



More Channel Swimmers...

THREE swimmers will be crossing the Channel next summer in support of our Charity. Rosie Williams, Geoff Le Page, and Glen Knudsen have already started their training for the event. Glen Knudsen was a swimmer and a triathlete in Australia before he found himself involved in open water swimming in Guernsey. *"When I came over I got swimming with some Channel swimmers and thought I would like to have a crack at it. My passion is open water swimming and the Channel is something I really want to get my teeth into. When I was a kid I saw an article about a guy all greased up in goose fat ready to make the crossing at night time and it captivated me."* Rosie Williams is a project worker at the Guernsey Youth Commission and she expects to make the 21-mile swim in 15 hours. *"We have all done a lot of training over the summer.*

I've got a training swim booked for February in Perth [Western Australia]. It's a 20-kilometre swim—but there are a lot of sharks; I'm scared of the sharks so I'm just going to ignore them." Geoff Le Page was convinced the Channel swim was an attainable goal for him by long-distance swimmer Adrian Sarchet. *"I met up with him two years ago: it was a chance meeting at the Hangar Ball and we had a chat. I was in awe of his achievements since the Herm Swim but I kept dragging him back to speak about the Channel and he convinced me I could do it."* The trio of swimmers all have fitness tracking watches which will record their training swims and times—Geoff has been using his since 1 July and in that time has covered 170 miles. He spends an average of 10 hours in the water each week managing 17 miles, progress that he is pleased with despite being a year away from the swim. *"The next step is to get my speed up because the longer you spend in the cold waters of the Channel the more tired your body will become. You've got to make as much progress as you can – there's no such thing as a rest on a swim like that; if you need a rest you shouldn't be doing it."*



L–R: Geoff Le Page, Rosie Williams and Glen Knudsen

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Guernsey of course has a proud tradition of producing Channel swimmers and we have been fortunate enough to benefit from the endeavours of many in the past, not least Roger Allsopp who in addition to his first swim in 2006, completed a second in 2011, at the same time securing a place in the Guinness Book of Records as the oldest person to swim the Channel.

We shall be following the progress of the three swimmers on our website as they move towards their individual swims in the summer of 2018. The precise dates and times will of course be dictated by weather and tide conditions and this in itself can be a frustrating experience for the participants. It will be possible to sponsor any or all of them via the website: details will be posted in the Spring of 2018.

DO PLEASE GIVE THEM YOUR SUPPORT!

CERVICAL CANCER Research Project



In 2014 we launched a special appeal in support of research into cervical cancer. As a result, in 2015 we were able to make a grant of £30,000 to Edd James, Associate Professor in Cancer Immunology at Southampton. Together with his co-researcher, Dr Laura Bourne, a clinical gynaecological oncologist at both Southampton and Portsmouth Hospitals, Edd has been working on the project for some two years now and he has provided us with a progress report:



Cervical cancer is the most common cancer in women under the age of 35 and is predominantly caused by infection with Human Papillomavirus (HPV). In the UK there are approximately 2,900 new cervical cancer cases per year, of which around 1,000 women will die. Whilst the majority of women will contract HPV at some stage during their lives and in most cases have no ill effect, infection with the high risk variants can lead to cancer. The inability of the immune system to detect and destroy HPV is an important factor in allowing the virus to persist and ultimately to cause cancer. In order for the immune system to recognise cells infected with HPV, they need to present signals on their surface that can be detected by 'killer T cells', which will then kill the cells and thus the virus. This process involves a number of molecules, including ERAP1, which is important in generating the correct signals to display at the cell surface.

The initial part of our study seeks to understand why HPV-infected cells are not detected by killer T cells, through examination of the ERAP1 molecule. ERAP1 exists in multiple forms which have varying abilities in generating cell signals that can be detected by the immune system. We will be looking at the 'ability' of ERAP1 in women who have had cervical cancer to generate the signals from HPV that allow detection by killer T cells. This may allow us to identify those women at high risk of developing cervical cancer. Since receiving the award we have been working with the Wellcome Trust Clinical Research Facility to identify and recruit women to the study who have either previously had cervical cancer or been diagnosed with CIN1 but are currently disease free. This recruitment has gone very well and has already provided almost half of the blood samples needed for the study. We have also been developing a new method by which we can rapidly identify which ERAP1 variants an individual has. Previously it would have taken us months to analyse only a few samples, but we can now establish the ERAP1 identity of 50 samples in only a few days. Currently, we are processing samples in preparation for analysis whilst we continue to recruit women to the study; we expect this to be completed in the next few months. The results from this analysis will provide us with valuable information on how the proficiency of ERAP1 correlates with cancer development, allowing us to gain a better understanding of why some women develop cervical cancer and others do not.

