



Groundbreaking HIV-vaccine development

Researchers at the Faculty of Health Sciences are playing a pivotal role in one of the latest and largest efforts by an international consortium of research institutions to design safe and effective vaccines to combat the HIV epidemic.

Breaking new ground in the field of vaccine development, the Virology Division of Stellenbosch University (SU) - as part of a global HIV-vaccine research effort - recently became the first institution in South Africa and in Africa to start collecting samples of recently transmitted HIV strains from locations in the Western and Eastern Cape for storage in a state-of-the-art research cryorepository at the Tygerberg campus. This collection will eventually form part of a global collection of HIV specimens. It will be shared

worldwide by collaborating laboratories in a renewed effort to develop HIV vaccines through the application of new technologies, concepts and approaches.

The Faculty is one of 13 partners in the Collaboration for Aids Vaccine Discovery (CAVD) group, established in 2006. The CAVD is coordinated by the Fraunhofer Institute for Biomedical Engineering in Germany and funded by the Bill and Melinda Gates Foundation.

As one of five central service facilities within the consortium, a new cutting-edge laboratory - one of the most modern cryorepositories in the world - was recently established at the Tygerberg campus. The official opening of this facility was attended by renowned international scientists from the consortium and by representatives from the Gates Foundation.

According to the head of the Virology Division, Prof Wolfgang Preiser, the Faculty is the consortium's only prime site in Africa. The Division was asked to participate in the project because it engages in both routine and scientific research on HIV/Aids and it boasts a large component of skilled staff, modern equipment and a busy diagnostic section.

Prof Preiser and Dr Corena de Beer, who heads

the Stellenbosch CAVD project, explain that the new facility comprises a highly sophisticated Chameleon laboratory equipped with electronic equipment for standardised optimal procedures and specialised software for the entering of cell counts and the storing, electronic labelling and tracking of HIV samples. "For instance, when a sample is stored in the cryorepository, all the details, generated in the lab, are stored on an electronic chip that goes into the tank with the sample," says Dr De Beer. She further points out that HIV is a recombinant virus that is made up of genetic information from different strains of HIV. Since the virus mutates rapidly, it is important to preserve as many samples of the different strains as possible.

The partners of the CAVD project include the University of Washington in the United States and the University of Lund in Sweden as well as other institutions in the US, Italy and Switzerland

The CAVD now has access to 18 grants totalling \$327 million over five years, with additional co-funding provided by the Fraunhofer Society and the Ministry of Economic Affairs of Saarland in Germany, and the Swiss State Secretariat of Education and Research. 