenges. Our paper highlights these challenges and proposes potential solutions to allow the sharing of data in a timely, responsible and effective manner. We hope this blueprint will be adopted by researchers around the world and enable a unified global approach to unlocking the value of data for enhanced patient care."

The paper, entitled 'Facilitating a culture of responsible and effective sharing of cancer genome data' is published in *Nature Medicine*, Volume 22, Number 5, May 2016.

A-SAIL SAILS INTO THE FUTURE!

A-SAIL is an EPSRC funded programme dedicated to the development of laser-based acceleration of ions, aimed to progress towards all-optical delivery of ion beams at energies above the threshold for deep-seated tumour diagnosis and treatment. The project led by Professor Marco Borghesi from the Centre of Plasma Physics is a multi-centre cross-faculty collaboration with Professor Kevin Prise from the Centre for Cancer Research & Cell Biology involving partners from Imperial College London, the University of Strathclyde and the Rutherford-Appleton Laboratory.

The independent panel reviewing A-SAIL's progress mid-way through the project has given the team their top rating.

The Mid-Term Review – a standard part of the EPSRC funding process – took place in Belfast in May. Members of the A-SAIL Advisory Board were joined by a number of leading scientists with wide expertise to examine what the project has achieved so far and plans for the next phase.

The panel were particularly impressed by the "vision and ambition of this programme which is at the highest level", combining areas of fundamental physics of laser interactions with matter and work "towards a clear goal of ion beam cancer therapy."



The A-SAIL Mid-Term review panel and team members at Riddel Hall

"The quality of research" the report notes, is "evidenced clearly by the scientific and technical innovations born from this programme (some examples being laser-driven coil post-accelerator/booster, plasma optic devices and cryogenic targetry)."

A-SAIL, the report goes on, "is a much needed catalyst for organizing/crystallizing progress toward laser-driven ion beam radiotherapy."

Praising the team of world-leading researchers involved in the project, the panel report concludes by awarding an overall score of six – the highest rating available to them.

Professor Marco Borghesi, project PI, welcomed the "very positive outcome" and passed on his thanks to the members of the team for their great contributions. For more information about A-SAIL visit <http://www.qub.ac.uk/A-SAIL>.

INTERNATIONAL CLINICAL TRIALS DAY 20 MAY 2016

International Clinical Trials Day is on 20 May each year; the event celebrates the vital role clinical trials play in bringing research out of the lab and into the lives of people facing cancer today, and the clinical trials participants who are changing the future for millions of people.

NI Cancer Centre staff along with Cancer Research UK, the NI Cancer Trials Network and patient representatives from the NI Cancer Research Consumer Forum held a roadshow in the Cancer Centre, promoting clinical trials and raising awareness of the 'OK to Ask' Campaign.



Raising awareness of cancer clinical trials on International Clinical Trials Day

DIRECTOR OF EUROPE'S LARGEST PUBLIC-PRIVATE RESEARCH PARTNERSHIP VISITS CCRCB



Dr Pierre Meulien

Dr Pierre Meulien, the Executive Director of the Innovative Medicines Initiative (IMI), a €5 billion public-private partnership between the European Union and the European pharmaceutical industry gave a lecture in CCRCB during his recent visit to Queen's.

"IMI is a unique partnership between the European Union and industry. We are working together to improve and accelerate the entire medicines

development process by facilitating collaboration between the key players involved in health research, including universities, pharmaceutical and other companies, patient organisations, and medicines regulators," said Dr Meulien. "Programmes such as the €50 million Inhaled Antibiotics in Bronchiectasis and Cystic Fibrosis Programme, recently funded by IMI and led here in Belfast by Professor Stuart Elborn, Dean of Medicine, Dentistry and Biomedical Sciences, Queen's University Belfast, highlight the excellence of the science here at Queen's and its potential for translation into new drugs that will improve patient lives." Dr Meulien indicated during his talk that he is also very keen on developing similar large scale projects in cancer.

