ITSMed RESEARCH ANNUAL REPORT
2014

PLYMOUTH UNIVERSITY
PENINSULA
SCHOOLS OF MEDICINE & DENTISTRY
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EXECUTIVE SUMMARY

This brochure takes stock on the first year of our new Institute of Translational and Stratified Medicine (ITSMed) which at its launch in January 2014 saw colleagues from the UK and funders being introduced to our new Institute. Our acclaimed aim then and now is to bring together world class research strengths in both wet lab basic and translational clinical science and provide a strong permissive environment for effective collaboration and trans-disciplinary links, locally, nationally and internationally, through an integrative ‘bench to bedside and back’ approach.

I hope you will see that a year on we can already celebrate some successes.

Thanks to having established an attractive structure and promoted a collaborative culture within ITSMed we successfully recruited leading researchers from the UK, US, Europe and China to join this exciting initiative. Just one year on grant success more than doubled compared to the previous year. This includes grants awarded by the UK Research Council, National Institute for Health Research (NIHR), Cancer Research UK, the Medical Research Council, the establishment of a charity funded Centre of Excellence for Brain Tumours and the Alzheimer’s Research UK South West Network Centre, as well as a US grant from the National Institute of Health (NIH). Correspondingly our researchers have published in the highest impact journals for example Nature Communications, Nature Genetics, Nature Neuroscience, Lancet Respiratory Science, Lancet Neurology, JAMA, HTA, PNAS and Cancer Cell over the last year.

An acknowledgment of our success not only came from the recent REF but also came from an increasing number of collaborations with other research Institutes, for example the Memorial Sloan Kettering Cancer Centre New York and Cambridge Institute of Medical Research.

As well as delivering world-class research funded through large grants, ITSMed is investing in its ambition to proactively support and develop future researchers. In addition to developing medical research focussed events with local schools and our highly successful Nobel Prize lecture series that brings students and researchers together, we have established an MSc in Biomedicine and a ResM programme and welcomed 16 new PhD/MD students during the past year.

Our regular seminars included high profile guest speakers, for example, David Rubinsztein from the Cambridge Institute of Medical Research, Sabine Werner from ETH Zürich amongst many others. Our researchers have been present at various international meetings.

In addition, and with the help of our press office and public events, we have organised information days and laboratory tours with Cancer Research UK and the Brain Tumour Research charity to support public engagement.

Next year, I am sure, will be as successful as the last. 2015 will also see the start of the work to develop our new landmark 2500 sqm research building. The facility will bring Biomedical Research currently located on our main City Centre Campus to a new facility adjoining the research labs in the John Bull Building, the Headquarters of our Medical and Dental Schools, and adjacent to the Hospital.

I hope by reading our brochure you will agree this has been an outstanding first year and that we are on a trajectory to become a leading institute for translational medicine. I want to thank all of the Institute members for their hard work and commitment that has enabled us to make such dramatic progress so quickly. Special thanks to Wendy Wilson and Michael Paisey in helping to get this brochure together.

Professor Oliver Hanemann
Associate Dean Research
ITSMed brings together our world class research strengths in both wet lab basic and translational clinical science. It provides a very strong environment for effective collaboration and trans-disciplinary links between clinical and non-clinical scientists through an integrative ‘bench to bedside and back’ research strategy.

ITSMed has three research groups with combined facilities and resources that cluster researchers with recognised expertise to achieve critical mass in specific areas and to enable constructive overlap.

The Institute has three centres:

Centre for Clinical Trials and Population Studies
Lead: Adrian Taylor
The Centre for Clinical Trials and Population Studies hosts large epidemiological studies and trials, health services, research and a UKCRC registered Clinical Trials Unit.

Centre for Biostatistics, Bioinformatics and Biomarkers
Acting Lead: Susan Ball
The Centre for Biostatistics, Biomarkers and Bioinformatics supports many local and national research projects, including genomics and biomarker studies.

