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CCRCB
Centre for
Cancer Research
& Cell Biology

Bulletin

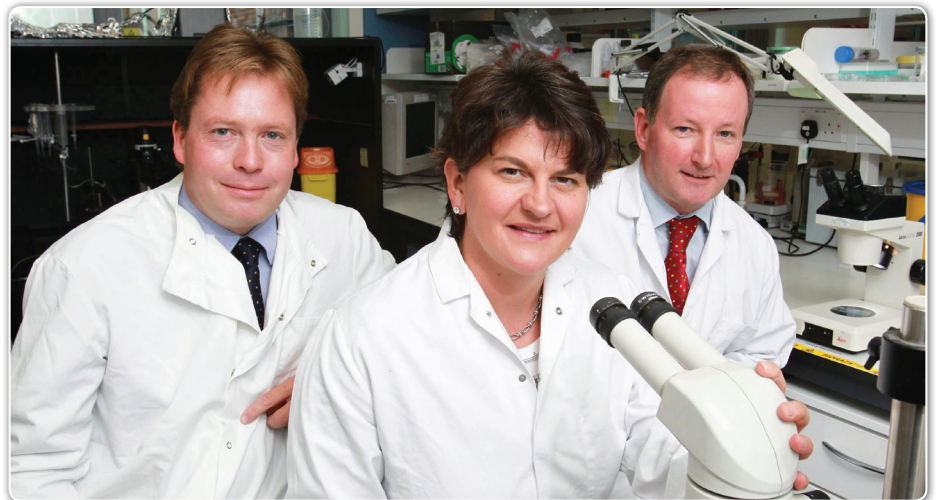
December
2011
Issue 22



Almac-Queen's Cancer Expert to Lead £4.4m Collaboration

An investment of £4.4m in a unique academic-business collaboration between Almac and Queen's University will help develop better tests for diagnosing and treating prostate, ovarian and breast cancer. The research initiative, based at the CCRCB, will be led by Professor Richard Kennedy, the newly appointed Visiting McClay Chair of Experimental Cancer Medicine at Queen's University, a joint appointment with Almac. Invest Northern Ireland and The McClay Foundation are partnering to fund the lab facilities and staff costs. Invest NI has offered the Almac Group and Queen's £1.5m of support towards the collaboration, which includes part funding from the European Regional Development Fund (ERDF).

Professor Kennedy said the project was an excellent example of how business and academia could work together in the fight against cancer. He explained: "The research will involve using cutting-edge technology developed by Almac which will allow us to analyse large numbers of patient tumours collected by Queen's. We will develop these tests to help clinicians to better understand prostate, ovarian and breast cancer and prescribe the



L-R: Professor Richard Kennedy, Visiting McClay Professor, pictured with Enterprise Minister Arlene Foster and Professor Patrick Johnston, Dean, School of Medicine, Dentistry and Biomedical Sciences at Queen's

appropriate treatments tailored to the specific patient. We hope this will then improve the chances of cure using chemotherapy and radiotherapy. Queen's and Almac will also use this information to design new therapies that could improve the chances of response and cure for these cancers in the future. More effective treatments will be good news for patients and also for reducing the pressure on the overburdened healthcare system."

Enterprise Minister Arlene Foster said: "Almac is globally respected for its commitment to innovation and this collaboration project will build upon a successful and longstanding research relationship between the company and Queen's University. Such academic and industrial linkages are vital to the growth of our economy as they strengthen our knowledge base and enhance Northern Ireland's reputation as an international research and development hub."

CCRCB-STO Conference

The conference, 'Challenges in Cancer – Answering the Difficult Questions', was jointly hosted by the Centre for Cancer Research and Cell Biology (CCRCB) at Queen's University and the Society for Translational Oncology (STO). STO is a professional association committed to accelerating the discovery and translation of important new treatments in the field of cancer medicine to the practice of global oncology. The event

was held on 7-8 September 2011 at the Waterfront Hall, Belfast. Scientists from around the world discussed the latest advances in cancer therapies as well as discussing the difficulties in the global fight against the disease.

