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## iThemba LABS a hub for research training and development

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As the sole research infrastructure of its kind in the African continent, iThemba LABS has become the hub to a vibrant research, human capital development, and collaboration network for nuclear science that includes the South African universities, research institutions and international counterparts.

The iThemba LABS K=200 separated sector cyclotron (SSC), one of the accelerator complexes comprising 5 accelerators, has been used for nuclear physics research, particle (neutron and proton) therapy, and radioisotope production since its commissioning in 1986. In the 30 years of the SSC's operation, the beam time has been equally divided between the three programs, which severely limited the competitiveness of the nuclear physics research program. Phase 1 of the South African Isotope Facility involved the acquisition of a 70 MeV cyclotron radioisotope production and a low-energy rare ion beam facility. The SSC will now be dedicated to nuclear physics research and research and development of alpha emitters and theranostics (therapy and diagnostic) radioisotopes.

Nuclear Physics research at iThemba LABS serves as the backbone of research at iThemba LABS and the research programs in the next 5 to 10 years will be focused on niche areas where the laboratory's research program will complement the research carried out at cognate laboratories around the world. The status of the South African Isotope Facility, and future plans for the establishment of the rare ion beam facility at iThemba LABS will be presented.

### Attendance Type

In-person

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