Cancer Network Newsletter
November - December 2017

University of BRISTOL
Elizabeth Blackwell Institute for Health Research

Big Bang Bristol

Big Bang Bristol is a two day Science, Technology, Engineering and Maths (STEM) fair aimed at school-aged children which this year took place 6 - 7 July 2017 at the Trinity Centre in Bristol. The event was divided into two zones:

The *Enterprise Zone* hosted a diverse range of companies from the south west who spoke about the use of STEM subjects within their industries and provided practical advice on routes into STEM careers.

The *Research Zone* hosted PhD students and researchers from the Universities of Bristol, Bath and UWE, allowing the next generation to learn about the world-class research in the region, find out about life as a postgraduate and how best to go about becoming a professor. A series of stands offered interactive exhibits which included makng placenta models and looking at fluorescent cancer cells under microscopes.

Will Hunter, the MRC IEU Engagement and Communication Associate, arranged for the Integrative Cancer Epidemiology Programme (ICEP) to host a stall alongside the IEU, running activities for the public to engage with. Researchers Vanessa Tan, Josh Bell, James Yarmolinsky, Caroline Bull, Emma Vincent and Aayah Nounu used ICEP's Mystery Box to interact and start discussions with the public.

The activity engaged with over 150 visitors.

Interdisciplinary research and co-operation are crucial to the process of establishing causal links between lifestyle factors and disease. ICEP researchers worked closely with Will Hunter to develop 'THE MYSTERY BOX', an ICEP-specific activity which can be used at public engagement events to help discuss this concept. Members of the public need to work together to discover what is inside the mystery box using their sense of touch and smell. The challenge helps people understand how different disciplines and approaches can work together to produce scientific research.

Inside this issue:

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bristol.ac.uk/cancer

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EVENTS

Targeting stem cell specific repair in glioma
23 November 2017, 12.30 - 13.30, Prof Susan Short (Professor of Clinical Oncology and Neuro-Oncology, Leeds Institute of Cancer and Pathology). Seminar Room A&B, Learning & Research Building Level 2, Southmead Hospital

Surgical innovation: contexts, concerns and conceptualisation
23 November 2017, 15.30 - 16.30, Dr Giles Birchley, Canynge Hall, G:12

Fertility preservation in adolescent cancer patients: Protecting autonomy or pushing pronatalism?
23 November 2017, 15.30 - 16.30, Dr Jonathan Ives (UoB), Canynge Hall G:12

Annual Scientific Showcase: Integrative Cancer Epidemiology Programme
27 November 2017, 9.00 - 12.30, OS6, Oakfield House

An iron hand over cancer cells
28 November 2017, 13.00 - 14.00, Raphael Rodriguez (Institut Curie, Paris), C42, Biomedical Sciences Building

Elizabeth Blackwell Institute Biomedical and Health Sciences Industry Day 2017 – Building Partnerships
29 November 2017, 9.00 - 16.00, The Watershed

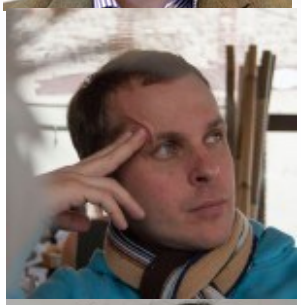
ICEP Journal Club
29 November 2017, 10.30 - 11.30, venue TBC

Careers Beyond Biomedical Sciences - Public Health & Safety
29 November 2017, 13.00 - 14.00, Dr Liz Ainsbury (PHE) / Dr Alan Beswick (HSL), Chemistry LT3

How the trafficking of receptor tyrosine kinases from and to the plasma membrane can elicit specific cellular responses
30 November 2017, 13.00 - 14.00, Chiara Francavilla (University of Manchester), venue TBC

Complexity and complexity theory in health services research
4 December 2017, 15.30 - 16.30, Prof Alex Clark (University of Alberta), Canynge Hall LG:08

CMM Annual 'Sir Anthony Epstein' Lecture: Cellular responses to DNA damage: translating mechanistic insights into precision cancer medicine
5 December 2017, 17.00 - 18.30, Steve Jackson FRS, FMedSci (University of Cambridge), E29 Biomedical Sciences Building



From top: Susan Short, Jonathan Ives, Raphael Rodriguez, Chiara Francavilla, Steve Jackson

EVENTS CON'T

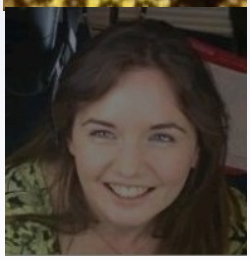
Careers Beyond Biomedical Sciences - Creative Science Careers
6 December 2017, 13.00 - 14.00, Dr Shereen Kadir (Science Animation) / Claudia Stocker (Vivid Biology), Chemistry LT4