In an event hosted by the Faculty of Medicine, Health and Life Sciences (FMHLS), Queen's University Belfast, Dr Meulien met with key leaders in academia, the biotech and pharmaceutical industry, research policy makers and research funders. "It is extremely important to have influential European leaders like Dr Meulien coming to Queen's. It emphasises the quality of our research and the scale of our ambition to achieve global impact," said Professor Chris Elliott, Pro-Vice-Chancellor for the Faculty of Medicine, Health and Life Sciences at Queen's.

"Dr Meulien's visit is very timely, coming as it does when we as a society are considering our relationship with the European Union (EU)," said Professor Mark Lawler, Chair in Translational Cancer Genomics CCRCB, who recently authored a paper on the benefits of the EU for cancer patients and cancer researchers in the leading cancer journal *Lancet Oncology*. "Collaborative programmes between academia and industry such as those supported by IMI are game changers, providing a scale of funding and combined expertise that can lead to better treatments for patients."

"From an industry perspective, Dr Meulien's visit is extremely important. It is critical for both patients and the local economy that a vibrant academia-industry interaction underpins better patient care and the enhancement of the biopharmaceutical and diagnostics sectors in Northern Ireland, said Colette Goldrick, Director of The Association of the British Pharmaceutical Industry (APBI), Northern Ireland and NHS Partnerships.

Read more about Pierre Meulien and the role of IMI Executive Director: <http://www.imi.europa.eu/content/executive-director>.

MOONLIT MOURNE WALK FOR LLNI

The fourth annual Moonlit Mourné Walk up Slieve Donard, the highest peak in Northern Ireland, took place on Saturday 11 June 2016 with some local hiking enthusiasts, willing amateurs and even terrain-fearing newbies taking part.

The hike with a difference started at dusk, reaching the summit in time for stunning sunset views along the east coast of Ireland, before the torch-lit trek back down the mountain in the dark. Despite a day of thunder and lightning, the evening was dry and clear, ensuring some spectacular views for those taking part.



JUNIOR CURIOS AND EINSTEINS SHOWCASE THEIR RESEARCH AT CCRCB



Diana Bura from Loreto Secondary School in Balbriggan Co Dublin and James Gallagher from Rathmore Grammar School Belfast with Professor Mark Lawler during their visit to CCRCB

On 16 March CCRCB hosted a number of the winners from the BT Young Scientist and Technology Exhibition that took place in Dublin earlier this year. The students showcased their research to scientists at the Centre for Cancer Research and Cell Biology (CCRCB) and the Institute of Global Food Security (IGFS) at Queen's, in an event that was held in collaboration with Cancer Research UK (CRUK).

"Having met these students in Dublin and seen first-hand the superb quality of their work, I am delighted that we are hosting this event in Queen's. And given the recent award in Stockholm to Derry-born scientist William Campbell for his pioneering work on river blindness, who knows – we could be hosting a future Nobel prize winner," said Professor Mark Lawler, Dean of Education, Faculty of Medicine, Health and Life Sciences and Chair in Translational Cancer Genomics in CCRCB.

Research that was presented included the overall winning project by Maria Louise Fufezan and Diana Bura from

Loreto Secondary School in Balbriggan Co Dublin, which looked at how animal feed additives can affect the life cycle of a type of worm that is very important to the soil ecosystem. "This research could have very important implications for both the environment and for the food industry", said Professor Chris Elliot, Pro Vice Chancellor of the Faculty of Medicine, Health and Life Sciences and founder of the world renowned Institute for Global Food Security at Queen's. "Hosting these students not only allows them to see the exciting ground breaking research with global impact that is taking place here at Queen's, but also allows us to learn from the fascinating research that these young future leaders are performing while still in school," he added.

A second project from the same school by Renuka Chintapalli is using a combination of "big data" analysis and laboratory research to identify genes which may be implicated in aggressive forms of oesophageal cancer, while Khadija Gull and Emily Tierney are looking

to identify new targets for treatment in pancreatic cancer. "The high number of female students who won prizes at this year's event is testament to the growing influence of women in science," said Professor Karen McCloskey, Deputy Director CCRCB and Director Gender Equality Office for the School of Medicine, Dentistry and Biomedical Sciences. "We look forward to them becoming future leaders in global research," she added.

