UNIVERSITY OF CAMBRIDGE

NHS National Institute for Health Research

The Cambridge BioResource

NEWSLETTER

The Cambridge BioResource

Bringing together local people and leading research / **Issue 6**

Cambridge BioResource at Science Festival 2016

The Cambridge BioResource (CBR) took part in the 250th Anniversary of Addenbrooke's with the Cambridge Science Festival on Sunday, 20th March 2016. We had a stall in the main hospital which attracted many visitors. We gave out information on what we do and some people signed up to join our volunteer panel on the spot.

We also opened the doors to S2 – the NIHR Biomedical Research Centre Clinical Research Unit which is home to our nursing team. Visitors were given the opportunity to look around the unit and ask the nurses questions about the research studies that we support. They could also use our body composition analyser (Tanita) to obtain a reading indicating body weight, body fat percentage, lean body mass, hydration level and Body Mass Index (BMI).

Nursing Times Award 2015 - Our Winners!

In the last issue, we mentioned that the fabulous CBR research nursing team were nominated for the 2015 Nursing Times Awards. And they won!

The team was shortlisted for the Clinical Research Nursing category for their entry detailing a model of research nursing they have developed, focusing on a volunteer-centric approach. For more details see www.cambridgebioresource.org.uk/volunteers/volunteer-centric.

They competed with nine other organisations, including the James Paget University Hospitals Foundation Trust, the Evelina London Children Hospital at Guy's & St Thomas, and Doncaster Royal Infirmary.

On 12 November, colleagues from the healthcare sector came together for the ceremony at Grosvenor House, Park Lane, London, where the CBR nurses were announced as the winners of their category.

Professor John Bradley, Director of the NIHR BioResource, commented on the nurses' success: "This is a fantastic achievement, recognising the unique contribution the NIHR Cambridge BioResource make to engaging the local community in world class clinical research."

Celebrating Our New Mum

We recently waved goodbye to Dominika, Study Participation Coordinator in the NIHR BioResource. But only temporarily! We wish her well with her little one!

Cambridge BioResource Open Day 2016

The Cambridge BioResource hosted its 10th Birthday on the 7th of February 2016 at the Cambridge Corn Exchange.

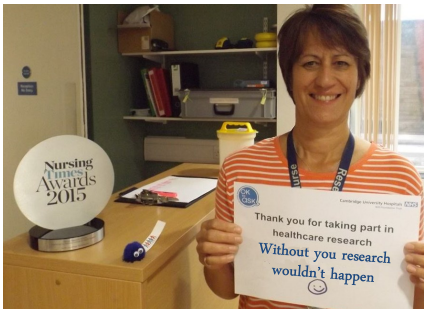
There were various stalls, including 'Mad Science' who held hands-on workshops for children throughout the day to learn more about human biology. We also invited some of the researchers who have worked with us to talk about the studies we supported and explain how CBR volunteers have contributed to their research. We were overwhelmed by the demand for attending the talks and we will bear this in mind when choosing a venue for our next event.

Over 400 people came to visit the Cambridge Corn Exchange to learn about CBR and health research. This was a great opportunity to meet face-to-face with our volunteers and their families, answer their questions and thank them for their contribution to the research that we support. Moreover, we met lots of new people who showed interest in our work and offered to join our panel.

We are extremely thankful that so many people attended. Look out for details of an Open Evening later this year.

International Clinical Trials Day 2016

The Cambridge BioResource and NIHR BioResource teams took to Twitter in support of International Clinical Trials Day on 20th May, responding to the question set out by the #WhyWeDoResearch and OK to Ask campaigns. See our Twitter feed (https://twitter.com/nihrbioresource) or our Facebook page for responses from the whole team.



International Clinical Trials Day is held around the world on 20th May each year to commemorate the day that James Lind began his trials into the causes of scurvy. It aims to raise awareness of the importance of research to healthcare, and highlights how partnerships between patients and healthcare practitioners are vital to high-quality, relevant research.

The #WhyWeDoResearch campaign was established in December 2014. The aim is to raise awareness about research and research opportunities to staff, patients and the public, and to start a conversation about research. The campaign has reached 20 countries since its inception. The use of Twitter has allowed for rapid, global connectivity, serving as a remarkable vehicle for communication as well as education.

The OK to Ask campaign for this year has officially launched with the aim of encouraging more patients or carers to ask about research opportunities that could be available to them or their loved ones. For more information visit www.nihr.ac.uk/get-involved/ok-to-ask.htm

Recently completed studies: Thank you for continuing to support us!

The BioResource has grown considerably since its inception in 2005 and is continuing to gain recognition both locally and nationally. The success of this project would not have been achievable without the support and generosity of our volunteers. They are an invaluable resource for the progress of medical research and we are highly appreciative for their time and commitment.

Study on ANCA associated vasculitis genetic variations

Led by Dr Maria Fonseca

ANCA (anti-neutrophil cytoplasmic antibody) associated vasculitis (AAV) is a rare disease which causes the body's white blood cells to attack the body rather than germs. The underlying cause of AAV remains unclear and the treatments for this condition, whilst effective, are associated with significant side effects including long-term risks of infection and cancer.