Introduction to Research Grant Applications: Medical Faculties
7 December 2017, 14.00 - 16.30, Senate House room 3.16

Cancer and Global Health Research workshop (MRC)
22 January 2018, 9.30 - 16.30, BEIS Conference Centre, London

JSPS-Academy of Medical Sciences, Japan-UK Collaborative Symposium: Medical Imaging and Artificial Intelligence
23 January 2018, 9.00 - 16.00, Academy of Medical Sciences, London

Post ASH Significant Highlights meeting
24 January 2018, 9.00 - 17.00, Doubletree Hilton Bristol City Centre



From top: Shereen Kadeer and Claudia Stocker

Early Career Researcher Sharing event

31 January 2018, 12:00 - 14:00, venue TBC

If you're an Early Career Researcher or Clinician at Bristol interested in cancer then JOIN the **Cancer Early Career Researchers Forum**, which provides opportunities for all people interested in cancer research at the University of Bristol and Bristol hospitals to meet and connect.
This knowledge sharing event for Biomedical Scientists will explore what working with **Population Health Sciences** has to offer. There are a whole wealth of benefits to working across disciplines, not least the attractiveness to funders. Further details to follow.

NIHR Bristol Biomedical Research Centre Launch Symposium
1 February 2018, 10.00 - 17.30, We The Curious

Public lecture and debate: Can surgical research improve health?
1 February 2018, 18.00 - 19.30, Gianni Angelini (British Heart Foundation Professor of Cardiac Surgery), Prof Debbie Lawlor CBE & Prof Jane Blazeby (Professor of Surgery), We The Curious

Cancer Early Career Researchers' Forum
23 February 2018, 14.00 - 16.00, venue TBC

Royal Society open presentation
28 February 2018, 11.00 - 12.30, Reception Room, Wills Memorial Building

From top: Gianni Angelini, Debbie Lawlor, Jane Blazeby

NEWS AND EVENTS ARE REGULARLY UPDATED ON THE CANCER RESEARCH NETWORK WEBSITE

NEWS

Funding successes: Part 1

Targeting the Ubiquitin-Proteasome System in Glioblastoma, joint **MRC** award to the Brain Tumour Research Group and the University of Bath. A PhD project with Julien Licchesi (PI, Bath) and Dr Kathreena Kurian (Bristol).

GW4 PhD Studentship awarded to Dr Kathreena Kurian (Co-I) Reader in Brain Tumour Research Bristol, Dr Florian Siebzehnrubl (Cardiff, Co-I) and Dr Julien Licchesi (Bath, PI) for *Targeting the Ubiquitin Proteosome system in Glioblastoma Multiforme*.

The 2017 round of the **University Cancer Research Fund** offered sums to four people:

- Abdelkader Essafi (School of Cellular and Molecular Medicine): £ 5,000
- Athene Lane (NIHR Bristol Nutrition Biomedical Research Centre): £3,000
- Jo Adams (School of Biochemistry): £ 5,000
- David Morgan (School of Cellular and Molecular Medicine): £ 3,000
- Claire Perks (School of Clinical Sciences): £ 4,000

Sabina Sanghera was recently awarded a NIHR Post-Doctoral Fellowship, to begin in January 2018. It will build on her PhD and current research to assess the influence of timing of assessment, recall and the QALY calculation on cost-effectiveness recommendations in recurrent fluctuating health states. She will use mixed-methods to understand how patients complete questionnaires, identify how and when to measure quality of life, and investigate the suitability of current valuation methods in recurrent fluctuating states. Sabina will use chemotherapy treatment for cancer as a case study. Sabina will collaborate with colleagues from Bristol and elsewhere, including NICE.

Transforming UK translation

The Academy of Medical Sciences, Royal Academy of Engineering, Royal Society and the Wellcome Trust have outlined a series of commitments to ensure that translation is recognised and celebrated as an integral part of academic research. They will work with universities and research institutes to find practical ways to make changes based on the Transforming UK Translation commitments.

Commitments include improving recognition for translation, encouraging and facilitating the movement of people between academia and industry, and investing across the translation system.

Transforming UK Translation covers a broad definition of translation and a range of outputs and activities, including:

- exchange of knowledge and ideas
- creation and exploitation of intellectual property (IP)
- academic-industrial collaborations
- spin-out companies
- development of products and processes
- enabling technologies such as research tools and materials

Read the full press release

CRUK Lab Tours

Round 3 of the Cancer Research UK (CRUK) Lab Tours took place in June 2017 where CRUK supporters visited Southmead Hospital for talks from Jeff Holly, Claire Perks and Nic Timpson (pictured) then a tour of lab-based and epidemiology-focused activities. The event received lots of positive feedback from the public.

