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Cancer treatment boost as UCT proposes a proton therapy centre

Centre is the first to be proposed for sub-Saharan Africa and only the third in the Southern Hemisphere

A team based at the University of Cape Town (UCT) will design the technical specifications and business case for a proton therapy centre to be established in Cape Town, near to both the Red Cross War Memorial Children's Hospital and Groote Schuur Hospital.

Proton therapy is a form of radiation therapy for cancer that utilises a beam of energetic protons from a cyclotron (a machine that accelerates charged particles to speeds approaching the speed of light).

The unique characteristics of this proton beam allow a type of radiotherapy treatment which is highly effective for a wide range of tumours and significantly reduces the late side effects of radiation therapy. In children in particular, proton beam therapy is now recognised as superior to conventional radiotherapy techniques with less damage to normal tissue and reduced risk of secondary malignancy.

Currently, all of the 131 proton therapy centres operating globally are located in the northern hemisphere, with only two under construction in the southern hemisphere – in Argentina and Australia.

UCT Vice-Chancellor (interim) Emeritus Professor Daya Reddy underscored the significance of such a centre. "This proposal represents a pivotal stride toward advancing healthcare accessibility, fostering scientific excellence, and providing our communities with state-of-the-art cancer treatment options that they deserve."

The proton therapy centre in Cape Town will be designed to benefit from the very latest technological advances, and include facilities for the production of short-lived radioisotopes for nuclear medicine, and beam lines for research in physics, engineering, neuroscience, radiation metrology and radiobiology. The centre will be a unique world-leading resource not

only for South Africa, but for the African continent. The financial sustainability plan will have both public and commercial components.

The multidisciplinary project features both an outstanding oncology clinical team based at UCT and associated hospitals, spanning public and private sectors, and strong expertise in accelerator-based research and development. iThemba LABS national facility is located in Cape Town and operates a number of accelerators for radioisotope production and research, but no longer offers proton therapy, leaving a critical gap in cancer therapy in the region.

This project will be jointly led by Professor Andy Buffler (Director of the Metrological and Applied Sciences Research Unit, Department of Physics), Professor Jeannette Parkes (Head of Radiation Oncology) and Professor Graham Fieggen (Director of the Donald Gordon Neuroscience Institute).

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Issued by: UCT Communication and Marketing Department

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