During the event the prestigious Pinedo Prize was awarded to Dr Gabriel Hortobagyi (2011 Pinedo Prize Awardee) - Professor of Medicine and Chairman,

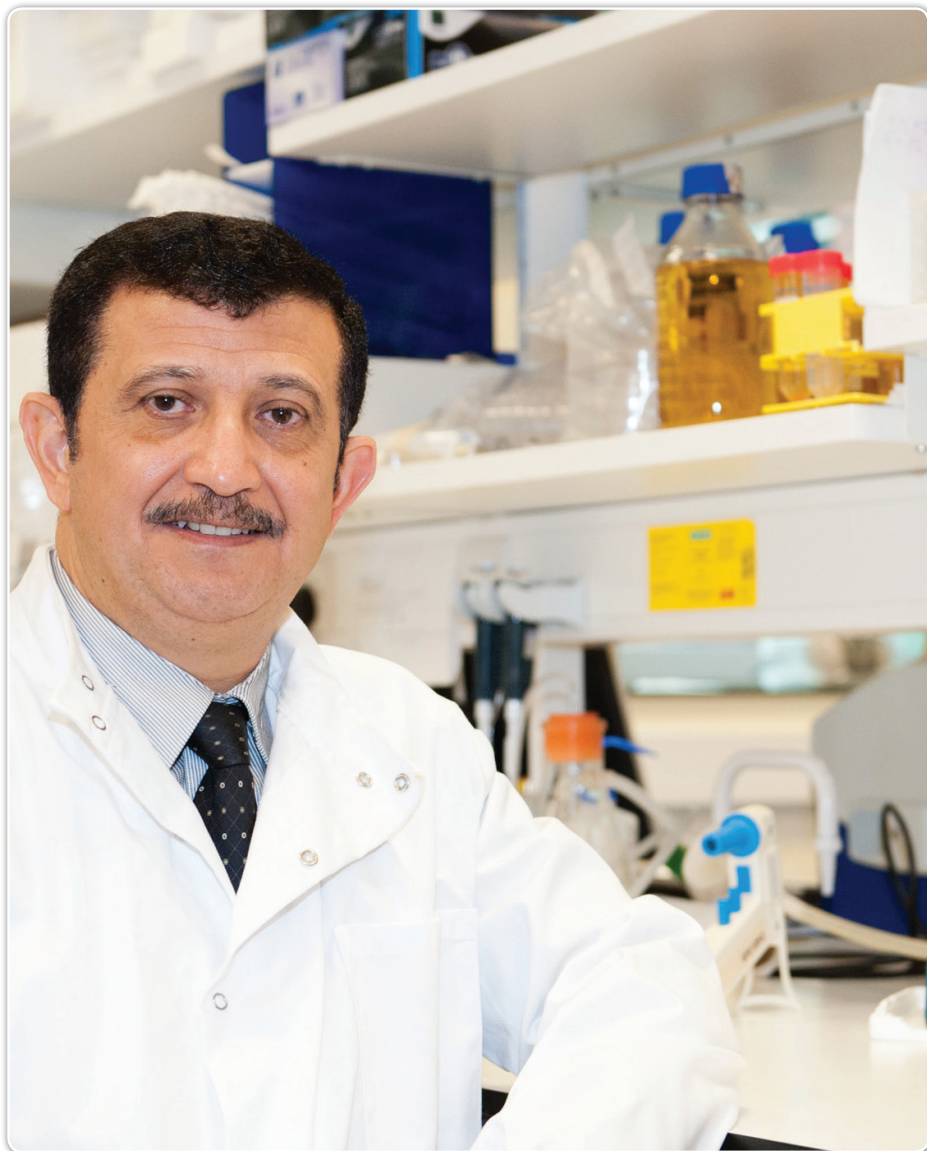
Department of Breast Medical Oncology, The University of Texas MD Anderson Cancer Center, Houston, Texas. The McClay Foundation Lecture, initiated to honour the contributions of Sir Allen McClay to medical research at Queen's University and the wider community, was presented by Dr Richard Goldberg from the University of North Carolina & North Carolina Cancer Hospital.

