

Square Kilometre Array Cyber Lab launched at Carnarvon

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A new Cyber Lab has been launched at Carnarvon High School as part of the Department of Science and Technology's outreach initiative related to the Square Kilometre Array (SKA) telescope project in the Karoo.

On Friday February 25 Hazel Jenkins, Premier of the Northern Cape, opened the lab, saying, "I am very pleased to be here to celebrate yet another milestone development, namely, the launch of the Cyber lab. I congratulate all stakeholders and especially the Provincial SKA SA Project Office under the leadership of Dr Bernie Fanaroff...for promoting this new approach to Science and Technology access. This demonstrates the strong commitment of stakeholders in the advancement of science."

A donation of R750 000 from the Universal Service and Access Agency of South Africa was used to build and equip the computer laboratory at Carnarvon High, while software and training were obtained from Learn Things, Mindset and Microsoft, according to a statement by the SKA South

Africa Project Office and the Department of Science and Technology (DST).

The new Cyber Lab is equipped with 43 desktop computers, a laptop, an interactive white board and a printer, as well as an Internet connection. Optic 1, the company that built the high voltage power cable and optical fibre cable from Carnarvon to the telescope site, donated R50 000 to the initiative. This secured new equipment for the science laboratory at Carnarvon High, as well as for laboratories at two nearby primary schools. The Embassy of the United States in Pretoria has donated R20 000 towards books for a local primary school. The SKA South Africa Project also facilitated the employment of two qualified teachers for Carnarvon High School, to teach mathematics, science and information technology, the statement said.

"I have no doubt in my mind that this significant project will serve as a catalyst to improve learner performance in the area of mathematics and science and to prepare learners to take advantage of the opportunities that will emanate from the developments associated with the Karoo Array Telescope, the MeerKAT and the SKA," Jenkins said. "We expect the learners from Carnarvon High to work hard and do well in their school work so that they will be counted among the Scientists, engineers, technicians and artisans that will be involved in the [radio telescope] projects."

Carnarvon is near the area that has been selected as a potential site to build the core of the world's largest radio telescope – The Square Kilometre Array (SKA). While the international radio astronomy community has yet to decide whether this mega science instrument will be built in Southern Africa or in Australia, South Africa is constructing a precursor telescope – called the MeerKAT – outside the town. An engineering prototype for MeerKAT – called KAT-7 and consisting of seven radio dishes – is already complete. MeerKAT will be the Southern Hemisphere's largest radio telescope and one of the biggest in the world. The first five years of the MeerKAT's life have already been allocated to ten international observation programmes.

The SKA South Africa Project has committed itself to helping to build up educational resources in the area, forming partnerships with the private sector to support local schools and working closely with the Northern Cape Department of Education. The opening of the two new laboratories at Carnarvon High is part of an ongoing process to create a climate where young people from nearby towns, especially Carnarvon and Williston, can engage with science and technology and explore the potential of the SKA project, the DST and SKA Project said in the statement.

The SKA South Africa Project also funds tertiary students, ranging from artisan apprentices and technicians to university students at all levels. To date, 293 students have benefited from SKA South Africa bursaries and scholarships, including many students from other African countries, the statement explained. Bursaries go to physics and engineering students and a special effort is made to attract women and black students to these fields. There are also bursaries for technician training. Support for artisan training focuses on bringing students from the towns near the telescope site to study at the Northern Cape Further Education and Training Urban College in Kimberley.

Meanwhile, on Friday 5 March Minister of Science and Technology, Naledi Pandor, said that South Africa is well on track to host the SKA and outlined some of the benefits the telescope would bring to South Africa. "We believe SKA is an important project for several reasons, we will create a global scientific instrument, we will attract highly accomplished researchers and we will significantly strengthen our existing astronomy science achievements and create a first class hub for astronomy in Africa," Pandor said.

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Pandor added that the radio telescope facilities would become an important driver of socio-economic development in the region and would also benefit the partner countries of Botswana, Ghana, Kenya, Madagascar, Mauritius, Mozambique, Namibia and Zambia. As a result, the African Union endorsed the SKA bid last year.

Pandor noted the educational value of the radio telescope project. “The African SKA human-capital development programme has since 2005 awarded 293 grants for postgraduate and undergraduate study in physics, astronomy and engineering, as well as for technician and artisan training,” she said. “It has created five research chairs at South African universities. Since 2005, we have spent about US\$15m/R110 million on our human capital programme. The African SKA is attracting young people into science and engineering and training a new generation of highly qualified scientists, technicians and professionals.

“Expanding the number of Africa’s scientists and technicians will allow South Africa and Africa to play an increasingly important role in the global knowledge and technology economy,” Pandor said.

The final decision as to who will host the SKA will be announced by the SKA International Steering Committee in 2012.