

# The Cambridge BioResource NEWSLETTER



Bringing together local people and leading research / **Issue 7**

## Altered Leucocyte Function in Normal Ageing (ALFNA)



*(Pictured Dr Michelle Linterman, far left, and her team)*

A previous study, conducted by Dr Michelle Linterman, recruited Cambridge BioResource volunteers to investigate individual differences in reactions to the flu vaccine. One of the findings suggested that age plays a role where T follicular helper cells—a type of white blood cell—respond poorly to the flu vaccine in older individuals. Because these cells are critical to produce protection after vaccination, reducing risk of infection, this means improving vaccine efficiency for older individuals is important.

Wishing to explore why these cells behave differently as we age, the team invited 42 Cambridge BioResource volunteers, aged 18-98 years, to come in for their winter flu vaccine between October 2016 and January 2017. The aim was to understand which molecules within the cells change during ageing, resulting in impaired function. Analysis is underway, but these findings may influence how flu vaccines are made in the future!



You may have seen a news-piece about this study on BBC Look East in November 2016. Here, members of the research team were interviewed alongside one of our participating volunteers, Helen Thacker, who is 98 years old and a retired nurse. This proves that age is not a barrier, and that it is never too late to contribute to medical research. There is currently a dearth of volunteers between 16-45 years and over 75 years which we are keen to address with your support.

**IMPORTANT MESSAGE:** With over 17,000 people on the panel we are looking to reduce our carbon footprint by communicating our newsletters electronically as much as possible. We are hoping this will reduce the amount of paper we are using by approx. 5,000 A4 sheets, envelopes and stamps per newsletter. Therefore, this newsletter will be the last paper copy and future versions can be found on the 'news' section of our website. If, however, you would still like to receive a paper copy please contact [cbr@bioresource.nihr.ac.uk](mailto:cbr@bioresource.nihr.ac.uk) or call **01223 769215**.



THE CAMBRIDGE *green*  
CHALLENGE

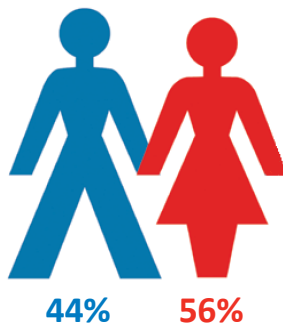
## Cambridge BioResource Update

We are pleased to welcome Jaimie Taylor as the Cambridge BioResource Manager and Cheryl Chapman as the Senior Study Participation Coordinator. Jaimie joined us in September last year and some of you will have met him at the Open Evening in November. Cheryl joined us in February and is working alongside researchers where the Cambridge BioResource panel is able to contribute to their studies.

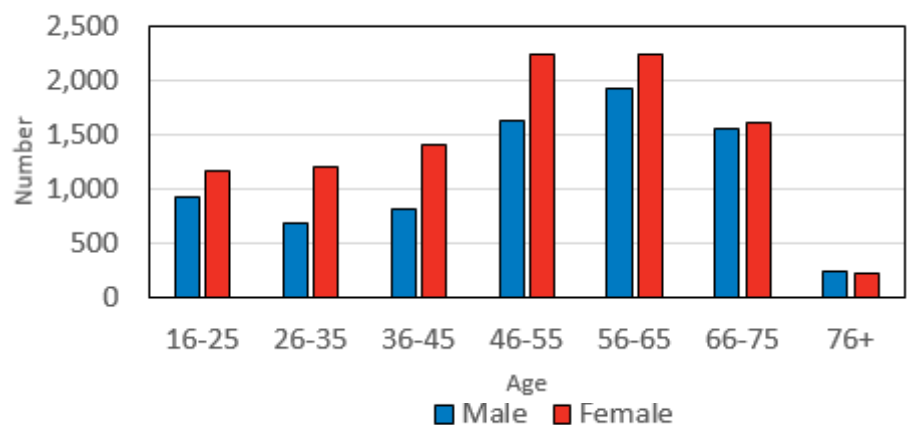


## Some Volunteer Statistics

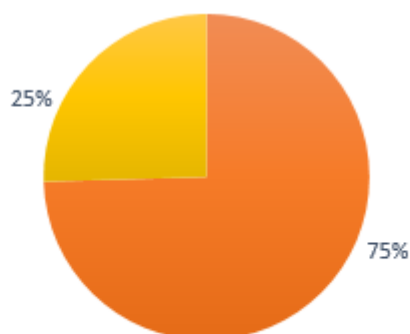
17,932 volunteers



Volunteer numbers by age & gender



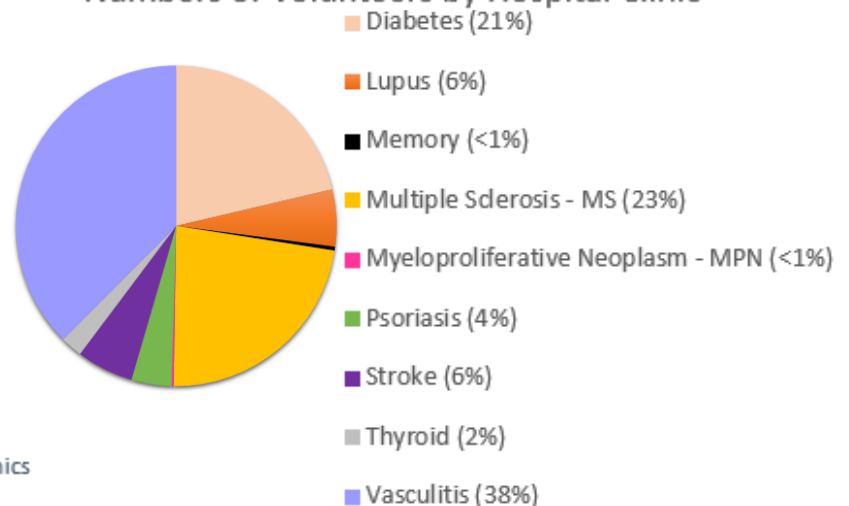
Volunteer numbers by Source



Source:

Events/Word of Mouth/Collaborations GP surgeries/Clinics

Numbers of Volunteers by Hospital Clinic



We are always looking for new volunteers especially between the ages of 16-45 and 75+, so please feel free to spread the word amongst your family and friends! The BioResource welcomes volunteers of all ages onto the panel as we need a large, eclectic group of people to screen in order to identify suitable volunteers for research. **For more information, email [cbr@bioresource.nihr.ac.uk](mailto:cbr@bioresource.nihr.ac.uk) or call 01223 769215.**

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

The Cambridge BioResource has continued to grow since its inception in 2005 and has gained recognition both locally and nationally. The success of this project would not have been achievable without the support and generosity of our volunteers. You, the volunteers, are an invaluable resource for the progress of medical research and we are highly appreciative of your time and commitment.

Here are two summaries from recent studies:

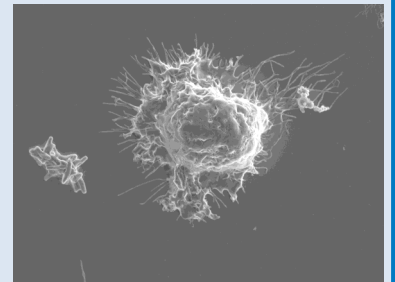
### 'Investigating the role of immune cells in controlling bacterial infection'

Led by **Dr Andres Floto**

The link between immune cells and bacterial infection control is well established across a number of diseases. Thanks to the volunteers and the Cambridge BioResource we have now completed recruitment of samples with different genetic backgrounds.

In this study we focused on individuals with variability in the melanocortin receptor family. We are about to begin infection analyses on the samples to uncover the role these receptors may play in controlling bacterial infection. Once all the samples have been processed, we can detect whether different melanocortin receptor types alter bacterial survival in the innate immune system. These results will increase understanding of how the immune system signals in early bacterial infection and could generate new targets for treatments.

*(Pictured a mycobacteria-infected macrophage where you can see a macrophage next to some mycobacteria. Picture taken by Mark Schiebler using an electron microscope)*



### 'Cholesterol Study'

**Dr Unni Krishnan** working on this study within **Professor Martin Bennett's** team

Coronary artery disease (CAD) is a leading cause of death worldwide and accounts for up to one in five adult deaths in the UK. We know that various genetic and environmental factors determine a person's susceptibility to CAD although we are yet to decipher how these factors work. This project was designed to understand how our genes influence the behaviour of blood cells in the development and progression of CAD ultimately leading to heart attacks and angina.

Findings from this study suggested certain white blood cells—monocytes—respond differently when exposed to high cholesterol levels, depending on a person's genetic profile. Such information helps us to understand why the same risk factor causes rapid disease progression in some whilst in others CAD takes a less aggressive course. This will help us to identify those who would benefit most from treating such risk factors.

*"We remain ever grateful for the enthusiastic engagement of volunteers in our project, without which it would be impossible to find new ways to improve the care for those affected by this potentially life threatening disease"* - Dr Unni Krishnan.

## National BioResource Update



The NIHR BioResource currently consists of 8 centres around England and it is continuing to grow and expand. Last year also saw the establishment of the first disease specific BioResource, the Inflammatory Bowel Disease (IBD) BioResource.

### IBD BioResource progress

Set up in January 2016, the IBD BioResource aims to establish a panel of 25,000 volunteers with Crohn's or Ulcerative Colitis from all over the country. Over 20 different NHS Trusts across the country are already recruiting volunteers with over 1,900 having been recruited so far. Many more NHS Trusts want to be involved in this initiative and we anticipate up to 90 NHS Trusts recruiting to the IBD BioResource in the future. Just recently in Cambridge we celebrated recruiting its 1,000th volunteer.

As the NIHR BioResource grows, opportunities for our volunteers to participate in a variety of different studies around the country will increase. This will allow further advances in research to be made and it will improve our understanding of the genetics underlying many different diseases.

*(Pictured: markers of IBD BioResource sites; green = open, red = opening soon, blue = expressed an interest to participate.)*



## Updates from the Open Evening (2nd November 2016)

We had pleasure of welcoming all those who attended the **NIHR Cambridge BioResource Opening Evening**, at the **Cambridge Cancer Research Institute** in November 2016. We received largely positive feedback for the event, which we are very grateful for.

Unfortunately the event was very much over-subscribed. We are currently preparing and planning for our next open events and we would welcome hearing your input regarding this. So if you would like to take part then please go to the following website <https://www.surveymonkey.co.uk/r/PWFGVCJ> and complete the survey by 22nd May 2017.

Our next open event will be held on the evening of the 22nd June 2017. Please check our [website](#) soon for more details on how to book tickets.

## Cambridge Science Festival



We attended the Cambridge Science Festival in the Guildhall on Saturday 18th March and at the Addenbrooke's Treatment Centre on Sunday 26th March. These were fun events and it was great to see so many people at our stand and to talk to them about the BioResource's latest achievements.