And in a project called "Dry Your Eyes" (that could have implications for aspiring chefs everywhere!), Mark Conlon and James Gallagher from Rathmore Grammar School Belfast have come up with a novel solution (literally) to the problem of chopping onions! "These projects and the rest of the research that was presented today highlighted the creativity and research innovation that is being produced by young people today on the island of Ireland and bodes well for our (scientific) future," said CCRCB Director Professor David Waugh.

CANCER RESEARCH UK PUBLIC AFFAIRS EVENT



Daithí McKay MLA, Professor Mark Lawler, Michelle O'Neil MLA and Minister of Health, Gregor McNie CRUK, Paula Bradshaw MLA and Paula Bradley MLA and Chair of the Health Committee

Cancer Research UK held its first public affairs event of the new Assembly term on Monday 20 June 2016. MLAs from all parties attended, along with health department officials, Health Trust and cancer centre senior managers and representatives of other charities.

CRUK's Director of Science and Policy Communications, Dr Alison Cook outlined

key findings from our report *Where Next for Cancer Services in Northern Ireland? An Evaluation of Priorities to Improve Patient Care*.

The key recommendation from the report is that Northern Ireland should develop a comprehensive cancer strategy which sets ambitious goals and allocates sufficient resource to ensure cancer services can

improve outcomes, meet rising demand and reduce variation in care.

The Minister for Health, Michelle O'Neill MLA, also spoke and outlined her commitment to cancer services and to working closely with Cancer Research UK as she carefully considers the issues around the development of a new cancer strategy.

In addition to hearing about the issues arising from the cancer services report, attendees also took time to visit two research stands which were manned by staff from the CCRCB. At the breast cancer/molecular pathology stand Drs Perry Maxwell, Abdullah Alvi and Niamh Buckley demonstrated the taking of a biopsy and then discussed the various tests that are carried out on the sample to determine the best treatment for patients.

Professor Mark Lawler and Dr Philip Dunne manned the bowel cancer stand, which featured information on the S:CORT trial. Visitors could also look at tumour samples under the microscope. The stand also had information about the bowel cancer screening programme, including details about the new test (called FIT) which is recommended by the UK National Screening Committee, vs the test currently used in NI (called FOBT).

QUEEN'S PROFESSOR ADDRESSES ALL PARTY GROUP ON CANCER

Professor Mark Lawler (CCRCB) addressed the first meeting of the All Party Group on Cancer (APG) at Stormont on 14 June 2016 following the recent Assembly elections. He emphasised the value of the research enabled approach that has led to improvements in survival for cancer patients in Northern Ireland over the last 20 years and highlighted the role that CCRCB has played, as recently articulated in a paper published by CCRCB researchers in the international journal *Cancer*, the *Journal of the American Cancer Society*. However, he warned that we should not be complacent and that it is critical that a new Cancer Strategy (which includes research as a core of its activities) is developed and implemented for Northern Ireland. Jo-Anne Dobson, the newly elected Chair of the APG indicated her resolve to invigorate the activities of the group and expressed a wish to bring the APG to CCRCB to see the research first hand in the near future.



Professor Mark Lawler (CCRCB) with Paula Bradshaw, MLA (New Secretary: All Party Group on Cancer); Jo - Anne Dobson, MLA (New Chair: All Party Group on Cancer), Tom Buchanan, MLA (New Vice Chair: All Party Group on Cancer); Roisin Foster (CEO, Cancer Focus Northern Ireland)

CCRCB SUMMER RESEARCH PROGRAMME 2016



CCRCB and CEM's 2016 summer research students

The 2016 cohort of 19 summer students started in the CCRCB on Monday 20 June. The students, studying biomedical science, biochemistry, medicine, dentistry, stratified medicine, computer sciences, philosophy and natural science, are studying at QUB, Ulster, St Andrews, Trinity College Dublin, Missouri State University and IMC University of Applied Sciences Krems, Austria.

The CCRCB Summer Research Programme began with a welcome from Professor Karen McCloskey, Deputy Director,

followed by the requisite health and safety briefing before the students met with their supervisors and research teams.

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 11 August in the basement seminar room.

This year, the CCRCB summer students joined with those from CEM for a social event involving a bus tour of Belfast (including a stop at Stormont), followed by bowling at the SSE arena.

