

news

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Medical Physics

Translation of emerging technologies from physics and engineering to a clinical setting forms an important part of Leicester Cardiovascular BRU research. Medical Physicist, Dr Emma Chung, combines novel computer simulations of the cardiovascular system with MRI, and ultrasound techniques, to develop new methods for the prediction, diagnosis, and prevention of brain injury associated with stroke and cardiovascular surgery.

Emma recently completed a British Heart Foundation (BHF) project investigating the impact of bubbles entering the brain during Cardiac Surgery. Her team has also been successful in developing new methods for simulating blood-flow through arteries, and optimising the growth of computer generated arterial trees to help guide the design of artificial organs. Dr Chung's latest project involves working with industry to develop a new ultrasound device for early diagnosis of brain injury following stroke.

In recognition of her research, Emma was previously a short-listed finalist in the L'Oréal-UNESCO (United Nations Educational, Scientific and Cultural Organisation) Women In Science Award program, which has been promoting women in scientific research since 1998. This year's UN theme for International Women's Day 2014, which took place on March 8th, was 'Equality for Women is Progress for All'. "It's really heartening to see an increasing number of women leading research, and inspiring the next generation of researchers, within the Leicester Cardiovascular BRU" – Dr Emma Chung

Women in Science

Celebrating International Women's Day, March 8th 2014, the NIHR Leicester Cardiovascular Biomedical Research Unit is pleased to present the Women in Science edition of the BRU newsletter, featuring profiles on the amazing women who work at the BRU and their contributions to healthcare and research.

International Women's Day has taken place since 1908, and has been the focus of celebrations of the contribution made by women to society, particularly in the workplace, and protests seeking equality of opportunity. Every year the United Nations choose a theme for International Women's Day. This year the theme is *Inspiring Change*.

Women make up just 13% of the workforce in science, technology, engineering and maths. In the UK, Women are outnumbered 2 to 1 in research, and just 17% of Professors are women*. We hope that the stories of these women in research will inspire more women to achieve in careers in science, technology, engineering and maths.

*Statistics from the European Union *She Figures 2012 – Gender in Research and Innovation*.





Lobbying and Involvement

*“We had a **fantastic day** and are so happy to have had such an opportunity to spread the word about SCAD.”*

Becks Breslin

A notable group of women working with the Unit are not employed here, but are certainly making waves. Frustrated at a lack of research into their rare condition, Spontaneous Coronary Artery Dissection, a group of women in the UK who met through social media approached Dr David Adlam about the issue. A specialist in this rare condition, Dr Adlam worked with the patients affected by SCAD and colleagues at the Mayo Clinic in America to set up a research project into the condition.

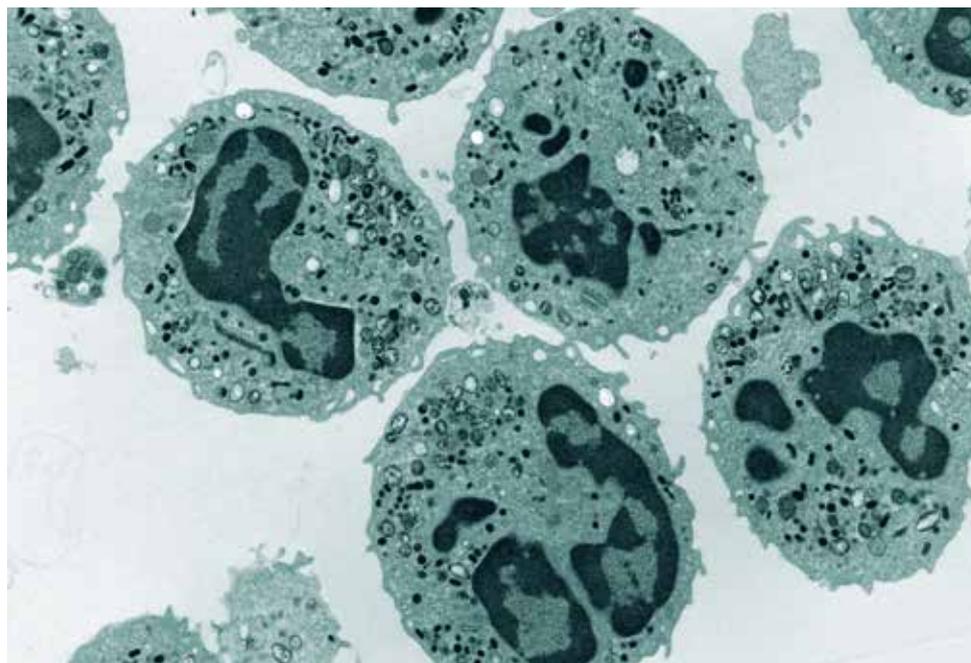
The women, who call themselves ‘SCADsters’ will be fundamental to the success of the research project which relies on our ability to find other people with this rare condition. They will help direct patients they meet through the internet and peer support to a web portal through which they can express an interest in taking part in the research.

The project is about to get local approval having been awarded a substantial grant from the British Heart Foundation last month. The money will be used to pay for a Research Fellow dedicated to the SCAD research project.

At the recent Research Roadshow hosted jointly by the Cardiovascular BRU, the Lifestyle, Diet and Physical Activity BRU and the Respiratory BRU, SCAD patients attended to present the research project to members of the public attending the event and run an information stand filled with materials developed principally by them and supplemented with some clinical materials produced by Dr Adlam.