Innovation Grants 2017

The Trustees have this year awarded five Innovation Grants, each of up to £20,000, to the following:

Dr Sam Thompson
School of Chemistry

“Peptidomimetic inhibitors of HER2 positive breast cancer.”
A new approach to designing drugs to inhibit proteins that are important in cancer.



Dr Shreyasi Chatterjee
Institute for Life Sciences

“Investigating the mechanisms of pathological tau-clearance in 3D induced pluripotent stem-cell (iPSC) models of Alzheimer’s disease”
Investigating the biological pathway of how the brain clears abnormal proteins in diseases such as Alzheimer’s.

Dr Melissa Andrews
School of Biological Sciences

“Optimising stem cells for neuronal replacement in the CNS”
Developing new methods to generate stem cells to treat conditions such as brain or spinal cord injury.



Dr Liku Tezera
Faculty of Medicine

“Developing the 3-dimensional cellular model of Tuberculosis by integrating co-axial bioelectrospray technology and stem cells”
TB is still a major global killer. This research will use engineering methods to create a 3D model to assist understanding of how the disease resides in humans and identify new drugs to combat it.

Dr Yihua Wang
Faculty of Natural and Environmental Sciences

“Epithelial-mesenchymal transition (EMT) induced by RAS activation in alveolar Type II cells leads to idiopathic pulmonary fibrosis (IPF) or lung cancer invasion”
This project aims to identify molecular switches that dictate the ability of RAS, a common cancer gene, to contribute to either lung cancer or pulmonary fibrosis.



New Forest Show 2017

ONCE again, we had very successful outing to the New Forest Show in late July 2017. The weather was (generally) kind to us and we achieved the largest turnout to date of medical researchers eager to demonstrate to the public the results of their endeavours in the lab. Over the three days of the Show, we had a significant number of visitors. We were particularly pleased to be able to welcome one of the charity’s Patrons, Mrs Sarah Troughton, Lord Lieutenant for Wiltshire, seen in the left hand picture with Terry Madden, Chairman of Trustees (*far left*). We are already planning our stand for 2018...



For some time now, we have been promoting the idea of recycling used mobile phones and printer cartridges for the benefit of WMR. This is an ongoing appeal so please dig around and see what you can find.

You can send them direct to recycle4charity (go to their website at www.recycle4charity.co.uk for freepost instructions) but remember to tell them it's for the benefit of Wessex Medical Research and give our reference number (C16805).



We are proud to be a member of the Association of Medical Research Charities and our last five-yearly Peer Review Audit took place in 2015.



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PhD Studentships

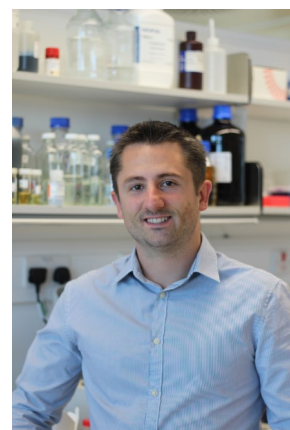
WE are pleased to report on three PhD studentships which we awarded in the spring of 2017. Each studentship is for a total amount of £80,000 spread over four years. The supervisors have now recruited their students and these each began their studies in October 2017. The supervisors and their selected projects (which have each been formally peer reviewed in accordance with the requirements of the AMRC) are as follows:

“Modulating Wnt Signalling in Cancer: Small Molecules Targeting β -catenin.”

To design new drug molecules which will inhibit a protein, beta catenin, which plays an important role in several cancers such as colorectal cancer.

Principal supervisor: Dr Matthias Baud
Lecturer in Medicinal Chemistry and Chemical Biology.

Jointly funded with Rosetrees Trust



“Investigating the translocation of parkin to damaged mitochondria and the mechanisms of mitophagy.”

Investigating means of maintaining healthy cells by limiting the natural production of harmful products.

Principal supervisor: Dr David Tumbarello
Lecturer in Biomedical Sciences.

“Functional analysis of Sodium/glucose cotransporter 1 (SGLT1), a potential therapeutic target for PTEN-inactive breast cancer.”

Investigating how drugs can treat breast cancer by targeting the protein PTEN.

Principal supervisor: Dr Yihua Wang
Lecturer in Biological Sciences.