£25K Entrepreneurship Award

Congratulations to Dr Mohamed El-Tanani who won the BioTech award, life science section winner in the prestigious £25K Entrepreneurship Awards, organized by NISP Connect on 29 September 2011.

The OncoTech Project, led by Dr El-Tanani, is based around the novel Ran axis Biomarker, a diagnostic assay suitable for both tissue and blood that can identify cancer patients at high risk of metastasis. Currently there are no diagnostic assays to identify at an early stage the patients with a high risk of metastasis. OncoTech has addressed this growing unmet market need by developing a proprietary best in class metastasis risk assay for the growing international clinical and R&D oncology markets. The Ran axis Biomarker multiplex assays are a reliable and specific diagnostic set of tests that have been demonstrated to work for tissue biopsy in over 700 clinical samples.

The £25K Entrepreneurship contest helps identify, qualify, prepare and present the best knowledge-based ideas and intellectual property from the publicly funded research base in Northern Ireland with the most commercial potential. Through the £25K Award, applicants experience the unique opportunity to connect and engage with established science and technology corporations, entrepreneurs, service providers and investors who are interested in promising technology.



Dr Mohamed El-Tanani in the CCRCB research laboratory

A Vital Breakthrough in Cancer Research

The global fight against cancer has received a significant boost as a result of the research carried out by a team at the CCRCB. The scientists have discovered a protein – Polyomavirus enhancer activator three (Pea3), causes cancer cells to move through the bloodstream. They have developed a test to tell when a patient with cancer has high levels of Pea3, which in turn reveals whether the patient is likely to develop secondary tumours.

Dr Mohamed El-Tanani, who headed up the work which was funded by Cancer Research UK, explained: "Every year around the world, eleven million people are diagnosed with cancer and five million of those are in Europe and the US. This is a test which could be used

in every single person diagnosed with cancer." In many cancers, patients do not die as a result of a primary tumour. However, when the cells spread to other parts of the body – a process known as metastasis – survival is less likely.

To date, the research team has established that the test works in patients with breast, oesophageal and lung cancer, but Dr El-Tanani said that they are planning to look at other kinds of cancer in the near future. There is no drug currently available to stop metastasis from happening. However, doctors can use the test created by Dr El-Tanani to test for secondary tumour potential and then tailor the treatment that will offer the best outcome for the patient.

Professor Richard Kennedy, CCRCB Visiting McClay Professor and a consultant oncologist, said: "Although there have been great improvements in breast cancer management – with over eight out of ten women surviving more than five years – there are still patients who will die from the disease spreading throughout the body. The group led by Dr El-Tanani has discovered an important protein that allows breast cancer to travel in the bloodstream in some patients. This is an exciting discovery as it may mean we will be able to make drugs which stop this protein from working, allowing us to save more lives in the future."

Queen's Pioneers Prostate Cancer Breakthrough

Scientists at Queen's have pioneered a new combination treatment for prostate cancer. The treatment, which has been successful in phase one of trials, will now be tested for efficacy in a second phase. The treatment, aimed at men with an advanced and aggressive form of prostate cancer which has spread to the bone, is the first of its kind to be developed. It combines traditional chemotherapy treatments with two doses of a radioactive chemical which can target areas of the bone affected by prostate cancer.

The results of the first phase of the trial, which are published in the European Journal of Nuclear Medicine and

Molecular Imaging, demonstrate that it is safe and feasible to combine multiple injections of the radioactive chemical (Rhenium-186 HEDP) along with standard chemotherapy in men with an aggressive form of prostate cancer.

Dr Joe O'Sullivan, Consultant and Senior Lecturer in Clinical Oncology at the CCRCB, and leader of the study, said: "This is a significant development in the fight against prostate cancer. While this combination treatment still has to go to phase two of trials, to know that this combination is safe and feasible as a treatment is a huge step forward. Traditional chemotherapy treatments aren't always effective in

treating aggressive and advanced forms of prostate cancer, so we needed to develop a new treatment which will provide better outcomes for patients with this type of cancer. The combination of chemotherapy with the radioactive chemical Rhenium-186 HEDP has the potential to improve outcomes, including survival, for men with this form of cancer. The second phase of the trial has already commenced in The Netherlands and will start in the UK within six months. The trial will involve up to 100 patients from Northern Ireland and the Netherlands and it is hoped that results should be known within two years."