Becks Breslin, who has experienced SCAD said “We had a fantastic day and are so happy to have had such an opportunity to spread the word about SCAD. Very interesting to hear about other work at the BRUs too – the blood washing before transfusion was fascinating! The materials looked great. We really appreciate the BRU printing those.”

The SCAD project will be officially launched by the British Heart Foundation on May 11th at the Vale of Belvoir Bike Ride where the research unit will field a team of riders to raise funds for the British Heart Foundation.



Professor Alison Goodall, Department of Cardiovascular Sciences

Alison gained her first degree in Biology in 1971 at the University of London and her PhD in 1979 in the Department of Biochemistry at the Royal Free Hospital School of Medicine in London.

She then moved to the Department of Immunology at the Royal Free where she set up one of the first hybridoma laboratories to make monoclonal antibodies for hepatitis B, blood coagulation factors and white blood cell surface antigens.

In 1983, Alison was appointed to a New Blood Lectureship at the Royal Free and in 1986 moved to the Haemophilia Centre as her interest in haemostasis developed. With Professor Hardisty, she set up a group working on platelets which established monoclonal antibodies to platelet membrane receptors.

In 1993, she moved to new laboratories in the Department of Chemical Pathology at the Royal Free to expand her interests in haemostatic function in cardiovascular and atherosclerotic disease. Funding from the British Heart Foundation allowed her to develop collaborations with clinical colleagues at the Royal Brompton Hospital to

study the effects of disease, drug treatment, intracoronary intervention and genes on platelet function and clinical outcome in patients with coronary artery disease.

Alison moved to Leicester in 1997 to take up an academic appointment in the Division of Chemical Pathology, based in the Clinical Research Unit at Glenfield Hospital. She was appointed to the Chair of Thrombosis and Haemostasis in 2003.

She is Past President of the British Society for Haemostasis and Thrombosis and was Editor-in-Chief of the journal *Clinical Science* from 1999-2003. She has been a member of the Committees of the British Society for Haematology and the British Atherosclerosis Society. She is also a founder director of a spin-out company, Haemostatix Ltd.



Professor Alison Goodall

Research Administrators

Two administrators support the work of the many research projects hosted at the BRU. Claire works on a range of projects, and Joy works almost exclusively on the GENVASC project.

Claire Pearson

I help with all the administration at the BRU, minuting meetings, ordering supplies, getting invoices paid. I also help directly on several projects, contacting people who have agreed to take part in the research and arranging study visits, or helping post out letters inviting volunteers or patients to help us with research projects. I do some work on reception, welcoming research volunteers to the BRU and taking enquiries about research projects, and supporting researchers with accessing the facilities offered at the BRU, like booking rooms or equipment.

I'm employed by the University and have access to training so I can develop my career. I am working to complete a certificate in leadership and management.

Joy Uzoma

I work on the GENVASC study, which aims to determine whether the addition of genetic information can help predict outcome in heart disease. The GENVASC study comprises a multi-disciplinary team, including research nurses, a project manager and laboratory staff. The study involves over 40 General Practices in Leicester City and West Leicestershire and may soon expand to include East Leicestershire and Trent CCG. Each GP practice recruits consenting patients who are taking part in the vascular health check programme and have agreed to give an additional blood sample for research. To date, the study has recruited over 4000 participants. In my role, I collect blood samples from pathology each morning and take them to the lab, where I register them using a sample tracking system called CiViCRM, and ensure we have complete and valid consent forms from every participant. I support the General Practices involved in the project, ensuring they have all the necessary study materials and help with the day to day administration of the study. This includes liaising with professionals from a variety of disciplines.

Research Nursing and Research Assistants



The BRU employs a substantial team of research nurses and assistants, both men and women, who play a key role in collecting information for research projects. The nurses and assistants in the Unit are the backbone of research, and their roles are very varied.

Research nurses work on a variety of research projects which involve a range of interventions from taking blood and doing questionnaires to helping perform complex analyses using the exercise testing equipment and MRI. It is the role of the research nurses to collect data at study visits, look after participants and record study activity fully.

Research nursing offers opportunities for career progression and one of our nurses, Mary Harrison, has been awarded a Clinical Academic Research Internship through De Montfort University. During this course of study, Mary will be doing her own research into how aware student nurses are of

clinical research and clinical research nurses, what their perceptions are of research nurses and the work they do and how much contact they've had (if any) with a research professional.

Working in a research unit offers unique opportunities...

Others have gone on to Study Coordination, managing teams of nurses and project managing studies or portfolios of studies, or Research Fellowship. Working in a research unit offers unique opportunities as the team encompasses broad expertise with potential for new learning and experience in lab work, imaging, information technology, governance and coordination.

New Website

The NIHR Cardiovascular BRU has a new website which can be seen at <http://www2.le.ac.uk/projects/bru>. The new website contains details of our major studies and stories from people who have taken part in them. There is also information on how to get involved in research, either as a participant in a study or by helping us design and manage our research projects.

Want to receive the newsletter regularly and express your views on cardiovascular research?

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Leicester Cardiovascular Biomedical Research Unit Volunteer to join our research review panel.

Contact Rebecca on rp237@le.ac.uk for more information.

The Biomedical Research Unit administrator, Department of Cardiovascular Sciences, University of Leicester, Glenfield Hospital, Leicester, LE3 9QP, UK

tel 0116 204 4737
email lcbru@le.ac.uk
www.le.ac.uk/bru



University Hospitals of Leicester NHS Trust

