In the hunt for solutions to the significant challenge posed by malaria, a group of scientists – including Dr Basil Brooke and Professors Maureen Coetzee and Lizette Koekemoer – from the Vector Control Reference Laboratory at the National Institute for Communicable Diseases (NICD) and University of the Witwatersrand, South Africa, are investigating malaria vectors from a regional perspective in the hope that they can identify some novel ways to control and manage the spread of the disease.

Taking a Regional Approach to Malaria Control

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Global Neurology – War Against Worms

Against the backdrop of globalisation, the Global Neurology Group at the Technical University of Munich is working to solve health issues in sub-Saharan Africa where neurohelminthic parasites – worms – are one of the most important causes of neurological disorders. Following training in general medicine, as the major focus of her neurology career, Dr Andrea Winkler has devoted the last 10 years to the study of neurohelminthic disease, exploring how it can lead to epilepsy in resource-poor countries.

Alphaviral Rheumatic Disease

The global impact of the chikungunya virus and related alphaviruses is substantial, but a team from the Queensland Institute of Medical Research, led by Professor Andreas Suhrbier, is developing models and gaining insights into how better to manage the chronic rheumatic diseases caused by these pathogens.
MARCHING ON MALARIA

Malaria poses a huge global public health problem with around 40 per cent of the world’s population at risk of infection. Dr Egeruan Babatunde Imoukhuede is a member of the Malaria Vectored Vaccines Consortium, which is comprised of eight partners from across Europe and Africa, and is focusing on capacity building and networking in order to successfully conduct clinical trials of malaria vaccines.

ADVANCES IN DENGUE ANTIVIRALS

Dengue is one of the biggest global viral threats. There is no established vaccine, but Dr Dennis Hruby, Chief Scientific Officer of SiGA Technologies, is working with a team of researchers to change that by developing a single antiviral capable of dealing with all four types of dengue.

COMBATING MALARIA IN PREGNANCY

The PREGACT initiative, established as a European and Developing Countries Clinical Trials Partnership project, and benefiting from a widespread consortium of key funders, is undertaking pioneering research to address the dearth of antimalarial drugs during pregnancy. As part of the initiative, Professor Umberto D’Alessandro from the Institute of Tropical Medicine in Antwerp, is Theme Leader for Disease Control and Elimination, at the Medical Research Council unit in The Gambia.

THE RIGHT TOOLS FOR THE JOB

Disease diagnosis in Africa may be facing a revolution. In the ongoing battle against tropical diseases, new and highly accessible decision tree algorithms and point-of-care tests are being developed for mobile phones and electronic tablets to combat overprescription and misdiagnosis. Involved in this revolution is Professor Blaise Genton who, throughout his distinguished career, has become a world expert on the treatment and diagnosis of malaria.

UNDERSTANDING COAGULATION IN CEREBRAL MALARIA

Malaria claims more children in sub-Saharan Africa than any other region. However, research from the Malawi-Liverpool Wellcome Trust Programme is examining the specific effect of cerebral malaria on the brain help to prevent the tens of thousands of disease-induced deaths. Dr Christopher Moxon works with affected patients at a Malawian Hospital to gain insights into this deadly disease.

EXPLORING VECTOR ADAPTATION

Professor Jan Conn is focused on researching evolutionary genetics of neotropical malaria vectors. Based at the Wadsworth Center, New York State Department of Health, she and her team of researchers are delving into population genetics and ecology, as well as faster, more accurate vector identification; investigations that may hold significance in the fight against malaria.