

NEWS RELEASE

DEPARTMENT OF SCIENCE AND TECHNOLOGY ANNOUNCES MEERKAT/SQUARE KILOMETRE ARRAY SCHOOLS COMPETITION

The Department of Science and Technology announced a competition to raise awareness about Africa's bid to host the Square Kilometre Array (SKA) among secondary school learners in grades 8 to 11.

Africa and Australasia are the only two bidders in the running to host the international mega telescope, which will be used to collect radio waves from space-like planets, stars and galaxies.

The SKA will consist of approximately 3 000 dish-shaped antennae and other hybrid receiving technologies. If Africa wins the bid, the core of the telescope will be constructed near Carnarvon in the Karoo region of the Northern Cape, with outlying stations of about 30 to 40 antennae located in African partner countries.

These antennae will be connected via a data communications network to a data-processing facility. The combined collecting area of the SKA will add up to one square kilometre.

"We are engaging the youth of South Africa to assist in bringing this project to Africa," says Dr Tshepo Seekoe, Chief Director: Radio Astronomy Advances at the Department.

"By entering the competition in droves learners will send a clear message to the decision makers that Africa's time has certainly come – for large research infrastructure development too.

"As we proved to the world that we could host the best World Cup ever, we can prove that we are ready to host the SKA. The youth of South Africa are future beneficiaries of a vibrant astronomy and space programme."

Apart from the advantage to South Africa's space development programme, the SKA should also benefit tourism, with visitors streaming to see the spectacular core site.

South Africa is currently building a precursor instrument near the site proposed for the SKA. The Karoo Array Telescope (MeerKAT), which will consist of approximately 64 dishes, will be among the largest and most powerful telescopes in the world in its own right, and will develop technologies needed for the SKA.

By answering five easy questions, learners can win a laptop/notebook, iPod, printer or SKA SA branded clothing and bags.

The Executive Director of the South African Agency for Science and Technology Advancement (SAASTA), Beverley Damonse, says the agency is delighted to host this competition.

"South Africa's youth has the opportunity to prove that they are responsible, willing and able to help change the lives of future generations through science development.

"At SAASTA we are advancing public awareness and appreciation of science, engineering and technology in South Africa. Hosting the SKA in Africa will boost the development of high-level skills and cutting-edge technology infrastructure, and will also attract expertise and collaborative projects to the continent.

"By targeting the youth, this competition is reaching out to the very people who are the future of science development in our country. The voice of the youth will assist in securing the SKA bid for Africa," says Damonse.

Entry forms can be downloaded from the SAASTA, the South African SKA Project Office and Department of Science and Technology websites - www.saasta.ac.za, www.ska.ac.za and www.dst.gov.za.

They will also be available at secondary schools and science centres around the country.

Entries marked "MeerKAT-SKA Schools Competition" may be posted to PO Box 1758, Pretoria, 0001, or delivered to SAASTA, Didacta Building, 211 Skinner Street, Pretoria. The competition closes on 31 October 2010.

(Ends)

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Background information

Africa is ready to host the world's most powerful radio telescope, the Square Kilometre Array (SKA).

Following an initial identification of sites suitable for the SKA by the International SKA Steering Committee in 2006, Africa and Australasia are the finalists in the bid to host the telescope. A consortium of the major international science funding agencies and governments, in consultation with the SKA Science and Engineering Committee, will announce the selected site for the SKA in 2012.

About 50 to 100 times more sensitive than any other radio telescope on earth, the SKA will be able to probe the edges of the Universe. It will help answer fundamental questions in astronomy, physics and cosmology, including the nature of dark energy and dark matter.

It will also be a powerful time machine that scientists will use to go back in time to explore the origins of the first galaxies, stars and planets. If there is life somewhere else in the Universe, the SKA will help find it.

The construction of the SKA is expected to cost about €1,5 billion. The operations and maintenance of a large telescope normally cost about 10% of the capital costs per year. That means that the international SKA consortium would be spending approximately €100 to 150 million per year on the telescope. It is expected that a significant portion of the capital, operations and maintenance costs will be spent in the host country. Africa offers a competitive and affordable solution for constructing, operating and maintaining the SKA.

Africa's competitive advantage

Southern Africa is fast becoming a hub of activity in the field of astronomy and related technologies. Winning the SKA bid will be a major step forward for the government's Astronomy Geographic Advantage Programme.

Other major astronomy players in the region include the Southern African Large Telescope (SALT) in the Northern Cape, and the High-Energy Stereoscopic System (HESS) gamma ray telescope in Namibia.

The Northern Cape has pristine conditions for hosting large international telescopes. Within the 12,5 million ha of the province is the main protected area – or radio astronomy advantage area – for the SKA.

Other benefits of the proposed site for the SKA in South Africa include –

- low levels of radio frequency interference and certainty of future radio quiet zone;
- basic infrastructure (roads, electricity and communications) are in place;
- the site has an ideal geographical location, sky coverage and topography;
- it is a safe and stable area with very few people and no conflicting economic activities;
- the required land, labour and services are available and very affordable.

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