Queen's Graduates Visit CCRCB

CCRCB recently hosted an evening visit for a group of twenty people from the Queen's Graduates' Association (QGA). Professor Dennis McCance gave an overview of the research within the Centre and there was a presentation on the current research ongoing at Queen's in radiation biology and radiotherapy.

This was followed by a tour of the radiation biology labs and the group had an opportunity to meet the researchers and ask questions.

Jonathan Hill, President of the QGA, said: "Organised visits by the QGA to the University campus, such as

this recent one to the CCRCB, keep members in touch with the latest in Queen's cutting-edge research. This visit was particularly interesting given the many scientific breakthroughs already achieved by CCRCB staff and of course the fact that cancer touches so many lives."

Volunteer at Christmas

A big thank you to staff from within CCRCB who recently donated over £1,500 of stock to the local CR-UK shops; a welcome boost at a time when donations to the shops have decreased.

Ms Ruth Boyd, Cancer Research UK Senior Research Nurse based in the NI Cancer Trials Centre, visited four of the twenty-one shops recently to meet the volunteers and chat to the shop managers. The volunteers thoroughly enjoy meeting researchers and hearing about the work ongoing in Belfast.

If you would like to volunteer for a few hours in a local CR-UK shop in the run up to Christmas, please email Helen.barnes@cancer.org.uk. Volunteers would be particularly appreciated in the shops in Dungannon, Ballymena, Derry, Finaghy, Portadown, Enniskillen and Newry.



Ms Ruth Boyd pictured with staff in the CR-UK Portadown shop

Roche Prize 2011

Congratulations to Dr Niamh O'Brien who won the 2011 Roche Prize for her presentation entitled "The $\Delta Np63$ proteins are key allies of BRCA1 in the prevention of basal-like breast cancer". Niamh is a Post-doctoral Fellow in CCRCB and is supervised by Dr Paul Mullan. Niamh's paper was also published in the March 2011 edition of Cancer Research Journal.

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

Nominated scientists from every university in Ireland are represented at this meeting and each individual presents their scientific paper for independent adjudication by senior academic members from the Irish research community.

Niamh was presented with a medal and a bursary of £400 by Dr David Waugh,



L-R: Ms Julie McAlinden, Dr Niamh O'Brien and Dr David Waugh

CCRCB, and Ms Julie McAlinden, Roche representative, on 28 October 2011 at the CCRCB. She was also selected to represent CCRCB and gained second place at the Roche Researcher of the

Year Award in Dublin on 8 November 2011 where all nominated individuals from the other Irish Universities present their scientific work and compete against the other finalists.

Rugby Brothers Visit CCRCB

Ulster rugby brothers David and Ian Humphreys visited the leukaemia research laboratories in the CCRCB to see how research into the causes of leukaemia and development of new therapies is progressing.

David and Ian were given a tour of the laboratories by Professor Ken Mills and met several members of the research group, including Dr Alex Thompson who is heading a research team to understand how adult leukaemia is caused, which may lead to new ways of treating this type of leukaemia.

David Humphreys said he was "amazed and encouraged by the developments in leukaemia research that are being led by the world class laboratories in Belfast, which receive funding from the local Northern Ireland Leukaemia Research Fund (NILRF) charity."

The NILRF was founded in 1963 and has raised over £7 million since its inception. The Fund is proud that all the money raised in Northern Ireland, stays in Northern Ireland to fund leukaemia research. The NILRF have recently announced a £350,000 research package for the laboratories



L-R: Mr David Humphreys, Professor Ken Mills and Mr Ian Humphreys

in CCRCB. The package has included training schemes for the scientists and clinicians of the future to ensure that the research programme continues.

Professor Ken Mills, leading the leukaemia research group said: "We are

very pleased that the brothers managed to find time to visit our laboratories so we could tell them about our innovative and quality research funded by the NILRF."