The next round of Lab Tours are scheduled at Southmead Hospital on Thursday, 25 January 2018. Enthusiastic fund-raisers and supporters visit the lab team to learn about their work in cancer and have an interactive tour. If you are interested in being involved, please contact lisa.wright@bristol.ac.uk.

Bristol Brain Research: Showcase and Networking Day 2018

11 April 2018, 8.30 - 20.00, Chemistry Building

Deadline for submission of abstracts: 31 January 2018

Registration fee: £10 ONLY (includes refreshments breaks, buffet lunch, drinks reception)

REGISTER NOW

The Bristol Neuroscience Research Network presents a one-day conference to bring together our research community, organised by a cross-disciplinary organising committee. The Bristol Brain Research: Showcase and Networking Day is specially designed by and for members of the wider community to learn about all the different research facets and resources at UoB.

This one-day event offers the opportunity for researchers across Schools and Units to discuss best practice, share experiences, cross-fertilise, source expertise and engage across the whole spectrum of neuroscience from cellular work to epidemiology to clinical applications, and everything in between.

The day will include talks and poster sessions focusing on a wide range of topics,

with a chance to win prizes.

- ***Hear about current research & technology from across the faculties***
- ***Present and discuss novel findings with colleagues with diverse expertise***
- ***Foster interdisciplinary collaboration and build networks across the University***
- ***Put grant and fellowship ideas to our panel of experts***

For more information and to download the abstract submission form, go to the **event website**

Centre for Cancer Epidemiology workshop

From the 4th to the 14th of October 2017 ten members of the IEU and ICEP embarked on a journey to teach on the *Mendelian randomization and Epigenetic Cancer Epidemiology* workshop at the Centre for Cancer Epidemiology at the TATA Memorial Centre Advanced Centre for Treatment, Research and Education in Cancer (ACTREC) in Navi Mumbai, India.

Hosted by Professor Rajesh Dikshit and his staff, the workshop focused on establishing causal inference within observational epidemiology, particularly when using molecular data such as epigenetics. The participants were some of the most engaged individuals, who were thoroughly interested in epigenetics as a data source and a potential mechanism through which causal associations between modifiable exposures and health outcomes can occur.

All tutors did a wonderful job at conveying a clear and well-rounded course that was appreciated by all participants, whilst maintaining an easily approachable and interactive teaching environment. The course was the start of what promises to be the start of a fruitful and productive collaboration with ACTREC, Rajesh and his team in the Centre for Cancer Epidemiology.

PURE Data competition

The Jean Golding Institute launched the PURE data competition in March 2017, inviting teams to use data science to identify and analyse interdisciplinary research at Bristol using PURE data.

The winners, Ben Elsworth (top right) and Tom Gaunt (bottom right, both Bristol Medical School: Population Health Sciences), created a piece of software called AXON which allowed the user to interrogate the PURE database and pull out links between people, organisations and concepts harvested from within the abstracts of the outputs. The panel particularly liked the usability of the system and its ability to suggest links both new and potentially existing. It was also interesting that you could use concepts to link individuals. Ben is currently developing the tool so it can be used using current PURE data.

Chemoreceptor Reflex Antagonism during Lower Body Negative Pressure

We are looking for healthy volunteers aged 18-75 years, with normal blood pressure.

This study is investigating the role of the carotid bodies in the control of blood pressure. To do this we apply negative pressure (suction) to the lower body to challenge blood pressure. We also use low doses of dopamine to reduce the activity of the carotid bodies. This allows us to measure whether the body's response to a blood pressure challenge is altered by the carotid bodies becoming less active.

Participating will involve:
- A screening visit (45 mins) and a study visit (2 hours) both at CRIC Bristol.
- Wearing an at-home blood pressure monitor to measure blood pressure over 24 hours between the visits.
- Lying in a lower body negative pressure chamber which applies suction (via a vacuum device connected to the chamber) from the waist down.
- Receiving a low dose of dopamine through a cannula (tube) in a vein in the arm or hand.
- Brief periods breathing extra nitrogen than normal, though a facemask, to reduce your oxygen levels (hypoxia).

More information: cardionomics-cb-study@bristol.ac.uk**, 0117 342 1513.**

NCRI Conference 2017

This year's National Cancer Research Institute (NCRI) Conference took place 5 - 8 November 2017 in Liverpool. Amongst the poster presentations was *A randomized controlled feasibility trial of green tea and lycopene interventions in men at elevated risk of prostate cancer (ProDiet)*: JA Lane, V Er, J Horwood, K Avery, J Holly, R Martin, D Neal, F Hamdy, J Donovan and C Metcalfe.