Centre for Biomedical Research
Lead: Simon Jackson
The Centre for Biomedical Research includes basic and translational research in neurology, gastroenterology, inherited, infectious and inflammatory disease and cancer.
THE CENTRE FOR BIOSTATISTICS, BIOINFORMATICS AND BIOMARKERS (CBBB)

Acting Centre Lead: Susan Ball, Research Fellow

The Centre focusses on transitioning-research-into-practice and improving the quality of existing health services. We have strong links with national and international research groups that have provided us with an unique platform for large scale research projects and we also offer support and advice to local NHS.

Through the application of wide ranging statistical methodologies the work of CBBB includes:

- **Well established own-contract work and research collaboration in prenatal screening**
  CBBB continues to deliver the Down’s syndrome screening Quality Assurance Support Service (DQASS), supported by the National Screening Committee for Public Health England. This service involves regular analysis and reporting of laboratory data from approximately 500,000 prenatal screening tests performed across the UK each year, receiving data from 25 laboratories, covering approximately 200 hospitals. Additionally DQASS analyses and reports on ultrasound image measurements from approximately 2750 sonographers currently reporting to DQASS. CBBB conducts research in the area of prenatal screening, in collaboration with research groups nationally and internationally; in particular, continuing the successful, long-term research collaboration with maternal and fetal medicine specialists in Denmark (Copenhagen and Aarhus Universities), CBBB continues to publish widely in this area, in leading subject-specific journals.

- **Commercial collaboration**
  The EarlyBird study (CBBB PI) as an example is collaborating with the Nestlé Institute of Health Sciences (Lausanne, Switzerland) to complete the follow-up of children in this longitudinal cohort study in order to investigate longer term implications for health of childhood/pubertal growth and metabolic patterns already observed from 5y to 16y. The stability and impact of both epigenetic and metabolomic profiles on a wide range of phenotypic characteristics, including adiposity and body composition is now also being investigated.

- **Local research collaboration and support in clinical trials and epidemiological studies**
  The Centre has local research collaborations with groups within Plymouth University (PU), Plymouth University Peninsula Schools of Medicine & Dentistry (PU PSMD), Plymouth Hospitals NHS Trust (PHNT) and PenCLAHRC on biomedical and clinical studies -- in areas such as risk assessment, screening and diagnostics, emergency medicine and Neurodegenerative disease. CBBB supports and has co-applicant status on clinical trials and pragmatic health services research. CBBB runs weekly statistics clinics for local NHS researchers, funded by (PHNT). CBBB bioinformatics research covers biological data management, application and development of state-of-the-art genome-wide association studies, next-generation sequencing and whole genome microarray methodologies in genomics and genetics studies. CBBB is currently collaborating with research groups within PU on projects such as the genome-wide association studies (GWAS) on Barrett’s Oesophagus disease, microarray gene expression study for mantle cell lymphoma disease and developing machine learning approaches for biomarker discovery of Alzheimer’s disease.

The Centre supports the teaching of PU PSMD undergraduate students on the Clinical Decision Making Programme and assists with automating the psychometric reporting and evaluation of undergraduate assessment tests.

Susan Ball
THE CENTRE FOR CLINICAL TRIALS AND POPULATION STUDIES (CCTPS)

Centre Lead: Professor Adrian Taylor

The Centre for Clinical Trials and Population Studies (CCTPS), led by Prof Adrian Taylor, encompasses several research groups namely:

- Primary Care and Health Services Group
- Clinical Neurology Group
- Dental Health Research Group
- Peninsula Clinical Trials Unit

provides trial methodology, management and delivery expertise.

Primary Care and Health Services Research, led by Prof Richard Byng, includes projects and staff associated with the NIHR Peninsula Collaboration for Leadership in Applied Health Research and Care (PenCLAHRC), as well as other research (eg, on designing and evaluating complex interventions particularly to improve mental health from children to the elderly, addressing health inequalities, epidemiological psychiatry, and integrated care). Richard is also co-director of PenCLAHRC.

We are looking at how practitioners and patients work together to produce personalised treatment plans based on psycho-social as well as biomedical perspectives. Some of the most significant research studies have focused on developing systems and personalised interventions to address the needs of offenders, people with depression and other chronic conditions (eg, metabolic and musculo-skeletal), and health behaviour change support for smokers and inactive patients. Over £4m in NIHR and other funding has been received in the past 4 years for programme grants and individual studies, including randomised controlled trials.

