

OPENING ADDRESS BY THE DEPUTY MINISTER OF SCIENCE AND TECHNOLOGY, DEREK HANEKOM, AT THE SECOND MIDDLE EAST AND AFRICAN REGIONAL MEETING OF THE INTERNATIONAL ASTRONOMICAL UNION (MEARIM II), CAPE TOWN, 11 April 2011

Programme Director;

Prof Bob Williams, President of the International Astronomical Union;

Ladies and gentlemen:

When we hear the word “astronomy” it conjures up thrilling images – of a vast, unexplored and fascinating universe – of ever-developing technologies, which will, one day, provide answers to the big unanswered questions – “are we alone, or do we have company?” Astronomy also allows us to look back in time, nearly back to the beginning of the universe, 14 billion years ago.

All evidence tells us that the first human beings came from Africa, along with humankind’s first cultural and intellectual activities. When the earliest inhabitants of our planet looked up, they had pretty much the same spectacular view of the Milky Way that we see today.

In South Africa we have the incredible fortune of both inheriting rich and diverse fossil sites, telling us about early life on earth, and remarkable evidence of our own human evolution, as well as ideal geographical conditions to explore the universe through astronomy. We are fortunate to have remote areas with extraordinarily clear skies, and low population densities, so there is very little light pollution of the dark skies, and very little radio interference to pollute the radio sky. This provides ideal conditions for many kinds of astronomical observations.

As our palaeontologists are making great contributions to understanding the beginning of humankind, so the advances in astronomy are now poised to tell the world a lot more about the beginning of this vast universe of ours, reveal some of its secrets, and perhaps even answer that perennial question: is there life out there?

Allow me to congratulate the International Astronomical Union on providing a platform for astronomers in different regions. MEARIM met for the first time in

2008 in Cairo, and has already contributed to the creation of a vibrant Middle-East/African community of astronomers and has motivated African astronomers to organise themselves into their own astronomy association.

It is hardly surprising that there has been such an enthusiastic response: African astronomical activity predates all others. In the Nabta Basin, a dry lake situated in the Southern Egyptian desert, an arrangement of stone megaliths are the oldest astronomically aligned structure yet discovered. Dating from 6,000 BC, the site precedes Britain's similar and famous Stonehenge by at least a thousand years. This was some time prior to the construction of the pyramids, themselves firmly based on astronomical principles.

Establishing this community of astronomers is a positive development in the continent. It will contribute to the building of scientific capacity and to the development of new initiatives.

The astronomical capabilities within the Middle-East and Africa have already seen exciting developments, such as the completion and installation of the High Energy Stereoscopic System (HESS) in Namibia and the Southern African Large Telescope (SALT) in South Africa. SALT – which is just a three hour drive from Cape Town - is one of the largest and most sensitive optical telescopes in the Southern Hemisphere.

The HESS telescope in Southern Namibia is a gamma ray telescope. It makes pictures from the very high energy gamma rays which are emitted by the most powerful events in the universe, such as the explosion of massive stars or when stars collapse into a black hole. HESS is a world-leading telescope and much of what it picks up is new and exciting to astronomers.

And, if all goes according to plan, the largest and most powerful telescope the world has ever seen will be located here as well. Of course, you all know that South Africa – together with Botswana, Ghana, Kenya, Madagascar, Mauritius, Mozambique, Namibia and Zambia - is bidding to host the Square Kilometre Array (SKA) telescope.

With 3000 receptors linked together, the SKA will have 50 times the sensitivity of the best radio telescopes in the world today. It promises to revolutionise science by answering some of the most fundamental questions that remain about the origin, nature and evolution of the universe.

The African SKA bid has support throughout the continent. In its 15th ordinary session of the assembly of the African Union held in Uganda in July last year, the African heads of states endorsed the African SKA bid.

As part of our site bid, and to develop the young scientists and engineers who will build, operate and use the SKA, we have started building the MeerKAT, which will act as a pathfinder to the SKA. The first seven dishes are complete and have already produced their first pictures. The MeerKAT will consist of 64 dishes, and will in its own right be one of the largest and most powerful telescopes in the world. It will be commissioned in 2013, and will enable African and other astronomers to do really cutting-edge, breakthrough science.

In response to the developmental needs of Africa, the SKA project office, led by Dr Bernie Fanaroff, has awarded over 263 bursaries since its inception. The bursaries are awarded to undergraduates, postgraduates and postdoctoral fellowships in physics, engineering and astrophysics within 14 universities across South Africa.

There are ongoing engagements with universities from the SKA partner countries to introduce courses in astronomy, explore research collaborations and visiting lectureships.

These partnership programmes of universities in the eight partner countries through visiting lecturers and developing astronomy research programmes are particularly important for countries with no track record of physics or astronomy research.

The hosting of this meeting in South Africa is timely, given the International Astronomical Union's plan, "*Astronomy for the Developing World*", which aims to bring astronomy to the entire continent. This plan will require a huge effort on the education and outreach front. The development office that will be launched on Saturday will play an essential role in capacity development.

In closing, let me say that I look forward to hearing, in the not too distant future, that one of you - from the Middle East or Africa – has succeeded in winning something like the [Templeton Prize, as the well-known astronomer Martin Rees](#) did last week. He earned himself a neat million pounds out of that one!

More seriously, I am quite confident that none of you is driven by the quest to make money, but rather by the hunger to know more about our universe, and to provide us with new insights and answers to the fundamental questions that our ancestors started asking when they were gazing at the stars in our beautiful skies.

I wish you well and hope that you have exhilarating exchanges during the next few days. I trust that the organisers have arranged for you to enjoy some of the beauty of Cape Town and its magnificent surroundings while you are here.