Abstract: Prostate specific antigen (PSA) testing identifies some men with elevated PSA levels below biopsy thresholds and others without cancer at biopsy who have an increased risk of prostate cancer. The ProDiet trial aimed to establish the feasibility of dietary modification for lycopene and green tea in these groups which could potentially lower cancer risk.

Men aged 50-69 years were identified through community-based PSA testing in the Prostate cancer testing and Treatment trial with PSA results between 2.0-2.95 ng/ml or negative prostatic biopsies. Participants were randomized, according to a 2x3 factorial design, to daily green tea drink (3 cups, open label) or capsules (blinded, 600 mg flavanols or placebo) and to daily lycopene-rich foods (open label) or capsules (blinded, 15 mg lycopene or placebo) for six months. Primary outcomes were recruitment and intervention adherence (blinded assessment of circulating metabolites) with acceptability, weight, blood pressure and PSA also assessed at six months.

133/469 men invited were randomised and 131 completed follow-up. Mean plasma lycopene levels were 1.25x higher in the lycopene capsule group ($p = 0.005$) and 1.42x higher in tomato-enriched diet group ($p<0.001$) compared to placebo. Median plasma flavanol levels were 12.3 nM higher in the flavanol capsule group and 24.9 nM higher in the green tea drink group compared with placebo (both $p<0.001$). Interventions were acceptable, although some men preferred capsules to dietary changes. No major alterations occurred in clinical outcomes. Most men would consider participating in a longer trial (99/133).

Conclusion: Men adhered successfully to two dietary interventions with elevation of circulating green tea flavanols and lycopene at 6 months. Dietary prevention is acceptable to men at risk of prostate cancer, and a randomized trial is feasible.

NCRI National Cancer Research Institute

Diabetes research award

Dr Emma Vincent has been awarded Diabetes UK's R D Lawrence Fellowship. The award, worth £587,237, will investigate changes which happen inside the body when someone has Type 2 diabetes that may encourage certain cancers, such as pancreatic, liver and endometrial cancers, to develop. Emma hopes that by understanding these processes we will be able to find ways to protect people with Type 2 from developing these cancers in the future.

More info

New guides on clinical academic careers

Two new guides to support healthcare professionals to develop clinical academic careers were launched on 15 September 2017. The guides have been developed with Health Education England (HEE) to provide information on the various awards available through their two organisations, how to apply for awards, and how the awards work in practice should applicants be successful. The guides also include case studies from award holders who talk about their experiences and the impact holding an NIHR or HEE award has had on their career.

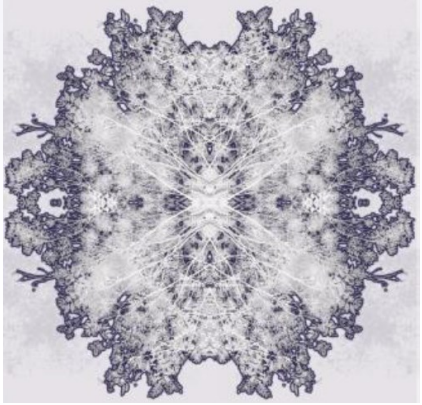
There are two guides available:

- The NIHR Integrated Academic Training programme for doctors and dentists
- The HEE/NIHR Integrated Clinical Academic (ICA) programme for non-medical healthcare professionals, including nurses, midwives, allied health professionals and healthcare scientists

Engagement

On 2 July 2017 ICEP's Prof Richard Martin (top image) joined a crowd of ladies in pink to open the **CRUK Race for Life** 2017. Richard appeared on stage to give an inspiring talk about his work for CRUK before the runners took on the 5K race around The Downs in Bristol.

Dr Karen Dawe, Research Fellow in Evidence Synthesis whose research area is synthesis of evidence relating to cancer mechanisms, entered the annual **UoB Art of Science** competition which "offers a unique challenge to science researchers – to find and share the aesthetic beauty in their work". All entries were displayed in the Life Sciences Building Atrium in June 2017 and Karen won the schools vote with her photograph



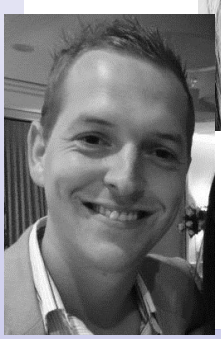
(pictured above) of a tree in Arnos Vale Cemetery which she edited to reflect how epidemiologists work.