CCRCB Scientists Wear It Pink for Breast Cancer

CCRCB scientists took time out from their research to raise money and awareness in support of Breast Cancer Campaign's Wear It Pink day on 30 September 2011. Organised by Breast Cancer Campaign Scientific Fellow, Dr Jennifer Quinn and her campaign funded PhD student Ms Elisabeth Lamers, the event raised an impressive £500 through donations and a cake sale.

Dr Jennifer Quinn said: "Our daily work in the laboratory aims to help women with BRCA1-related breast cancer and we hope that by holding our own Wear It Pink day, even more research can be funded to help find a cure for the disease."

Breast Cancer Campaign currently fund over £1 million of breast cancer research in CCRCB through Professor Paul Harkin, Professor Kevin Prise, Dr Jennifer Quinn and Dr Paul Mullan. Wear It Pink is the biggest day of fundraising during October's Breast Cancer Awareness Month where supporters are asked to wear an item of pink and donate £2. This year the charity aims to raise £2 million to help fund vital breast cancer research.

The event coincided with the second annual BRCA-Link-NI event, also organised by Dr Jennifer Quinn and Ms Hazel Carson, in the CCRCB, to help women who inherit the faulty BRCA genes that can cause breast cancer. Presenters at this meeting included

members of the CCRCB Breast and Ovarian cancer focus group including Dr Jennifer Quinn, Dr Ian Harley, Dr Gwyneth Hinds and Dr Lisa Jeffers.

BRCA-NI is now recognised as the main support group for BRCA families in Northern Ireland. There are at least 600 families affected in Northern Ireland. The group also met with Mr Jim Wells, MLA at Stormont on 30 September 2011 and plans are in place to put their campaign for a multidisciplinary clinical approach for supporting BRCA families firmly on the political agenda over the coming months. For further information on BRCA-NI please visit: www.brcani.co.uk.



L-R: Dr Lisa Jeffers, Dr Gwyneth Hinds, Ms Hazel Carson, Dr Ian Harley and Dr Jennifer Quinn



L-R: Dr Paul Mullan, Ms Elisabeth Lamers, Dr Kelly Redmond, Dr Nyree Crawford, Dr Jennifer Quinn, Dr Zenobia D'Costa, Ms Paula Haddock and Mr David Cochrane

Recent Grants Awarded

Investigator(s): Paul Mullan
Sponsor: Breast Cancer Campaign
Title: Investigating the role of p53 gain of function mutations in the pathogenesis of basal-like breast cancer
Amount: £19,830
Period: 01/08/11 – 31/12/12

Investigator(s): Peter Hamilton
Sponsor: RVH Charitable Funds
Title: Biomarkers for malignant progression in Barrett's Oesophagus
Amount: £23,399
Period: 01/10/11 – 31/03/12

Investigator(s): Kevin Prise, Giuseppe Schettino and Joe O'Sullivan
Sponsor: Friends of the Cancer Centre
Title: Support for an image guided irradiation platform
Amount: £500,000
Period: 01/10/11 – 30/09/12

Investigator(s): Giuseppe Schettino, Kevin Prise and Fred Currell
Sponsor: MRC
Title: Biological effectiveness of ion beams for cancer therapy
Amount: £497,644
Period: 01/12/11 – 30/11/14

Investigator(s): Manuel Salto-Tellez, Jackie James and Richard Wilson
Sponsor: Friends of the Cancer Centre
Title: Employment of a Research Nurse to assist in translational research
Amount: £118,497
Period: 01/12/11 – 30/11/14

Investigator(s): David Waugh, Dan Longley and Dean Fennell
Sponsor: British Lung Foundation
Title: Rational targeting of Inhibitor of Apoptosis Proteins (IAPs) for effective therapy of malignant pleural mesothelioma
Amount: £188,020
Period: 01/01/12 – 30/06/14

Investigator(s): Kevin Prise and Giuseppe Schettino
Sponsor: EPSRC
Title: Pilot project for the development of glass monocapillary optics for sub-micron focusing of high energy X-rays
Amount: £54,882
Period: 01/10/11 – 31/03/12

Investigator(s): Dean Fennell
Sponsor: Astellas Pharma
Title: Molecular determinants of sensitivity and resistance to the small molecule surviving antagonist YM155
Amount: \$25,000
Period: 01/11/11 – 30/04/12

Mitchell Lecture 2011

The Mitchell Lecture was delivered on 3 November 2011 in CCRCB by Dr Joan Brugge, Harvard Medical School, Boston.