The success of the programme relies on a range of funding streams and the support of the School of Medicine, Dentistry and Biomedical Sciences, Centre of Dental Education, Centre of Biomedical Science Education, Queen's Foundation and Leukaemia & Lymphoma NI must be recognised.

A SHOWCASE OF RESEARCH IN BREAST AND OVARIAN CANCER IN NI

The NI Cancer Research Consumer Forum (NICRCF) hosted a very successful Public Information Evening on 13 April 2016. The event, designed to showcase what's new in breast and ovarian cancer research in NI, was held in CCRCB. The fascinating presentations demonstrated the focus and significant development in research at present. Clinician, nurse and patient perspectives provided an important range of information covering advances in our understanding of cancer and its treatment, as well as some of the services, support and personal experiences involved. Information stands during the refreshment break, from the NICRCF, NI Cancer Trials Network, Macmillan Information and Support

Centre, Cancer Research UK, Friends of the Cancer Centre, BRCA Link NI, Cancer Lifeline and Target Ovarian Cancer, also added to the breadth of information resources available to the public.

Margaret Grayson, chairperson of the NICRCF, ably guided the packed seminar room of around 90 attendees through the evening's programme. The event was very positively evaluated and the NICRCF wish to thank speakers, staff and the public for their contribution to a very successful event. Further information about the speakers and presentations are available at <http://www.qub.ac.uk/research-centres/nictc/News/>.



Members of the NICRCF and speakers joined forces to raise public awareness of developments in breast and ovarian cancer research

LEUKAEMIA & LYMPHOMA NI SUPPORTING BLOOD CANCER RESEARCH IN CCRCB



Dr Kyle Matchett



Dr Laura Kettle



Leukaemia & Lymphoma NI operate with the main objective of improving survival rates for these diseases by supporting the scientists and students researching blood cancers 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.

In celebration of the charity's 50th anniversary in 2014, a Golden Anniversary package of £1.5 million pounds was invested over 3 years to enable the researchers and clinicians at Queen's University Belfast to continue and expand their internationally recognised research. As a result of the exciting developments in research, the charity has committed, so far in 2016, almost £ ¼ million additional funding to the research group in CCRCB.

The additional funding awarded this month includes a 12 month extension for two research scientists to drive the research project forward and to create a new PhD Studentship starting in October 2016.

Mr Bill Pollock, Chairman of Leukaemia & Lymphoma NI, said: "It has been very

encouraging to see the projects supported by the charity develop such promising prospects, our aim has always been to see the research we support make a difference to the lives of patients and we are making real progress."

Research Scientists Dr Laura Kettle and Dr Kyle Matchett have both been exploring different avenues of repurposing drugs which are already on the market to treat illnesses such as heart disease or diabetes, to target cancerous blood cells. Repurposing drugs in other medical fields has shown to be successful in the past; for example Aspirin, originally developed for inflammation and pain relief, is also a very effective anti-clotting agent.

Using repurposed drugs has many advantages; they are easily accessible, cheaper and already clinically approved by the government. It means we also avoid the huge implications in creating a new drug which can take up to 20 years with the average cost thought to be around £2 billion.

One project involved screening 760 FDA approved drugs for their effects on acute leukaemia. Screening is a long and arduous process testing multiple concentrations over different periods of

time on different leukaemia cells. Positive results were shown from 38 of the 760 drugs tested and they are being further investigated by our researchers. A drug of particular interest is currently used to treat patients with parasitic worm infections, more promising that it has been used on patients of all ages without harsh side effects, as drug toxicity in cancer treatments is notoriously high.

Dr Kyle Matchett, Scientist with the charity said: "I'm very grateful that the charity is able to continue supporting this exciting project for another 12 months. There are currently no other studies testing this drug with blood cancers making this project particularly interesting."

Dr Matchett will be speaking at a number of national and international meetings this year to present his findings. You can keep updated on all projects by looking at our research blog on our website; www.leukaemiaandlymphoma.org/blog.

PHOTO GALLERY



Clinical Research Fellow Dr Suzanne McPherson (back row, centre), a trainee member of the Northern Ireland Regional Pathology Council, attended a launch of their manifesto 'Pathology and the NHS five year forward view' in Stormont on 8 March 2016.