The **Engaged University** Steering Group bestowed a highly-commended award to Dr Kathreena Kurian, Hannah Williams, Dr Maca Gomez-Gutierrez and Dr Helen Della Nave (At-Bristol) the 2016/17 Engagement Award for their work on the *Interactive Replica Neuroscience Research Lab* in At Bristol. The group members were particularly impressed by how well the activity was designed, conceived and evaluated. Positive comments were also made about the nature of collaboration with At-Bristol. The mock-up received 2,500 visitors over a 5-week period, providing an opportunity for young visitors and their families to talk to researchers about neuroscience research and consider ethical questions around tissue use.

Funding successes: Part 2

University Research Fellows announced Eighteen new University Research Fellows (URFs) have been named. URFs enable academic staff to carry out a dedicated research project lasting twelve months. Of those in receipt we congratulate Dr Sabine Hauert in Engineering Mathematics; her research focusses in designing swarms that work in large numbers (>1000), and at small scales (<1 cm) .

Dr Rhys Morgan has received a £15,000 research grant from the **Royal Society**. His main research interest revolves around the role of Wnt/β-catenin signalling in normal haematopoiesis and leukaemogenesis.



Worldwide Universities Network

The World Universities Network Global Africa Group held an inaugural Strategic Research Workshop, hosted by the University of Ghana, that brought together over sixty researchers from twelve WUN partner universities and ten other universities from four continents. The workshop brought together faculty, researchers and postgraduate students from a multitude of countries in an effort to facilitate and promote research collaboration on five priority themes the Group felt were particularly pertinent to human development in the 21st Century in Africa: Environmental change and food security; Public health; Governance, inequality and social inclusion; Higher education and research capacity; and Natural resources for inclusive growth and sustainable development. Read the full story.

Prof Rachael Gooberman-Hill, Director of the EBI, is Bristol's new Representative on the Global Africa Group Steering Group (taking over from Leon Tikly), with Celia Gregson.

Reversing tissue damage

A new discovery helps to explain how cells which surround blood vessels (pericytes) stimulate new blood vessels to grow with the leptin hormone playing a key role. Leptin is produced by fat cells and helps to regulate energy balance in the body by inhibiting the appetite. The study may have important implications for the treatment of heart attacks and also for cancer, the two main causes of death in the UK.

The growth of new blood vessels, or angiogenesis, is an important process occurring both in health and disease. It is involved in the repair of tissues following injury but also has an essential role in the growth and spread of cancer.

A Heart Research UK-funded project studied how pericytes encourage the growth of new blood vessels and the role of leptin, and provides important new information about the mechanisms involved. The team found that pericytes produced 40-times more leptin when exposed to low levels of oxygen and that this continued until oxygen levels returned to normal. This may help tissues to build more blood vessels to increase blood flow and oxygen supply. Together with other findings, the research shows that leptin has several important actions which encourage new blood vessel growth in areas where tissues are deprived of oxygen. These results reveal a new signalling mechanism that may have a far-reaching and significant impact on cardiovascular regenerative medicine.

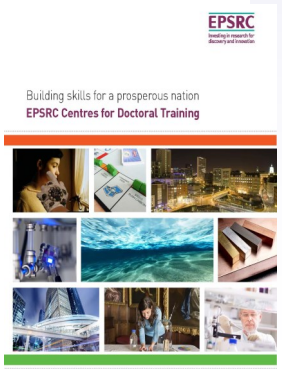
EPSRC Centres for Doctoral Training news

EPSRC recently published a CDT brochure, showcasing a selection of research projects being undertaken across EPSRC-supported Centres, following the midterm review. This is to highlight the quality and diversity of impact that CDTs are having and the value that students, universities and industry see in them.

One Centre for Doctoral Training included in the brochure is Medical Imaging, managed by King's College London and Imperial College London, which provides a comprehensive programme designed to meet key healthcare challenges. Supported by £4.8 million in EPSRC funding and £1.2 million in income from industry, it has links with a range of industrial partners as well as close strategic and geographical links with London's St Thomas' Hospital, where the Centre is based. The brochure highlighted work undertaken by a CDT student who developed a new tracer to help diagnose prostate cancer.

EPSRC has confirmed that there will be a call in 2018 but that the principles are yet to be decided. All applications will need to make a strong case for a national need for investment in a CDT compared with other routes for doctoral funding.

Contact Jane Khawaja if you have any questions related to CDTs, the next CDT call, and UoB's internal process.



New GW4 Alliance video

Released earlier in September, the GW4 Alliance's new video highlights some of the benefits of this multi-university partnership, and includes some personal reflections from Bristol PGRs.

