



Astronomy for a Better World: New Pathways for Research, Innovation and Development

Dr Charles Takalana (SAAO & IAU-OAD) & **Dr Joyful Mdhluli** (SAAO & IAU-OAD)

Monday, 14 September 2026 | 16h00–17h00 SAST

HOW TO ATTEND:

In person (main venue):

- Road House Cinema
(Neelsie)
Stellenbosch University

Watch at satellite venues:

- MITP Boardroom P215,
2nd Floor Physics Building
University of the Witwatersrand
- Seminar Room K310
Physics Building G5
North-West University

Online (live stream)

--- Please note, a recording of the lecture will be published on the NITheCS YouTube channel following the event ---

ABSTRACT

Traditional development approaches are increasingly struggling to respond to complex global challenges, including widening inequality, climate instability, and the need for inclusive and sustainable growth. At the same time, astronomy is often perceived as primarily academic, with limited direct application to society. This overlooks its contribution to technological innovation, human capital development, digital imaging, medical diagnostics, satellite communications, and large-scale data processing.

Established in 2011, the International Astronomical Union Office of Astronomy for Development (OAD) uses astronomy, within the broader context of science, as a tool for sustainable development. Working across more than 100 countries, it has supported hundreds of projects in education, scientific capacity building, technology, cultural preservation, environmental awareness, and social cohesion.

This talk will present the OAD's strategic framework, flagship ecosystem, and global network model, highlighting their alignment with the United Nations Sustainable Development Goals. It will also introduce two new initiatives in concept development. The Astronomy-for-Development Research Institute will build an open-access knowledge portal and global dataset, strengthen impact evaluation, and support research and policy. The OAD Innovation Hub will identify commercially promising projects and support their development through business modelling, mentorship, commercialisation expertise, and partnerships. Together, they seek to strengthen evidence of astronomy's development impact and create pathways to sustainable enterprises.

SPEAKER BIOGRAPHIES



Dr Charles Takalana is Deputy Director of the IAU Office of Astronomy for Development. He has a PhD in Astronomy and Astrophysics from Wits and previously worked at CorpActive and the South African Radio Astronomy Observatory. He was the founding Head of Secretariat of the African Astronomical Society and Vice Chair of the organising committee for the 2024 IAU General Assembly in Cape Town. He is an Extraordinary Lecturer at Stellenbosch University and an Advisor to AfAS.



Dr Joyful Mdhluli is a Postdoctoral Researcher at the IAU Office of Astronomy for Development, where she coordinates astronomy-for-development projects. She holds a PhD in Particle Physics from Wits. She is Executive Secretary of Women in Physics in SA and a Director and Executive Committee member of the African Astronomical Society. Her accolades include the Best Pitch Award from the Black Women in Science Fellowship and participation in the 70th Lindau Nobel Laureate Meeting.

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