The Clinical Neurology research group, led by Prof John Zajicek, with Prof Jeremy Hobart and Dr Camille Carroll, have developed an international reputation over the past 10 years for conducting clinical trials (eg, SWIMS and CUPID) with patients with conditions such as multiple sclerosis, and Parkinson’s disease. The work has been funded by the NIHR, charities (eg, MS Society) and commercial organisations (eg, JP Moulton Charitable Foundation). Further work involves cognitive assessment in neurodegenerative diseases (ie, dementia), especially using patented software for mobile devices.

The Dental Health Service research group are based within the UKs only primary care dental school. They conduct research on health inequalities, and conduct systematic reviews such as the effectiveness of health promotion for dental health.

Within the Centre is the PenCTU, one of the first National Institute of Health research-registered CTUs, with methodological and trial management expertise. The team of 15 staff support research from the application to management and dissemination stages.

Professor Adrian Taylor
THE CENTRE FOR
BIOMEDICAL RESEARCH

Centre Lead: Professor Simon Jackson

The aim of the Centre for Biomedical Research (CBR) is to support high quality research, internal and external collaborations, staff development, and sustainability. Research within CBR is concerned with the cellular and molecular processes of human health and disease, focused on three themes: Clinical Neuroscience, Cancer, and Infection, Immunity and Inflammation underpinned by state-of-the-art genomic and proteomic technologies, cell biology, next-generation sequencing and bioinformatics.

Improvements in health and lifespan have provided many new challenges in cardiovascular and inflammatory disorders, the increasing incidence of cancer, neurodegenerative diseases and new infectious threats. The principal focus of research in the Centre for Biomedical Research (CBR) is to understand the molecular and cellular processes underlying human health and disease with a key aim to translate this research into diagnostic and therapeutic applications and to guide preventative strategies. This focus aligns with key Research Council and EU strategic priorities and the Plymouth University vision for 2020.

We are gaining increasing recognition for our biomedical research with recent grant income of over £3.5M and bids of £3M currently under consideration. In addition, CBR research is providing significant high-quality publications. Investment in state-of-the-art systems biology facilities and the recruitment of expertise in this technology will support the sustainability of our research. This approach is strengthened through our external collaborations with industrial and government bodies, the NHS and developing commercialization of our research.

Cancer

We apply modern cell biology to elucidate the molecular pathology of cancer, in particular the development of brain tumours, lymphomas and oral cancer. Our success in this area is highlighted by the award of the Brain Tumour Research centre of excellence (Hanemann); Downs Syndrome biomarker patent (Avent); LPS biomarker for marine contamination patent (Jackson); Co-founder and Director of Spectromics spin-out company (Upton); formation of the SouthWest dementia network centre funded by Alzheimer’s Research UK (Anichtchik, Tieu); Special Volunteer Consultant, NIH. Disease Modelling and Transmission (Jarvis), NC3R international prize award (Fejer).

Neuroscience

A breakdown in neuronal function is characteristic of many of the most challenging diseases, including neurodegenerative conditions such as Parkinson’s Disease, dementia and brain injury. These conditions remain poorly understood, hindering the development of new treatments. We use molecular and genetic approaches to identify neuropathologic pathways, novel disease markers and treatment targets.

Infections and the Immune system

Many pathogens remain difficult to treat – including many viruses and antibiotic-resistant bacteria. In collaboration with Public Health England and NHS partners, we are developing new models of infection to produce diagnostic targets, antimicrobial therapies and novel vaccines. Excessive inflammation and aberrant immune responses are a feature of many diseases and understanding how the immune response is triggered and controlled is an important area of our research. Supported by significant grant funding, we are gaining increasing recognition for the development of experimental models that support the 3Rs agenda (replacement, refinement and reduction of animals in research), including cultures of patient cells to help develop personalised and stratified medicine approaches and novel 3D cultures and self-renewing macrophage lines for molecular biomarker identification.