This study allowed researchers to look at the variations in the DNA sequence between vasculitis patients and healthy subjects. This research has recently identified a number of genetic variations that are associated with the disease.

With this understanding, we will be able to create better tests to speed up diagnosis. We will also be able to predict disease severity, which will allow for more personalised treatment, and aid design of newer medications or therapies with fewer side effects to fight this disease.

A study of chemokines in the development of Primary Sclerosing Cholangitis, Inflammatory Bowel Disease or Colorectal Cancer

Led by Dr Evaggelia Liaskou

A mixture of environment and genes are important in why someone gets Primary Sclerosing Cholangitis (PSC), a chronic liver disease. There are many environmental factors for autoimmune disorders, such as PSC, but one that stands out is the association with low vitamin D levels. Amongst genes associated with risk of getting PSC is one called CD28, which makes a protein important in controlling how cells respond to injury.

With this project we aimed to study how a change in the CD28 gene, found in some PSC patients but also in some healthy individuals, affects the function of specific cells called T cells and how vitamin D can influence these changes. The use of blood from healthy volunteers both with and without such changes in their CD28 gene is very important for this project to help us to better understand the role of this genetic variation. Patients often have other genetic variations that would interfere with the results.

A study of genetic and cellular mechanisms protecting from tuberculosis

Led by Dr Sergey Nejentsev

Every year tuberculosis (TB) kills more than 1 million people globally. Some people are known to be more susceptible to TB than others. The reasons are partly genetic, but specific genes remain largely unknown.

To uncover mechanisms involved in protection from TB, our laboratory collected blood samples from Cambridge BioResource volunteers, isolated immune cells from their blood and infected those cells with the bacterium that causes TB. We then studied how cells of different people responded to infection and how genetic differences affected these responses. We also compared genes of the volunteers with genes of people who suffered from TB.

Our analyses have already discovered new protective biological mechanisms that are activated in human immune cells after infection. Future studies should clarify how we can influence these newly found important mechanisms to design novel efficient vaccines and drugs in order to protect people from TB.

Updates from the NIHR BioResource

The NIHR BioResource currently consists of 8 local centres across England. It is continuing to grow and expand with the recruitment of participants through the INTERVAL study and most recently the IBD BioResource.

The INTERVAL study has a panel of over 50,000 blood donors and each participant is asked to regularly donate blood at different time intervals. This is to help researchers discover the optimum period in which blood donors can donate without affecting their own health. The study's findings should help to improve the well-being of blood donors in England and enhance the country's blood supplies.

INTERVAL participants are being given the opportunity to become part of the National BioResource along with one of the Local Centres. We are sending email invitations to all INTERVAL participants, so if you are a member of INTERVAL and haven't received one yet you should be getting one soon.

To date, we have had over 11,000 volunteers join the NIHR BioResource nationally with over 1,200 of these also joining the Cambridge BioResource.

The IBD (Inflammatory Bowel Disease) BioResource aims to facilitate research into the causes of Crohn's disease and Ulcerative Colitis and determinants of IBD severity and treatment response. By understanding which genes and environmental factors are involved and their impact on the immune system, we can investigate why some people get Crohn's or Colitis, how better treatments might be developed and whether it might be possible to prevent or cure IBD. We intend to establish a panel of 25,000 volunteers with Crohn's or Ulcerative colitis from all over the country. This will form the IBD BioResource, which is fully integrated with the already established NIHR BioResource. To date we have recruited around 300 volunteers from our Cambridge site. In total we are looking to recruit from 40 different NHS Trusts all over the country with Nottingham being our next site to start recruiting.

Suitable locations for our Health Research Unit

We would like to use this opportunity to thank everyone who has sent in their suggestions regarding suitable places to park our Health Research Unit, following our previous newsletter. We are very keen to meet people interested in helping medical research and raise awareness about the projects we support both locally and nationally. We hope to give an up-date about these locations in our next newsletter.

We are always looking for new volunteers - please feel free to spread the word amongst your family and friends! We love hearing from anyone aged 16 and over, and in particular we would like to increase the number of volunteers aged 16-40 on the panel to support several studies that we are soon to start recruiting to.

For more information email us at cbr@bioresource.nihr.ac.uk or call 01223 769215

Volunteers required for research looking at the most complex computer in the Universe – your brain!

MRC Cognition and Brain Sciences Unit

The Medical Research Council is a government funded organisation dedicated to improving human health through world class research. The MRC Cognition and Brain Sciences Unit in Cambridge is an internationally renowned centre for research on the workings of the human mind and brain. They investigate fundamental human cognitive processes such as attention, language, memory and emotion. Their experiments explore how these processes change in both childhood and older age and how they become disrupted in disease and disorder.

The unit is looking for a wide range of people to take part in their studies. If you would like to find out more, please take a look at their website: www.mrc-cbu.cam.ac.uk/take-part/