All doctoral researchers at the University of Bristol are automatically a member of the GW4 Alliance. GW4 is comprised of four of the most research-intensive and ambitious universities in the UK: Bath, Bristol, Cardiff and Exeter. The GW4 Alliance offers a variety of advantages to postgraduate research students registered at any of its four institutions, including access to a collaborative network, expert training opportunities and shared resources.

GW4 training and support includes:

- Doctoral Student Training Scheme
- Annual Doctoral Skills Training Event
- Communication for Collaboration Online Resource
- Research and Professional Skills Training
- GW4 Equipment Database
- GW4 Treasures (archives and special collections)

Watch the video to find out more about the 'world-leading scholarship, infrastructure and research excellence' offered by the alliance.

3D printing of living artificial tissues

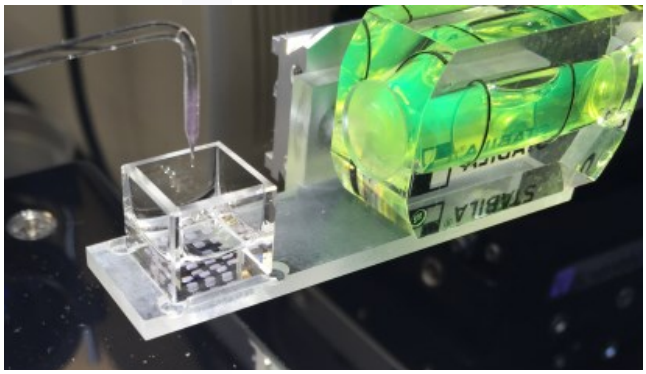
A team from UoB's School of Cellular and Molecular Medicine, together with scientists at the University of Oxford, has developed a new method to 3D-print stem cells to form complex living 3D structures.

The approach could revolutionise regenerative medicine, enabling the production of complex tissues and cartilage that would potentially support, repair or augment diseased and damaged areas of the body. The team demonstrated how a range of living mammalian cells can be printed into high-resolution tissue constructs.

Interest in 3D printing for organ transplantation is increasing as research gains pace. However, printing high resolution living tissues is challenging - cells often move within printed structures and the soft scaffolds printed to support the cells can collapse on themselves.

The researchers devised a way to produce tissues in self-contained cells that support the structures to keep their shape. They hope that with further development, the materials could have a wide impact on healthcare worldwide. Potential applications include shaping near-future technologies in toxicology and even reproducible human tissue models that could take away the need for clinical animal testing.

Image of the 3D droplet bioprinter, developed by the Bayley Research Group at Oxford, producing mm-sized tissues. Image credit: Alexander Graham



Optimising value in healthcare

Balancing improvements in health against the cost of such improvements in primary care is vital to achieve a cost-effective and efficient healthcare system.

Healthcare systems across the world are under immense pressure to deal with ageing populations alongside increasing numbers of patients with chronic diseases and multimorbidity. With finite resources, and an increasing recognition of the potential harms to patients of over diagnoses and overtreatment, it is essential that resources are used optimally.

Researchers from the Bristol Medical School highlight how NHS reforms can increase or decrease value and optimality in primary care. For example, reforms which aim to increase seven-day working in primary care may have knock-on effects on continuity of care, which has been shown to be associated with reduced hospital admissions.

The study recommends that policy changes are evidence-based and trialled or piloted before implementation alongside improved data and primary care systems to measure the impact of policy interventions. This would help policy makers decide where to focus scarce resources, where they will deliver most benefit, helping manage increasing demand within financial constraints, and reduce over diagnosis and over treatment.

Read the full story

ELIZABETH BLACKWELL FUNDING

EBI Clinical Primer Scheme

This scheme is aimed at exceptionally motivated clinically qualified medical, veterinary and dental trainees who are at an early stage of their career and is designed to give them the chance to experience a world-class research environment for the first time.

Closing date: 8 January 2018

EBI Early Career Fellowship

The Elizabeth Blackwell Institute is delighted to be supporting one of the University of Bristol Vice-Chancellor's Fellowships in 2017. In addition to this they will be launching their own competitive EBI Early Career Fellowship scheme in early 2018.

Find a Sponsor deadline: Friday 15th December 2017

EBI Identifying Candidates for Wellcome Trust Investigator Awards

This scheme is designed to support a small number of permanent academic staff at UoB within the first five years of their appointment, who are planning to apply for an Investigator Award from the Wellcome Trust. Applications will be accepted on a rolling basis.

Heads of Schools are asked to nominate members of staff who can be eligible for this scheme by emailing ebi-health@bristol.ac.uk

EBI Workshops Funding

Support interdisciplinary workshops in health research at new or emerging interface between two or more disciplines. Applications reviewed all year.