Research Impact

With the commercialization of our research including Systems Biology services. Examples of recent impact include Brain tumour research centre of excellence (Hanemann); Downs Syndrome biomarker patent (Avent); LPS biomarker for marine contamination patent (Jackson); Co-founder and Director of Spectromics spin-out company (Upton); formation of the SouthWest dementia network centre funded by Alzheimer’s Research UK (Anichtchik, Tieu); Special Volunteer Consultant, NIH. Disease Modelling and Transmission (Jarvis), NC3R international prize award (Fejer).

Future Developments

Development of our research will require closer internal links within PUPSMD, inter-disciplinary relationships across PU, the NHS and maintaining international networks with specialist research groups. Such relationships and our expanding research ambitions will be enhanced by a new Biomedical Research Building at the John Bull site that will accommodate our expanding systems biology technology and facilitate significant future research development.

Professor Simon Jackson
ITSMed RESEARCH GRANTS AND OTHER INCOME

It has been a highly successful first period for ITSMed when considering levels of income attracted by its research teams. Since its launch ITSMed has secured over £8.5 million in Research and Commercial Income across its three research centres - when compared to the figures generated within the same areas in the twelve months prior to launch this represents a significant growth (as depicted in the figure).

The increase demonstrates a strong return on the investment by Plymouth University in world class researchers and facilities to support the institutes aspirations, the successful development of long term programmes of research and the added value of collaboration facilitated by the Institute.

Research income has been generated from a wide variety of sources as outlined within figure two and the table on the page opposite, ITSMed is grateful for the support of all its funders in helping to deliver world-class research.
Examples of our awards

There have been too many grants awarded to ITSMed researchers since its launch to list them all within this publication. However, we have aimed to provide examples of some of the grants and the research that they fund to give a flavour of our activity which has been so successful in attracting increased funding to the Institute.

