

Construction starts on SU's Biomedical Research Institute

Construction of a R1bn new state-of-the-art research facility based at Stellenbosch University's Faculty of Medicine and Health Sciences (FMHS) commenced with a sod-turning ceremony on 25 January.



SU's new BMRI

The Biomedical Research Institute (BMRI), which will be completed in 2022, will be one of the most innovative and advanced biomedical research centres in Africa.

"This facility will help us realise our vision of becoming Africa's leading research-intensive university, globally recognised as excellent, inclusive and innovative, where we advance knowledge in service of society," says Professor Wim de Villiers, the university's rector and vice-chancellor.

Global burden of disease

"The BMRI is set to significantly advance our capacity to undertake world class research on the leading health problems affecting our people. It will also contribute considerably to building research capability in the African region," says FMHS Dean, Professor Jimmy Volmink.

The institute's main aims will be to investigate diseases that have the greatest impact on communities in South Africa and the rest of Africa, and to translate its discoveries into improving the diagnosis, prevention and treatment of illnesses such as

TB, HIV, diabetes, heart disease and neurological disorders, among others.

“Africa bears the brunt of the global burden of disease, with a number of major epidemics colliding across our continent. With one of the top medical faculties in Africa, Stellenbosch University has a huge responsibility to help lead in the endeavour to ensure healthy lives and wellbeing for all,” says Professor Nico Gey van Pittius, the FMHS vice dean: research, and professor in molecular biology.

Biomedical teaching, training and research at the FMHS has up to now been based in its physiology and anatomy (FISAN) building, which was built in the 1970s. In the four decades since the building has been opened, student numbers have more than tripled and the field of biomedicine has changed dramatically.

The new BMRI will provide additional space and be on par with the most advanced and sophisticated biomedical research facilities in the world. The new facility will allow for the immediate expansion of current research activities, as well as strengthen research and teaching capacity in fields such as bioinformatics, genomics, anatomy, neurobiology, advanced surgical sciences and biobanking.

Apart from a range of research laboratories, the new facility will also host:

- Bioinformatics hub;
- electron microscopy laboratories;
- proteomics and FACS laboratories;
- morphology museum;
- biorepository;
- sunskill laboratory;
- clinical research unit; and
- conference facilities.

Unique architectural features of the new BMRI include the following:

- Sustainability is fundamental to the design of the building's energy and water systems, material selection, emissions, waste management, use of natural light, ventilation and acoustics.
- Flexibility of the configuration, deployment of smart technologies, rainwater harvesting and community access to the facility have all been designed to evolve with the building as the way we do research changes in the future.
- A smart lighting system will detect areas where natural light is strongest and adjust lighting accordingly, thus drawing less electricity from the grid.
- The building will tie into the campus's greywater masterplan, which allows for rain water harvesting and the use of borehole water. All toilets will be flushed with non-potable water.
- A secure bicycle storage area with adjacent shower facilities will be located in the basement to encourage staff and students to cycle to work.
- Workstations and laboratory benches will be inviting and inspiring, with outdoor views and access to fresh air and natural lighting where possible.
- A system of negative air pressure will keep hazardous fumes or airborne toxins from flowing out of laboratories and into adjacent areas. A powerful ventilation and filtration plant will continuously draw air out of laboratories and to the top of the building, where it will be filtered and released.

Source: Stellenbosch University