Returning Carers Scheme

To support academic staff across all faculties in re-establishing their independent research careers on return from extended leave (16 weeks or more) for reasons connected to caring (e.g. maternity leave, adoption leave, additional paternity leave, leave to care for a dependant.).

The deadline for applications is 30 April and 31 October each year.

EBI Bridging Funds for Senior Fellows

This scheme is designed to support a small number of academic staff at the University of Bristol who currently hold an externally funded research fellowship. Applications accepted on a **rolling** basis.

University of BRISTOL
Elizabeth Blackwell Institute for Health Research

FUNDING OPPORTUNITIES

A calendar of potential funding opportunities for Cancer has been set up via Research Professional. Subscribing to a calendar will place the entries in your own calendar, which will update automatically according to pre-specified search criteria. Staff and students have **FREE** access to Research Professional online from all computers on the University network. You can create your own personalised funding opportunity e-mail alerts by registering with RP. Find out all about it on the RED website.

The listing below represents a *brief selection* of available funding for the Cancer Research community. **Full listings of opportunities** are sent out via Faculty Research Directors and/or School Research Directors, and **are available on the Research Development website**. Note that some calls may be subject to a major bids process; all details are on the website.

NIHR CLAHRC West
Training bursary scheme

Closing date: 1 Feb, 1 Jun & 1 Sep (annual) Award amount: £600

Gives staff from the local NHS, health and social care sector the opportunity to attend high quality research and evaluation training at half the price. Bursaries are available for 50 per cent of the course fees; the applicant or their employer is expected to fund the remaining 50 per cent. The bursary aims to promote wider engagement and improve skills in research and evidence in the CLAHRC West patch, particularly for those who have not previously had opportunities for this type of training.

You can apply for bursary support towards any course relevant to research and evaluation in health and social care. This includes study days, workshops and short courses (including individual modules) but not MSc or PhD tuition fees.

Laura Crane Youth Cancer Trust
Research funding

Closing date: none Award amount: unspecified

Supports research projects on cancer affecting teenagers and young people between the age of 13 and 24, which aim to bring increased understanding of cancer in this age group, improved treatments and save more lives. The funding amount is not fixed and is dependent on the research project.

Union for International Cancer Control
Rapid international transfer of cancer research knowledge and clinical technology fellowships

Closing date: None Award amount: US$3,400

Facilitate rapid international transfer of cancer research and clinical technology by supporting investigators to visit another research centre for a month. Between 120 and 150 fellowships are available, which on average are worth USD 3,400 to cover travel and living costs.

Rising Tide Foundation
Clinical cancer research grants

Closing date: 15 Dec 2017 Max award: unspecified

These aim to improve treatment options and quality of life for cancer patients by funding clinical studies focused on prevention, detection, treatments and aftercare. Projects may last up to five years.

Cancer Research UK
Pioneer award (Cancer Research UK)

Closing date: 04 Jan 2018 Max award: £200,000

This supports high-risk, high-reward research projects that have a clear relevance to cancer, and enables the exploration of novel ideas which may lead to new discoveries or approaches. Grants are worth up to £200,000 over two years.

Cancer Research UK
Early detection project award

Closing date: 04 Jan 2018 Max award: £500,000

This supports research projects that drive forward a transformational change in how and when early cancers and pre-cancerous states are detected. Projects should aim to identify cancer or pre-cancerous states at the earliest possible point at which intervention might be made. This may include study of signals that detect or underpin prognosis, stratification or prediction of response to therapy and prevention.

Cancer Research UK
Senior cancer research fellowship

Closing date: 18 Jan 2018 Max award: £2M

This enables scientists to establish or further develop an independent cancer research group in any area of the CRUK's funding remit, with the exception of clinical trials and drug discovery.

Cancer Research UK
Early detection programme awards

Closing date: 15 Feb 2018 Max award: £12.5M

These support long-term, integrated and renewable programmes of exceptional science to transform how and when early cancers and pre-cancerous states are detected.

Cancer Research UK

Programme foundation awards

Closing date: 24 Apr 18 Max award: £1.5M

These enable cancer researchers with eight to 14 years' experience post-PhD to establish or further develop their independent research group.

National Cancer Institute

Early-stage development of informatics technologies for cancer research and management

Closing date: 14 Jun 18 Max award: USD 900,000

To invite co-operative agreement applications for the development of enabling informatics technologies. This is to improve the acquisition, management, analysis and dissemination of data and knowledge across the cancer research continuum.

H2020-SC1-DTH-2019 digital transformation in health and care, single stage

SC1-DTH-01-2019: Big data and Artificial Intelligence for monitoring health status and quality of life after the cancer treatment

Closing date: 24 Apr 19 Max award: €8m

This supports projects that manage health and wellbeing while empowering the participation of citizens and facilitating the transformation of health and care services to more digitised, person-centred and community-based care models, thereby enabling better access to healthcare and the sustainability of health and care systems.