<table>
<thead>
<tr>
<th>Principal Investigator</th>
<th>Centres Involved</th>
<th>Funder</th>
<th>Income awarded</th>
<th>Outline of project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prof C Oliver Hanemann</td>
<td>CBR</td>
<td>Dr Hadwen Trust</td>
<td>£146,777</td>
<td>Identification of Common therapeutic targets In Schwannomas and Meningiomas</td>
</tr>
<tr>
<td>Prof Richard Byng</td>
<td>CCTPS</td>
<td>NHS National Institute for Health Research</td>
<td>£407,751</td>
<td>DeCoDer Trial: Debt Counselling for Depression in Primary Care; an Adaptive Randomised controlled Trial</td>
</tr>
<tr>
<td>Prof Richard Byng</td>
<td>CCTPS</td>
<td>NHS National Institute for Health Research</td>
<td>£262,063</td>
<td>Partners 2: Development &amp; pilot trial of primary care based collaborative care for people with serious mental illness</td>
</tr>
<tr>
<td>Miss Susan Ball</td>
<td>CBBB</td>
<td>Public Health England</td>
<td>£455,000</td>
<td>Down’s Syndrome Screening Quality Assurance Support Service</td>
</tr>
<tr>
<td>Dr Joanne Hosking</td>
<td>CBBB, CCTPS</td>
<td>Nestle Institute of Health Sciences</td>
<td>£138,500</td>
<td>Statistical Analysis for Childhood predictors of long term health: The Plymouth Earlybirds at age 18 (The Earlybird 3 study)</td>
</tr>
<tr>
<td>Dr Antonia Vlahou</td>
<td>CBR</td>
<td>European Commission - Framework 7</td>
<td>£333,039</td>
<td>Systems Biology for Vascular Disease</td>
</tr>
<tr>
<td>Dr Bing Hu</td>
<td>CBR</td>
<td>Biotechnology &amp; Biological Sciences Research Council</td>
<td>£564,576</td>
<td>Role of FoxNi gene as a control regulator of epidermal planar cell polarity signalling expression and function</td>
</tr>
<tr>
<td>Dr Claudia Barros</td>
<td>CBR</td>
<td>Biotechnology &amp; Biological Sciences Research Council</td>
<td>£319,300</td>
<td>Decoding the molecular identity of neural stem cell types</td>
</tr>
<tr>
<td>Prof C Oliver Hanemann</td>
<td>CBR</td>
<td>Brain Tumour Research</td>
<td>£1,282,69*</td>
<td>Brain Tumour Research Centre of Excellence</td>
</tr>
<tr>
<td>Dr Kim Tieu</td>
<td>CBR</td>
<td>National Institutes of Health (US)</td>
<td>£482,387</td>
<td>Toxicant-induced synaptic dysfunction and neurotoxicity in Parkinson’s disease</td>
</tr>
<tr>
<td>Dr Kim Tieu</td>
<td>CBR</td>
<td>Medical Research Council</td>
<td>£437,163</td>
<td>Manipulating mitochondrial dynamics as a therapeutic strategy for Parkinson’s disease</td>
</tr>
<tr>
<td>Prof Matthew Cramp</td>
<td>CBR</td>
<td>NHS</td>
<td>£171,313</td>
<td>Translation of a vaccine targeting universal tumour-associated antigens (TAA) from animal models to humans</td>
</tr>
<tr>
<td>Prof Adrian Taylor</td>
<td>CCTPS</td>
<td>NHS National Institute for Health Research</td>
<td>£1,341,670</td>