Dr Brugge talked about PI-3 kinase inhibitor induced resistance in breast cancer cells which could be overcome by inhibition of BCL-2. The interesting aspect of this work was that in a 3-dimensional culture system the induced resistance was only observed in cells with a cell to matrix attachment and not through cell to cell attachment. This was possibly mediated through integrins and may help to explain a means by which some cancer cells remain viable after drug treatment.

During her visit Dr Brugge met with a number of the Principal Investigators in CCRCB and had an opportunity to talk to the Post-doctoral Research Fellows and Postgraduate students about their ongoing research.



L-R: Professor Dennis McCance and Dr Joan Brugge

Recent Publications

BURN, J. et AL. Long-term effect of aspirin on cancer risk in carriers of hereditary colorectal cancer: an analysis from the CAPP2 randomised controlled trial, *The Lancet*, 2011;Oct 28 (Epub ahead of print).

GORSKI, J.J., SAVAGE, K.I., MULLIGAN, J.M., MCDADE, S.S., BLAYNEY, J.K., GE, Z. and HARKIN, D.P. Profiling of the BRCA1 transcriptome through microarray and ChIP-chip analysis, *Nucleic Acids Res*, 2011;Aug 31 (Epub ahead of print).

MCMAHON, S.J., HYLAND, W.B., MUIR, M.F., COULTER, J.A., JAIN, S., BUTTERWORTH, K.T., SCHETTINO, G., DICKSON, G.R., HOUNSELL, A.R., O'SULLIVAN, J.M., PRISE, K.M., HIRST, D.G. and CURRELL, F.J. Nanodosimetric effects of gold nanoparticles in megavoltage radiation therapy, *Radiotherapy and Oncology*, 2011;100(3):412-416.

MCMAHON, S.J., HYLAND, W.B., MUIR, M.F., COULTER, J.A., JAIN, S., BUTTERWORTH, K.T., SCHETTINO, G., DICKSON, G.R., HOUNSELL, A.R., O'SULLIVAN, J.M., PRISE, K.M., HIRST, D.G. and CURRELL, F.J. Biological consequences of nanoscale energy deposition near irradiated heavy atom nanoparticles, *Nature Scientific Reports*, 2011;1(1)8.

MCMAHON, S.J., HYLAND, W.B., BRUN, E., BUTTERWORTH, K.T., COULTER, J.A., DOUKI, T., HIRST, D.G., JAIN, S., KAVANAGH, A.P., KRPETIC, Z., MENDENHALL, M.H., MUIR, M.F., PRISE, K.M., REQUARDT, H., SANCHE, L., SCHETTINO, G., CURRELL, F.J. and SICARD-ROSELLI, C. Energy dependence of gold nanoparticle radio-sensitisation in plasmid DNA, *Journal of Physical Chemistry C* (In press).

MCMAHON, S.J., PRISE, K.M. and CURRELL, F.J. Comment on "Implications of clinical scenario of gold nanoparticle radiosensitisation in regard to photon energy, nanoparticle size, concentration and location", *Physics in Medicine and Biology* (In press).

PRISE, K.M. and SARAN, A. Stem cell effects in radiation risk, *Stem Cells* 29, 2011:1315-21.

RAVINDRANATH, A., YUEN, H.F., CHAN, K.K., GRILLS, C., FENNELL, D.A., LAPPIN, T.R. and EL-TANANI, M. Wnt- β -catenin-Tcf-4 signalling-modulated invasiveness is dependent on osteopontin expression in breast cancer, *British Journal of Cancer*, Aug 2011;105(4):542-51.

TRAINOR, C., BUTTERWORTH, K.T., MCGARRY, C.K., LIBERANTE, F., O'SULLIVAN, J.M., HOUNSELL, A.R. and PRISE, K.M. Cell survival responses following exposure to modulated radiation fields, *Radiation Research* (In press).