H2020-SC1-DTH-2019 digital transformation in health and care, single stage

Exploiting the full potential of in-silico medicine research for personalised diagnostics and therapies in cloud-based environments

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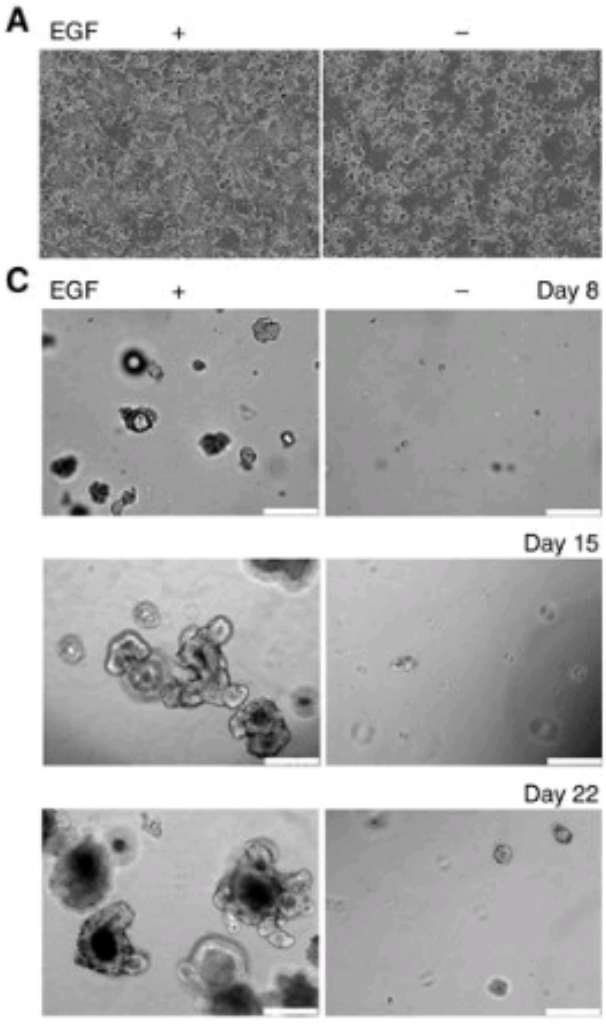
FEATURED PUBLICATION

LGR5 expression is regulated by EGF in early colorectal adenomas and governs EGFR inhibitor sensitivity

Morgan R, Mortensson E, Legge D, Gupta B, Collard T, Greenhough A & Williams A . *British Journal of Cancer*, published online 16 November 2017

Background: LGR5 serves as a co-receptor for Wnt/β-catenin signalling and marks normal intestinal stem cells; however, its role in colorectal cancer (CRC) remains controversial. LGR5+ cells are known to exist outside the stem cell niche during CRC progression, and the requirement for epidermal growth factor (EGF) signalling within early adenomas remains to be fully elucidated.

Methods: Epidermal growth factor and gefitinib treatments were performed in EGF-responsive LGR5+ early adenoma RG/C2 cells. 2D growth assays were measured using an IncuCyte. LGR5 or MEK1/2 silencing studies were executed using siRNA and LGR5 expression was assessed by qRT–PCR and immunoblotting. Ki67 level and cell cycle status were analysed by flow cytometry.



Results: Epidermal growth factor suppresses expression of LGR5 at both the transcript and protein level in colorectal adenoma and carcinoma cells. Suppression of LGR5 reduces the survival of EGF-treated adenoma cells by increasing detached cell yield but also inducing a proliferative state, as evidenced by elevated Ki67 level and enhanced cell cycle progression. Repression of LGR5 further increases the sensitivity of adenoma cells to EGFR inhibition.

Conclusions: LGR5 has an important role in the EGF-mediated survival and proliferation of early adenoma cells and could have clinical utility in predicting response of CRC patients to EGFR therapy.

Image caption: LGR5 is suppressed in EGF-responsive RG/C2 adenoma cells. (A) Representative IncuCyte images showing confluence of RG/C2 2D cell culture at 48 h +/− EGF (50 ng ml−1). (C) Representative widefield microscopy images of RG/C2 adenoma spheroid morphology at 8, 15 and 22 days post-seeding following culture in 3D +/− EGF (50 ng ml−1). White scale bar indicates 250 µm.

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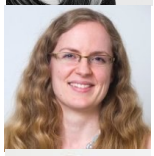
- Dr Zoë Holland, *RED Facilitator*



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