



# 2018 BRICS Astronomy Workshop and Working Group Meeting

*Ideas for strengthening BRICS astronomy  
into the future*

Date: 29 – 31 October 2018 Venue:  
Protea Hotel, Umhlanga Rocks,  
Durban



## Sunday, 28 October

15:00-18:00 Arrival and registration

Opening dinner

19:00 Welcome and introduction of the South African Director-General of Science and Technology, Dr Phil Mjwara, by Dr Thomas Auf der Heyde

19:05 Entertainment: Alex Wuensche e To Mendes, Conversa De Cordas, Brazilian Instrument Music

19:20 Starter served

19:30 Official opening address by Dr Mjwara

19:45 Dinner

## Monday, 29 October

### Session I: Setting the scene

Chair: India

08:30 Registration

09:15 Opening remarks by Dr Thomas Auf der Heyde, Chair of the BRICS Astronomy Working Group, South African Department of Science and Technology

09:30 BRICS science, technology and innovation agenda, resolutions and funding instruments by Dr Bongzi Mkhize, Deputy Director: Bilateral Relations (Americas and Asia), South African Department of Science and Technology

09:55 Overview of the BRICS astronomy initiative by Mr Takalani Nemaungani, BRICS Astronomy Secretariat, South Africa

10:20 Tea break

10:45 BRICS Astrophysics, Cosmology and Gravity Group, by Prof. Yin-Zhe Ma, Associate Professor at the University of KwaZulu-Natal

11:05 BRICS big data/high performance computing by Dr Bernie Fanaroff, Special Advisor to the Managing Director, South African Radio Astronomy Observatory, and Dr Happy Sithole, Director of the Centre for High Performance Computing, South Africa

11:30 Space science by Mr Amal Khatri, BRICS Space Science Chair

11:55 Group Photo

12:10 Lunch

## Session 2: Ideas for BRICS collaboration

Chaired by Brazil

- 13:30 Understanding the nature of the transient universe by Dr David AH Buckley, Darragh O'Donoghue Astronomer, South African Astronomical Observatory
- 13:55 BRICS Network for Constant Monitoring of the Sun by Prof. Dmitry Bisikalo, Institute of Astronomy of the Russian Academy of Sciences
- 14:20 Ground-based UV spectrograph by Prof. Dmitry Bisikalo, Institute of Astronomy of the Russian Academy of Sciences
- 14:45 What is the mysterious dark energy that is accelerating our Universe today? By Prof. Aroonkumar Beesham, University of Zululand
- 15:05 Baryon Acoustic Oscillations In Neutral Gas Observations by Prof. Elcio Abdalla and Prof. Carlos Alexandre Wuensche, Director of Astrophysics at Brazil's National Institute for Space Research (INPE)
- 15:30 Tea break

## Session 3: Ideas for collaboration

Chaired by China

- 15:55 Observations of the 21-cm line from the neutral hydrogen at the early Universe by Prof. Yin-Zhe Ma, University of KwaZulu-Natal
- 16:20 Radio Academy for Galaxy Evolution and Dynamics by Dr Gyula IG Jozsa, SARAO
- 16:45 Africa2Moon by Ms Carla Sharpe, SARAO
- 17:05 Supercomputers for simulations to tackle outstanding questions in star formation to make predictions, Prof. Lerothodi Leeuw, University of South Africa
- 17:30 Proposals from China by Prof. Zhiqiang Shen, Director of the Shanghai Astronomical Observatory, Chinese Academy of Sciences
- 17:30 Summary of the day's discussions
- 18:00 Programme ends
- 19:00 Dinner

Session I: Ideas for BRICS collaboration

Chair: South Africa

- 09:00 Potentially Hazardous Objects Observation System by Prof. Dmitry Bisikalo, Institute of Astronomy of the Russian Academy of Sciences
- 09:25 Collaboration for the development of Information Technology and High Performance Computing Solutions solutions to address big data processing and analytics in astronomy by Prof. Russ Taylor, UCT-UWC Institute for Data Intensive Astronomy
- 09:45 The future of the Southern African Large Telescope by Dr David AH Buckley, Darragh O'Donoghue Astronomer, South African Astronomical Observatory, and Mr Yunus Manjoo, Director: Business Systems and Analysis, National Research Foundation, South Africa
- 10:10 Tea
- 10:35 Proposals from China by Prof. Zhiqiang Shen, Director of the Shanghai Astronomical Observatory, Chinese Academy of Sciences
- 11:00 BRICS and the Open Universe Initiative by Dr Ulisses Barres de Almeida, Brazilian Centre for Research in Physics (CBPF)
- 11:25 Reflection on proposals
- 11:50 The way forward
- 12:00 Lunch
- 13:00 Excursion to the University of Kwa-Zulu Natal
- 19:00 Dinner at uShaka Marine World

**BRICS Astronomy Working Group Meeting**  
**Umhlanga, South Africa**

**31 October 2018**

Chair of the Working Group: Dr Thomas Auf der Heyde, Deputy-Director General: Research Development and Support, South African Department of Science and Technology

- 08:30 Arrival and registration
- 09:00 Opening remarks by the Chair
- 09:05 Apologies and approval of the agenda
- 09:10 Introduction by delegations
- 09:15 Report on the implementation of the resolutions of the 3rd Working Group Meeting by Mr Takalani Nemaungani, BRICS Astronomy Secretariat, South Africa
- 09:25 Discussion
- 09:35 High-level presentations by each country on the latest developments in astronomy and plans for the next three years  
(10 minutes presentation and 5 minutes for discussion)
  - Brazil
  - Russia
  - India
  - China
  - South Africa
- 10:50 Tea break
- 11:05 Presentation and discussion on BRICS Astrophysics, Cosmology and Gravity group by Associate Professor at the University of KwaZulu-Natal
- 11:30 Report on and discussion of projects supported under the BRICS 2017 call for proposals by Mr Yunus Manjoo, Director: Business Systems and Analysis, National Research Foundation, South Africa
- 11:50 Discussion of submitted BRICS astronomy flagship project proposals
- 12:20 Discussion of the next Working Group Meeting
- 12:35 Drafting and endorsement of the Resolutions of the 4th Working Group Meeting
- 12:55 Closing remarks by the Chair
- 13:05 Lunch
- 14:00 Departure