WORDS: **TABITHA MWANGI**

A LIFE IN RESEARCH

DR SOPHIE UYOGA

Meet **Dr Sophie Uyoga** and find out about her life in research and her innovative approach to helping children and their families deal with a genetic disease

Dr Sophie Uyoga was drawn to science during her high school years at Mama Ngina Girls' Secondary School in Kizingo. She particularly liked chemistry and hoped to study Pharmacy at university, but unfortunately she scored a B+ in her KSCE and missed the entry requirements. She opted for a BSc Science degree at the Jomo Kenyatta University of Agriculture and Technology. During her third year, Sophie attended a career day and listened to a talk that was to influence her working life.

"Someone spoke about research in Kenya. I didn't know we had research institutes, or that such a career existed," says Sophie. Intrigued, she asked the speaker for contacts for the Kenya Medical Research Institute – Wellcome Trust Research Program (KEMRI-WTRP) and spent her holiday working at their immunology laboratory.

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They were pleased with her work and offered her a job before she graduated. She enrolled for a part-time online MSc in Immunology at the University of Manchester. On graduation, with a distinction, she proceeded for PhD training in 2008.

After her PhD, Sophie was recruited to work on a study on blood transfusion. While exploring the data, she discovered that the bulk of children receiving blood transfusions had sickle cell disease. This is an inherited condition in which possessing one sickle gene offers protection against malaria, whereas inheriting two sickle genes leads to a severe disease known as sickle cell disease.

During the course of her work, she spent time at the Kilifi County Hospital sickle cell clinic interacting with these children and their families. "The staff said the children were in the dark about their condition and kept asking questions," says Sophie. "I was determined to find a way to make this information more widely accessible."

She applied for funding from the African Academy of Science to make a comic book. Sophie and her team were also able to talk to both children and their parents. Parents were worried about how to take care of their children. Most of all they needed to know where the disease came from. Some families had broken down, as women were blamed for bringing the disease to their homes through unfaithfulness. Children also had a wide range of questions, including whether they could pass the disease to their friends or if they would be able to have children themselves.

Sophie teamed up with Community Media Trust which spent time with the families and developed the comic book, *Sickle Cell Heroes*.

For Sophie, the comic book is a highlight of her career. "It has given parents the confidence to spread the word and empower the community."

The distribution of the book was interrupted by Covid-19, so Sophie and her team have spent the last few months studying the presence of antibodies against the virus in donor blood in order to see the trends and spread. But Sophie's heart lies with children that have sickle cell disease. Her current work is focusing on the type of detailed cross-matching that would be required to enhance compatibility of donor blood. This would mean that children with sickle cell disease, who have multiple transfusions during their lifetime, do not have to keep returning for more due to inadequate blood matching.

"I have been lucky to get the training that I have had, in an environment where I am constantly being challenged," says Sophie. "I want to see larger numbers of young Africans joining research."