Lord Peter Mandelson former Secretary of State for Northern Ireland and former European Commissioner for Trade, in conversation with CCRCB Researchers during his recent visit to Queen's.



A "bird's eye view" of Professor Mark Lawler (CCRCB) hosting a Round Table in association with his presentation at the World Precision Medicine Congress in London recently.

RACE FOR LIFE

On Sunday 29 May 2016 over 4,000 women took part in Cancer Research UK's annual Race for Life event at Stormont in Belfast including CCRCB researcher Vicky Bingham. Almost £300k was raised from this event helping to beat cancer sooner.



PRIZES AND MEASURES OF ESTEEM

Congratulations to the winners of the CCRCB Postgraduate Student Symposiums which took place during the Spring Semester. Pictured with Professor Mark Lawler are **Luke Humphreys** (second year), **Jekaterina Vohhodina** (third year), **Lauren Cairns** (first year) and **Rebecca Steele** (second year).



Congratulations to **Dan Longley** who has been promoted to the position of Professor.

Dr Eileen Parkes has been selected for the AACR Associate Member Council-led communications committee, which is composed of members from the top research institutes in the US.

Dr Pankaj Chaudhary has received a Scholar-in-Training award to present his work at the Annual Meeting of the US Radiation Research Society being held in Hawaii in October.

Dr Kyle Matchett was awarded a poster prize at the 36th World Congress of International Society of Hematology, hosted by the British Society of Haematology in April. **Dr Laura Kettle** also won Best Presentation in the Best Abstract Session.

HAEMATURIA BIOMARKER STUDY

The Haematuria Biomarker (HaBio) Study is a three-way collaborative project between Queen's University Belfast, Northern Ireland Health Trusts and Randox Laboratories Ltd. The aim of HaBio is to identify collectives of protein biomarkers that can act as diagnostic classifiers for patients with haematuria.



The HaBio Team had a lunch on 28 June 2016 to celebrate the successful recruitment of 676 patients to the HaBio study (<http://www.qub.ac.uk/sites/habio/>). The lunch was attended by current and past clinical research nurses and technicians, representatives from the Northern Ireland Cancer Trials Unit and the Northern Ireland Cancer Research Facility, Mr Ed Goodall (Patient representative), Mr Brian Duggan (Chief Clinician, HaBio) and Dr Kate Williamson (Chief Investigator, HaBio).

Front row L-R Gail Carson, Roisin Martin, Leanne McCourt, Emily McCullough, Laura Maxwell, Karen Young. Back row L-R Eileen Dillon, Rebecca Gallagher, Karen Parsons, Julie Hunter, Catherine Jamison, Brian Duggan, Chris Wise, Leanne McIlreavey, Kate Williamson, Ed Goodall. Missing from photo is Ruth Boyd (Cancer Research UK Senior Nurse)

DONATIONS



Congratulations to **Karen Martin** and **Gwyneth Hinds** who raised over £4,000 for CCRCB, by walking over two days the 53 miles along the course of the River Lagan from its source on Slieve Croob to where it reaches the sea at Belfast's Titanic Quarter. Karen and Gwyneth are members of the Lagan Dragons, a dragon boat team for those affected by breast cancer. They have been walking together for the past year and aim to walk 1,000 miles in 2016.



Thank you to **Lynsey Patterson** and her family for raising more than £5,000 for The Queen's Foundation to support prostate cancer research. Lynsey ran the Belfast City Marathon in aid of CCRCB to thank Dr Suneil Jain and his team for the treatment her father received and to raise funds for the ongoing research to develop innovative treatments for patients. Thank you to Peter Scott who also ran the Belfast Marathon and raised £1,146 for prostate cancer research.



The **Holstein Society NI** held their Open Day in Armagh in April, with all proceeds going to support BRCA breast cancer research in CCRCB. The event was hosted by **Ivor and Cecelia Broomfield**. Cecelia lost her sister Carol to breast cancer two years ago. The highlight of the day was the auction of a pedigree calf, named after Carol, from the Broomfield's own herd. The event raised more than £10,000 for the research.



