Junior scientists who wish to make a career in medical research these days need first to undertake training and earn a PhD degree.

Danielle Morris, who joined the study team from her encounters four years ago, has now, we are very pleased to say, achieved this qualification, and has therefore become Dr Morris. Danielle said, “I have enormously enjoyed working on the Generations Study, and I have learned a great deal. I would like to thank my colleagues here who have taught me so much, and also to thank the study participants, many of whom have met personally.”

At the end of last year Danielle moved back to her hometown of Leicester, where she started a new post in medical research at the University of Leicester.

She continued, “I loved working at the Institute of Cancer Research. I think the Breakthrough Generations Study is already a fantastic study and will only get stronger as time goes on. I am a study member too, so hopefully I’ll still hear about all the new research via the newsletter.”

Danielle has also recently become engaged, so we would like to wish Danielle all the best for her new job and for her forthcoming marriage.

Kim Sibley, who had worked on the Generations Study for many years, died of cancer in the Royal Marsden Hospital on 28 August 2011.

Kim was originally a participant in the study and became a researcher as a volunteer. She later joined the staff, and worked here for many years before her death – even when she was determined to come in when she could, to make her contribution.

She was a very kind person, full of spirit and determination, who took pride in her three daughters, Fiona and Laura. Many of you will have spoken to her as a volunteer. She was a true and generous friend, who will be missed by us all.

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For more information about Breakthrough Breast Cancer Breakthrough Breast Cancer, who fund the Generations Study, is a charity dedicated to improving and saving lives through finding the causes of breast cancer, enabling early detection, ensuring precise diagnosis, discovering new and better treatments and improving medical services.

If you would like to know more about Breakthrough Breast Cancer, please ask the other side of this slip to give you the address, or visit www.breakthrough.org.uk. Please note that you will be giving your details to Breakthrough Breast Cancer, not the Generations Study Team.

Online communications

Breakthrough Breast Cancer BREAST CANCER ICR

As an alternative to the paper version, we will be offering for the next follow up round the option to complete your questionnaire online. This will help to save on mailing costs, which could then be used for other aspects of the research, and also to reduce the use of natural resources. If you would like to complete future questionnaires online, or to receive future newsletters by email, please register to do so at bgs.letters@icr.ac.uk

We do appreciate, however, that there are many of you who would prefer to communicate by post, in which case you do not need to do anything and we will continue to write to you.

We are grateful for the commitment and funding provided by the sponsors of the study, Breakthrough Breast Cancer (www.breakthrough.org.uk) and the Institute of Cancer Research (www.icr.ac.uk).
How your blood sample is processed

The blood sample you provided for the study is already being used to identify genetic and hormonal factors that may be associated with breast cancer risk. We describe here how the samples are processed and later in this newsletter explain some of the results from the blood sample analyses.

When your blood sample arrived at the Generations Study laboratory in London, they are split at a very high speed to separate the blood into its different parts. The cells that contain DNA and the plasma (the fluid that surrounds the cells) are then divided into small portions for storage in tubes that look like “straws”. Keeping them in such small portions is important to ensure that they remain secure.

A sophisticated computer system keeps track of precisely where each sample is stored. As the cells are divided up, stored in small tubes, and separated, they can easily be retrieved for analysis. The cells that have been stored are used to extract DNA for genetic analyses, while the plasma, which is stored separately, can be tested to determine levels of female hormones such as oestrogens, and of other hormones such as those involved in growth.

Three generations in the Generations Study

CONTINUED FROM PAGE ONE

Sarah said “My Mum’s diagnosis was a bit of a shock as it was an event in my own family, but it was also in the background of all the genetic studies that have been going on over recent years.”

It has been known for 150 years that breast cancer sometimes runs in families, but only recently have advances in laboratory methods made it possible to find out how particular genes contribute to these risks.

The article on the right describes the discovery of a new gene that is in the “vicious circle” category, and is a collaboration between the Breakthrough Generations Study and other studies. As we explained in a previous Newsletter (No. 4), international collaborations of this type can sometimes make discoveries more powerful and more reliable than individual studies separately. Finding all of the genes that have an impact on breast cancer risk is going to be a complicated task and will take many years. The search for these genes, so that women can be given clearer information on their personal risk, is a task that will therefore continue using your samples and those from other studies for many years to come.

Changing lifestyles and changing age at puberty

The Generations Study questionnaires will be used to investigate exactly how age at puberty affects breast cancer risk, but also we have been publishing research on how age at puberty has changed between the generations.

As we said in previous newsletters (Nos. 4 and 5), the age at which a woman’s breast age, and her age at menopause, are related to her risk of breast cancer. We are now using the information you sent to us to investigate this in more detail, but in the meanwhile we have been publishing papers on the factors that affect age at puberty and age at menopause.

In a new paper we found that the age at the first period (menarche) decreased by about 12 years in the last 100 years. Some women (about 5%) and the older generations. This has been true for all generations born after the Second World War, the age decreased again for the youngest Generations Study members born in the late 1940s and early 1950s. Interestingly, in Victorian times, and also for the oldest members of the Generations Study, women from better-off families started their periods earlier than women from poorer homes. The opposite is now true for the youngest study members – poorer girls have their menarche younger than better-off ones.

It has become clear as the Generations Study has progressed that a woman’s age at the menopause also matters (those who exercise more tend to have an earlier menopause, and hence their breast cancer risk is lower). The age at first period (menarche) and age at menopause are related to a woman’s breast cancer risk.

Using the Generations Study questionnaires for research on breast screening

I have become clear on the Generations Study has progressed that as well as being a powerful way to investigate the causes of breast cancer, the information from the study questionnaires could also be very valuable in providing clear screening and how it can be improved.

In the questionnaire you completed when you joined the study, you gave information about your past breast screening and where it took place. In order to use this information to provide better advice about future breast screening, we now plan to give further information on breast screening surveys for the study members who have not sent back their completed questionnaire, for us to obtain their recorded screening information. If you do not wish to do this in your case, however, please let us know and we will not include your records in this aspect of the study.

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