



science
& technology

Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA

Activities of the Astronomy Desk

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Establishment of the Astronomy Desk

- October 2010 - Astronomy Desk established in the DST
- Headed by Professor Manfred Hellberg (UKZN)
- Reference team of 5 senior scientists:

Professors George Ellis (UCT), Renee Kraan-Korteweg (UCT), Sunil Maharaj (UKZN), George Miley (Leiden University & VP, International Astronomical Union) & Harm Moraal (North West)



Brief of the Astronomy Desk

To advise the Minister of Science and Technology on substantive policy & strategic matters relating to the development of astronomy & related sciences, as well as matters related to South Africa's bid to host the SKA radio telescope.



Astronomy Desk: Brief

In particular, to provide advice on:

- How SA could obtain maximum advantage and **return on the significant investment** being made in astronomy;
- The **appropriate/optimal relationship** between SA national research facilities and internationally funded projects;
- The appropriate structural, organisational & management relationship between optical and radio astronomy and the High-Energy Stereoscopic System (which measures gamma rays) in Namibia;
- The most appropriate **governance model** for astronomy facilities in South Africa;



DST: Astronomy Desk

AD Head:

Prof Ramesh Bharuthram (since mid-2011)

Deputy Director AD:

Dr Bonita de Swardt (Full-time DST since Aug
2012)

Administrator:

Dr Vanessa Brown (UWC)



Astronomy Desk Reference Group

Renée Kraan-Korteweg (UCT)

Harm Moraal (NWU)

George Ellis (UCT)

George Miley (Leiden University)

Manfred Hellberg (UKZN)

Sunil Maharaj (UKZN)

Roy Maartens (UWC)

Thebe Medupe (NWU)

Kavilan Moodley (UKZN)



Role of the Astronomy Desk

Develop a holistic strategy for astronomy advancement in South Africa by adopting a multi-wavelength approach.

Terms of Reference of the Astronomy Des

1. A National Astronomy Agency to govern all of astronomy in South Africa.

- Incorporation into existing institution, agency, science council
- Independent Agency
- Corporate form
- Business case for its establishment

2. Human Capacity Development.

- A collective study of all investments made in to Astronomy to answer Minister Pandor's questions "Has South Africa obtained value for money in Astronomy?"

3. A long-term multi-wavelength strategy for astronomy South Africa

Human Capital Development In Astronomy

1. Assessment of current interventions

- Financial “Audit” of all government investments in Astronomy – National Facilities and programmes associated with these (includes SALT SCBP), NASSP, MWLA programme, SKA SA project, NRF.

2. Identify the gaps in Astronomy interventions

- Together with the KBR-AWG report identify short, medium and long-term interventions which needs funding and lead to HCD.

3. Existing human capital in Astronomy in South Africa

- Developing astronomy surveys for universities and national facilities – research areas, staff and student numbers over a 5 year period, astronomy curricula, national and international partnerships, funding sources, etc.

Multi-Wavelength Strategy for the Development of Astronomy

1. Why a multi-wavelength SA strategy?

- Use optical, radio and gamma-ray facilities to facilitate collaborations in developing and strengthening the astronomy community in SA.

2. Way Forward

- The development of a multi-wavelength Decadal Plan for SA.
- A study of International Strategic Plans.
- Identify features unique to South Africa and the challenges facing the SA astronomy community.
- The Strategic Plan should be strongly linked human capital development.

Components of the Strategic Plan for Multi-Wavelength

1. Excellence in **Astronomy** Research niche thematic areas
2. Human Capital Development
3. Astronomy Education/Outreach/Science and Mathematics Awareness
4. Astronomy Technology Development
5. National Partnerships
6. International Partnerships
7. A supporting infrastructure for astronomy research and development

Excellence in Research

1. Prof Ted Williams (SAAO)
2. Prof Sergio Colafrancesco (Wits)
3. Prof Roy Maartens (UWC)
4. Prof Kavilan Moodley (UKZN)
5. Prof Tom Jarrett (UCT)
6. Prof Renée Kraan-Korteweg (UCT)
7. Dr Darragh O'Donoghue (SALT)
8. Prof Lerothodi Leeuw (UNISA)
9. Dr Romeel Davé (UWC/SAAO/AIMS)
10. Prof Bruce Bassett (SAAO/UCT/AIMS)
11. Prof Markus Boettcher (NWU)
12. Dr Sharmilla Goedhart (SKA SA)
13. Prof Matt Jarvis (Oxford/UWC)

Human Capital Development

1. Prof Thebe Medupe (UNW)
2. Prof Lerothodi Leeuw (UNISA)
3. Ms Kim de Boer (SKA SA)
4. Ms Daphne Legkwathi (SKA SA)
5. Prof Kavilan Moodley (UKZN)
6. Dr Vanessa McBride (SAAO/UCT)

National Partnerships

1. Dr Catherine Cress (CHPC)
2. Dr Enrico Olivier (UWC)
3. Prof Johan van der Walt (UNW)
4. Prof Lerothodi Leeuw (UNISA)
5. Dr Mike Gaylard (HartRAO)
6. Dr Kurt van der Heyden (UCT)
7. Prof Howard Reader (US)
8. Prof Sunil Maharaj (UKZN)
9. Dr Chris Engelbrecht (UJ)
10. Prof Sergio Colafrancesco (Wits)
11. Dr Pieter Meintjies (UFS)
12. Prof Ted Williams (SAAO)
13. Dr Lindsay Magnus (SKA SA)
14. Prof Nigel Bishop (Rhodes)

Current Activities of the

Astronomy Desk

1. Briefing of new Minister Derek Hanekom of the activities of the AD to take place on 15 February 2015.
2. Concept Document for an independent Astronomy Agency is under revision.
3. Proposal for new HCD initiatives for Astronomy in the short/medium term submitted to DST for assessment/approval.
4. Waiting for DST approval of budget for first workshop of panels to develop long-term strategic plan.
5. Waiting for responses to the detailed demographic survey assessing the status of Astronomy at Universities and National Facilities in South Africa.