Dr Kienan Savage was recently presented with a donation of £900 by **Mr Charlie McKenna** from Pomeroy, Co Tyrone. The donation, which will be used for breast cancer research in CCRCB, was raised by friends and family who gave money in lieu of gifts for Charlie's 90th birthday.

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.

RECENT GRANTS AWARDED

Investigator(s)	Sponsor	Title	Amount	Start Date	End Date
Butterworth, Karl	GW Research Ltd	Further investigation of radiobiological efficacy of cannabinal	£25,440	09/05/16	08/08/16
Hale, Karl	Leverhulme Trust	Towards a New Total Synthesis of (+)-Acutiphycin Via O-Directed Hydrostannation	£245,468	04/01/16	03/01/18
Lawler, Mark	CRUK	PhD Studentship	£140,985	01/10/16	30/09/20
McIntosh, Stuart	Association of Breast Surgery and Genesis UK Screening	Early Diagnosis & Prevention Research Grant: An exploratory study of breast cancer initiating events in BRCA1 mutation carriers.	£5,891	01/08/16	31/07/17
Mills, Ian	Norwegian Research Council	Impacts of glycosylation and mitochondrial mutations on prostate cancer cells	£574,955	27/04/16	31/12/18
Mills, Ken	Leukaemia & Lymphoma NI	Research Grant (2017)	£115,764	01/01/17	31/12/17
Mills, Ken Savage, Kienan	Leukaemia & Lymphoma NI	PhD Studentship (2017-2019)	£93,151	01/10/16	03/09/19
Mullan, Paul	HSC R&D	Clinical Research Fellowship – Dr L Feeney	£203,703	19/09/16	18/09/19
Turkington, Richard	Horizon 2020 Marie Skłodowska Curie Innovative Training Network	TRACT - Training and Cancer Mechanisms and Therapeutics	€576,546	01/04/17	31/03/21
Waugh, David	CRUK	Core Infrastructure Grant	£525,312	01/04/16	31/03/17
Wilson, Richard	CRUK	Clinical Research Fellowship	£266,500	01/10/16	30/09/19

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NEW APPOINTMENTS

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

Research Staff:

- Dr Caroline Coffey
- Dr Greti Espona Fiedler
- Dr Jaime Antonio Oliver Esteve
- Dr Chee Wee Ong
- Dr Alaa Refaat

Technical Staff:

- Dr Malgorzata Bill

Clerical Staff:

- Ms Claire Gilmore
- Ms Nicola McClurg

Visiting Researchers:

- Ms Lekha Pezhumkattil
- Mr Binaya Regmi
- Dr Qing Wen

CCRCB EVENTS

CRUK Centre Lecture 2016
13 October 2016

Professor Ruth Plummer
Northern Institute for Cancer Research
University of Newcastle Upon Tyne

CCRCB Open Day 2016
22 October 2016

11.00am – 3.00pm
For further information please refer to:
www.qub.ac.uk/ccrcb

EVENTS

NCRI Cancer Conference
6-9 November 2016

BT Convention Centre, Liverpool
For further information and registration please refer to:
<http://conference.ncri.org.uk/>

Irish Radiation Research Society 2016 Scientific Meeting
11-12 November 2016

Trinity Centre for Health Sciences, Trinity College Dublin
For further information and registration please refer to:
<http://www.irrs.eu/>



MEET THE NEW OPERATIONAL MANAGER OF THE NORTHERN IRELAND BIOBANK: DR CLAIRE LEWIS

The Northern Ireland Biobank (NIB) have appointed Dr Claire Lewis as their new Operational Manager. Claire will be responsible for the day to day operational activity of the NIB to ensure effective and efficient banking of high quality samples and data for use in clinical translational research.

Claire will establish networks within clinical areas to facilitate regional expansion of the NIB and will lead the NIB's involvement in national and international forums and networks to enhance integrated biobanking practices, particularly for the development and assessment of quality assurance procedures. Part of her remit will also be to raise the public profile of the NIB working with the existing NIB team to deliver a robust PPI engagement programme.

Claire joins the NIB from her post as lecturer in the School of Nursing and Midwifery, QUB. Prior to that she worked as a clinical research nurse for the NIB.

She can be contacted on claire.lewis@qub.ac.uk or 028 9097 2804.

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