<td>A Multicentre randomised controlled trial of an augmented exercise referral scheme using web-based behaviour change in individuals with type 2 diabetes, osteoarthritis or depression</td>
</tr>
<tr>
<td>Dr Camille Carroll</td>
<td>CCTPS, CBBB</td>
<td>Cure Parkinson Trust, The J P Moulton Charitable Foundation</td>
<td>£557,856</td>
<td>Simvastatin as a neuroprotective treatment for Parkinson’s disease</td>
</tr>
<tr>
<td>Prof Elizabeth Kay</td>
<td>CCTPS</td>
<td>NICE (National Institute for Health &amp; Clinical Excellence)</td>
<td>£54,614</td>
<td>Oral Health Promotion Approaches for Dental Health Practitioners Evidence Review</td>
</tr>
<tr>
<td>Prof Jonathan Pinkney</td>
<td>CCTPS, CBBB</td>
<td>Nestle Institute of Health Science</td>
<td>£162,264</td>
<td>Childhood predictors of long term health: The Plymouth Earlybirds at age 18 (The Earlybird 3 study)</td>
</tr>
<tr>
<td>Patricia Vickery (on behalf of PenCTU)</td>
<td>CCTPS</td>
<td>Health Technology Assessment (DoH)</td>
<td>£102,986</td>
<td>School Entry Hearing Screening - PenCTU Support</td>
</tr>
<tr>
<td>Patricia Vickery (on behalf of PenCTU)</td>
<td>CCTPS</td>
<td>NHS National Institute for Health Research</td>
<td>£62,092</td>
<td>Plasters vs Air Boot Ankle Fracture Study - PenCTU</td>
</tr>
<tr>
<td>Prof Simon Rule</td>
<td>CCTPS</td>
<td>Cancer Research UK</td>
<td>£644,545*</td>
<td>Research into the efficacy and side effects of using a BTK (Bruton’s Tyrosine Kinase) inhibiting drug in a trial against standard chemotherapy</td>
</tr>
<tr>
<td>Dr Vashti Berry</td>
<td>CCTPS</td>
<td>NHS National Institute for Health Research</td>
<td>£217,502</td>
<td>Enhancing Social-Emotional Health and Wellbeing in the Early Years: ISEE</td>
</tr>
<tr>
<td>Dr Oleg Anichtchik</td>
<td>CBR, CCTPS</td>
<td>Alzheimer’s Research UK</td>
<td>£25,000</td>
<td>To lead the ARUK South West Network Centre; a collaborative initiative between biomedical and clinical dementia researchers.</td>
</tr>
<tr>
<td>Dr Mat Upton</td>
<td>CBR</td>
<td>TSB</td>
<td>£216,944</td>
<td>Efficient production of first in class antimicrobial therapeutics from an integrated synthetic biology approach</td>
</tr>
<tr>
<td>Dr Mat Upton</td>
<td>CBR</td>
<td>BBSRC</td>
<td>£907,949</td>
<td>Efficient production of first in class antimicrobial therapeutics from an integrated synthetic biology approach</td>
</tr>
<tr>
<td>Dr Rupert Jones</td>
<td>CCTPS</td>
<td>MRC</td>
<td>£136,086</td>
<td>A development study to examine feasibility and acceptability of pulmonary rehabilitation in Uganda for adults with chronic respiratory disease</td>
</tr>
<tr>
<td>Prof Simon Jackson</td>
<td>CBR</td>
<td>NERC</td>
<td>£278,471</td>
<td>Detection and characterisation of inflammatory agents associated with bioaerosol emitted from biowaste and intensive agriculture</td>
</tr>
</tbody>
</table>