WANG, Y., SAVAGE, K., GRILLS, C., MCCAVIGAN, A., JAMES, J.A., FENNELL, D.A. and HAMILTON, P.W. A TMA de-arraying method for high throughput biomarker discovery in tissue research, *PLoS ONE*, 2011;6(10):p.e26007.

WATSON, C.J., O'KANE, H., MAXWELL, P., SHARAF, O., PETAK, I., HYLAND, P.L., O'ROURKE, D., MCKNIGHT, J., CANNING, P. and WILLIAMSON, K. (2011) Identification of a methylation hotspot in the death receptor Fas/CD95 in bladder cancer, *International Journal of Oncology* (In press).

YUEN, H.F., MCCRUDDEN, C.M., CHAN, K.K., CHAN, Y.P., WONG, M.L., CHAN, K.Y., KHOO, U.S., LAW, S., SRIVASTAVA, G., LAPPIN, T.R., CHAN, K.W. and EL-TANANI, M. The role of Pea3 group transcription factors in esophageal squamous cell carcinoma, *American Journal of Pathology*, Aug 2011;179(2):992-1003.

Scientists Prove Regular Aspirin Intake Halves Cancer Risk

Scientists, including those from Queen's University, have discovered that taking regular aspirin halves the risk of developing hereditary cancers. Hereditary cancers are those which develop as a result of a gene fault inherited from a parent. Bowel and womb cancers are the most common forms of hereditary cancers.

The decade-long study, which involved scientists and clinicians from 43 centres in 16 countries and was funded by Cancer Research UK, followed nearly 1,000 patients, in some cases for over ten years. The study found that those who had been taking a regular dose of aspirin had fifty per cent fewer incidences of hereditary cancer compared with those who were not taking aspirin.

The research focused on people with Lynch syndrome which is an inherited genetic disorder that causes cancer by affecting genes responsible for detecting and repairing damage in the DNA.

Around fifty per cent of those with Lynch syndrome develop cancer, mainly in the bowel and womb. The study looked at all cancers related to the syndrome, and found that almost thirty per cent of the patients not taking aspirin had developed a cancer compared to around fifteen per cent of those taking the aspirin. Those who had taken aspirin still developed the same number of polyps, which are thought to be precursors of cancer, as those who did not take aspirin but they did not go on to develop cancer. It suggests that aspirin could possibly be causing these cells to destruct before they turn cancerous.

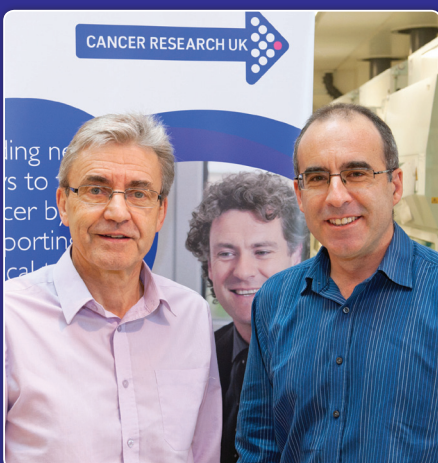
Professor Patrick Morrison, Honorary Professor, CCRCB, Queen's University Belfast, who led the Northern Ireland part of the study, said: "The results of this study, which has been ongoing for over a decade, proves that the regular intake of aspirin over a prolonged period halves the risk of developing hereditary cancers. The effects of aspirin in the first five years

of the study were not clear but in those who took aspirin for between five and ten years the results were very clear.

"This is a huge breakthrough in terms of cancer prevention. For those who have a history of hereditary cancers in their family, like bowel and womb cancers, this will be welcome news. Not only does it show we can reduce cancer rates and ultimately deaths, it opens up other avenues for further cancer prevention research. We aim now to go forward with another trial to assess the most effective dosage of aspirin for hereditary cancer prevention and to look at the use of aspirin in the general population as a way of reducing the risk of bowel cancer. For anyone considering taking aspirin I would recommend discussing this with your GP first."

The research has been published in The Lancet Online.

CCRCB Photo Gallery



The CR-UK Centre Lecture was delivered on 20 October 2011 in CCRCB by Professor Steve Jackson from The Gurdon Institute - University of Cambridge, pictured (right) with Professor Dennis McCance. The title of his lecture was "Cellular Responses to DNA Damage: From Molecular Insights to New Approaches for Cancer Therapy".