* Projected Funding level based on initial award funding may be subject to change based on progression of project
## Keynote Lectures

<table>
<thead>
<tr>
<th>Date</th>
<th>Speaker</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>27/11/13</td>
<td>Dr Denis Corbeil, Biotechnologisches Zentrum</td>
<td>Prominin-1 (CD133) Reveals New Insights into the Cell Biology of Stem and Progenitor Cells</td>
</tr>
<tr>
<td>11/12/13</td>
<td>Prof. Michel Kalamarides, Professor in Neurosurgery, University of Paris</td>
<td>Meningiomas: from human to mouse models and back</td>
</tr>
<tr>
<td>29/1/14</td>
<td>Professor Simon Jackson, Director Centre for Biomedical Research, University of Plymouth</td>
<td>Phospholipid Metabolism – new roles in cell function</td>
</tr>
<tr>
<td>1/5/14</td>
<td>Professor Jordan Raff, President Sir William Dunn School of Pathology, Oxford University</td>
<td>Centrosomes and Asymmetric Stem Cell Division</td>
</tr>
<tr>
<td>21/5/14</td>
<td>Dr Joaquin de Navascues, Research Fellow, University of Cardiff</td>
<td>The Drosophila midgut as a model for intestinal stem cell based homeostasis and tumorigenesis</td>
</tr>
<tr>
<td>28/5/14</td>
<td>Professor Fai Ng, Professor of Rheumatology, University of Newcastle</td>
<td>Primary Sjogren’s Syndrome – an introduction &amp; the current perspectives</td>
</tr>
<tr>
<td>4/6/14</td>
<td>Dr Viktor Korolchuk, Lecturer in Neurobiology of Ageing, University of Newcastle</td>
<td>mTOR and autophagy: mechanisms of control in health and disease</td>
</tr>
<tr>
<td>26/6/14</td>
<td>Dr Antonia Vlahou, Associate Professor, School of Biomedical Sciences, University of Plymouth</td>
<td>Proteomic biomarkers for bladder cancer; from discovery to implementation</td>
</tr>
<tr>
<td>2/7/14</td>
<td>Prof. Vladimir A. Botchkarev, Professor of Cutaneous Biology, University of Bradford</td>
<td>Epigenetic regulation of epidermal development and differentiation</td>
</tr>
<tr>
<td>16/7/14</td>
<td>Prof. Sabine Werner, Inst. Molecular Health Services, Zurich</td>
<td>Cytoprotective signalling pathways in tissue repair and cancer</td>
</tr>
<tr>
<td>1/10/14</td>
<td>Professor Alex Verkhhratsky, Professor of Neurophysiology, University of Manchester</td>
<td>Pathophysiology of astroglia with special emphasis on Alzheimer’s disease</td>
</tr>
<tr>
<td>28/10/14</td>
<td>Professor Claire Lewis, Professor in Molecular and Cellular Pathology, University of Sheffield</td>
<td>Macrophages in tumours: villains to heroes in cancer therapy</td>
</tr>
<tr>
<td>26/11/14</td>
<td>Professor David Bennett, Professor in Neurology and Neurobiology, University of Oxford</td>
<td>Signals mediating repair following neural injury</td>
</tr>
<tr>
<td>3/12/14</td>
<td>Professor David Rubinsztein, Professor of Molecular Genetics, University of Cambridge</td>
<td>Autophagy and neurodegeneration</td>
</tr>
<tr>
<td>Speaker</td>
<td>Date</td>
<td>Title</td>
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<tr>
<td>Dr Edwin Lasonder</td>
<td>November 2014</td>
<td>Invited lecture, 'An In-depth Proteomic Analysis of the Plasmodium Parasite' Pre-meeting course, <em>Advances in Metabolomics and Proteomics Toward Dissecting Host-Pathogen Interactions</em> from annual meeting American Society of Tropical Medicine and Hygiene, New Orleans (USA)</td>
</tr>
<tr>
<td>Professor Simon Rule</td>
<td>June 2014</td>
<td>Chaired the Mantle cell lymphoma workshop at the European Haematology Association annual meeting in Milan</td>
</tr>
<tr>
<td>Professor Simon Jackson</td>
<td>2014</td>
<td>Invited presentation to Pharmaceutical Industry, London <em>Clinical impacts of bacterial endotoxin</em></td>
</tr>
<tr>
<td>David Parkinson</td>
<td>Nov 2014</td>
<td>Invited to present at the Research Symposium at the Children's Tumor Foundation</td>
</tr>
<tr>
<td>Michael Jarvis</td>
<td>Sept 2013</td>
<td>Invited speaker, Lawrence Livermore National Laboratory, CA, USA</td>
</tr>
<tr>
<td>Michael Jarvis</td>
<td>Oct 2013</td>
<td>Invited speaker, Roslin BBSRC Annual ISP3 &amp; ISP4 Symposium</td>
</tr>
<tr>
<td>Michael Jarvis</td>
<td>March 2014</td>
<td>Invited speaker, Helmholtz Institute, Braunschweig, Germany</td>
</tr>
<tr>
<td>Silvia Ammoun</td>
<td>October 2014</td>
<td>Ninth International Conference of Anti-cancer Research, Sithonia</td>
</tr>
<tr>
<td>Professor C O Hanemann</td>
<td>June 2014</td>
<td>NF2 State of the Art meeting, Boston</td>
</tr>
<tr>
<td>Professor C O Hanemann</td>
<td>June 2014</td>
<td>British Neuo-oncolgy Meeting, Liverpool</td>
</tr>
<tr>
<td>Dr. Kim Tieu</td>
<td>2014</td>
<td>Sheffield Institute for Translational Neuroscience, University of Sheffield</td>
</tr>
</tbody>
</table>
Craddock N, Kirov G. Duplications at 16p11.2 are implicated in neurotoxicity and dopamine release deficits in vivo. Nature Communications, 5 Nov 2014 5 (5244)