Wesley and Ann Millar who raised £4,250 to support cancer research at Queen's University from the proceeds of their book 'On the Banks of Douglas Burn - A Stream of Small Importance'. Dr Kyle Matchett received the cheque at an event in Omagh on 5 October 2011 and spoke about the research within the Centre.



Thanks to Michelle Napier, BBC News Presenter, who presented a cheque for £2,879 in aid of Breast Cancer research at CCRCB, pictured with Dr Jennifer Quinn and Mr David Cochrane.

Events 2012

EACR

"Cell Death in Cancer"

26-28 January 2012

De Rode Hoed, Amsterdam, The Netherlands

For further information and registration please refer to:

www.eacr.org

IACR

29 February - 2 March 2012

Cullooden Hotel and Spa, Holywood, County Antrim

For further information and registration please refer to:

www.ia-cr.ie

or contact

iacr@qub.ac.uk

2nd RSC Symposium on Chemical Biology for Drug Discovery

20-21 March 2012

AstraZeneca, Alderley Park, Macclesfield, UK

For further information and registration please refer to:

www.maggichurchousevents.co.uk/BMCS

28th IABCR / Breakthrough Breast Cancer Conference

15-18 April 2012

Palace Hotel, Manchester, UK

For further information and registration please refer to:

www.mcrc.manchester.ac.uk/conference

CCRCB Events

Scientific Advisory Board Review Visit

27-28 March 2012

CCRCB Building

CR-UK Centre Lecture 2012

24 May 2012

CCRCB Building

Professor Harald Zur Hausen, Nobel Laureate
University of Erlangen-Nuremberg

Mitchell Lecture 2012

18 October 2012

CCRCB Building

Dr Edison Liu

Director, Jackson Laboratory in Bar Harbor, Maine

New Appointments

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

Clerical Staff:

Ms Caroline Crothers

Research Staff:

Ms Joy Kavanagh

Ms Emma Kerr

Dr Chang Sik Kim

Miss Clare McCourt

Technical Staff:

Ms Anne Carson

Visiting Researchers:

Dr Paula Cunnea

Ms Valentina D'Atri

Dr Peter Dickinson

Dr Barira Islam

New Research Students

Welcome to the following postgraduate students who have commenced their research studies at CCRCB this academic year:

Students:

Chris Armstrong

David Boyle

Philip Burn

Naomi Dickson

Conor Hanna

Fiona Hanton

Ryan Hutchinson

Gareth Irwin

Laura Kettle

Edward Law

Ka Lai Leung

Kylie McLaughlin

Michael Moran

Supervisors:

D. Waugh / T. Robson

M. Salto-Tellez / P. Mullan

P. Harkin / J. Quinn

P. Mullan / J. Quinn

K. Prise / R. Kennedy

G. Schettino / M. Borghesi (School of Maths and Physics)

P. Hamilton / J. James

P. Harkin / J. Quinn

A. Thompson / K. Mills

D. Fennell / D. Longley

J. Murray / S. Cotter + R. Paxton (School of Biological Sciences)

D. Longley / K. Prise

D. McCance / J. James

Measures of Esteem

Dr Pamela Maxwell was awarded a 850 euro Travel Award to attend and give an oral presentation at the 9th World Congress on Urological Research in Innsbruck, Austria on 15-17 September 2011.

Dr Jonathan Coulter was awarded a Travel Award of £500 on 6 May 2011 to attend the Association for Radiation Research meeting held on 29 June - 1 July 2011, an Early Career Investigator Award of £500 from the Association for

Radiation Research on 25 May 2011 and a Scientist in Training Award of \$700 from the Radiation Research Society on 17 May 2011 to attend the International Congress for Radiation Research held in Warsaw on 27 August - 2 September 2011.

Dr Karl Butterworth was nominated to the Scholar in Training Committee of the Radiation Research Society in August 2011.

Comments on the CCRCB Bulletin or suggestions for future editions should be forwarded to Margaret-Rose Mervyn: m.mervyn@qub.ac.uk