Wei Li, Jonathan Cooper, Lu Zhou, Chenyi Yang, Hediye Erdjument-Bromage, David Zagzag, Matija Snuderl, Marc Ladanyi, C. Oliver Hanemann, Pengbo Zhou, Matthias A. Karajannis, and Filippo G. Giancotti Merlin/NF2-loss Driven Tumorigenesis Linked to CRL4-DCAF1 Mediated Inhibition of the Hippo Pathway Components Lats1 and 2 in the Nucleus Cancer Cell Jul 2014 14; 26 (1) 48-60

Clinical Trials & Population Studies


Anna Kottgen, Xinzhong Li, et.al Multiple Novel Loci Highlighting Metabolic Control of Urate Production and Excretion are Associated with Gout. Nat Genet. 2013 Feb;45(2):145-54. doi: 10.1038/ng.2500

**Staff list**

Professor C Oliver Hanemann

Professor Simon Jackson

Professor Neil Avent

Professor Matthew Cramp

Professor Robert Fern

Professor Richard Byng

Professor Adrian Taylor

Professor Jonathan Pinkney

Professor John Zajicek

Professor Jeremy Hobart

Professor Simon Rule

Professor David Parkinson

Dr Charles Affourtit

Dr Oleg Anichtchik

Dr Claudia Barros

Dr Louise Belfield

Dr Robert Belshaw

Dr Torsten Bossing

Dr Brynmor Breese

Dr Craig Donaldson

Dr Gyorgy Fejer

Dr Andrew Foey

Dr Simon Fox

Dr Elaine Green

Dr Bing Hu

Dr Claire Hutchinson

Dr Michael Jarvis

Dr Edwin Lasonder

Dr Shouqing Luo

Dr Tracey Madgett

Dr Lynn Callum

Dr Roy Moate

Dr Gail Rees

Dr Llinos Roberts

Dr Iain Robinson

Dr Vehid Salih

Dr Stephen Thompson

Dr Kim Tieu

Dr Matthew Upton

Dr Antonio Vlahou

Dr Svetislav Zaric

Dr Camille Carroll

Dr Vashti Berry

Dr Rupert Jones

Dr William Lee

Dr Joanne Hosking

Miss Susan Ball

Dr David Sheridan
Brain Tumour Research – Launch of Centre for Excellence

With secure long-term funding from Brain Tumour Research, Professor Hanemann’s team will be freed from the limitations and frustrations of applying for one specific project grant after another, able instead to pursue the sustainable and continuous research so desperately needed.

- BBC Radio 4
- BBC Spotlight
- ITV West Country
- Radio

Parkinson’s Disease

A study led by a researcher from Plymouth University in the UK, has discovered that the inhibition of a particular mitochondrial fission protein could hold the key to potential treatment for Parkinson’s Disease (PD).

- BBC Spotlight
- ITV West Country
- Environmental Factor (Newsletter for the US National Institute of Environmental Health Sciences)

Plymouth Immunologist given National Award for 3R’s

Dr. Gyorgy Fejer from Plymouth University School of Biomedical and Healthcare Sciences received a national award for his work developing the lab-based creation of a type of mouse cell line which could be used in place of live animals for research related to infectious diseases. Dr. Fejer has received a highly recommended prize from the National Centre for the Replacement, Refinement and Reduction of Animals in Research (NC3Rs)

- Drug Discovery Today
- My Science Web
- Radio Plymouth

E.coli - New antibiotics

Scientists have for the first time come closer to understanding how a clone of E.coli, described as the most important of its kind to cause human infections, has spread across the world in a very short time. E.coli clone ST131 is one of the leading causes of urinary tract and blood stream infections and has crossed the globe at a rapid rate. Worryingly, members of this clone are becoming more resistant to antibiotics.

- Manufacturing Chemist
- Science Newsline
- Western Morning News

Ground Breaking Laboratory Services Launch

A ground breaking laboratory services centre which analyses the very molecules of life for research into topics as diverse as marine biology, Ebola, cancer, neurological diseases, bovine TB and Down’s Syndrome, was launched at Plymouth University in 2014. The Plymouth University Systems Biology Centre provides services and support to scientists analysing DNA, RNA and proteins within cells and molecules. The Centre sits within the CBR and the University’s School of Biomedical and Healthcare Sciences but works with other departments in the University, including Peninsula Schools of Medicine and Dentistry, the School of Biological Sciences, and the School of Marine Science and Engineering.

- ITV West Country
- Radio Plymouth
- Western Morning News
- Research Fortnight

Dental Cancer Research - Half a million funding

A research team from Plymouth University Peninsula Schools of Medicine and Dentistry has received funding from the Biotechnology and Biological Sciences Research Council for research to better understand a cell defect that contributes to diseases such as cancer. Their work could directly lead to the development of drug therapies to halt these diseases at the very earliest stages of diagnosis.

- British Dental Journal
- Dentistry
- My Science Web

Chemo-free Treatment

Patients with terminal forms of leukaemia and lymphoma who have run out of treatment options could soon benefit from a new drug, which not only puts an end to chemotherapy and has virtually no side effects but also improves a patient’s life expectancy and quality of life.

- Daily Mail
- Daily Express
- BBC Spotlight
- Western Morning News
- Science Newsline

Research how Neuro Cells turn Cancerous

Scientists from the Sloan-Kettering Institute for Cancer Research in New York with the help of Plymouth University Peninsula Schools of Medicine and Dentistry have completed research which for the first time brings us nearer to understanding how some cells in the brain and nervous system become cancerous.

- Western Morning News
- Science Newsline
- My Science Web