

Session Program

6–10 Jul 2026



SAIP2026

Astrophysics & Space Science

University of the Western Cape

Tuesday 7 July

09:30

Astrophysics & Space Science: Astrophysics Session 1

Session | Location: University of the Western Cape, Lecture Hall C5 | Convener: Geoff Beck

09:30–09:50 Development of a GPU-Based Wideband Spectrometer for Radio Astronomy

Speaker

André DeGoede

09:50–10:10 Future Plans for Global Optical Transient Detection Networks

Speaker

David Buckley

10:10–10:30 Design and Implementation of a Modular Telescope and Dome Control System (TelServer)

Speaker

Dr Hendrik Jacobus van Heerden

10:30

09:30

Astrophysics & Space Science: Space Science: Session 1

Session | Location: University of the Western Cape, Lecture Hall C3 | Convener: Ruhann Steyn

09:30–09:50 Occurrence of Ionospheric scintillation during the Ascending phase of solar cycle 25

Speaker

Tshimangadzo M. Matamba

09:50–10:10

Large- and Medium-Scale Travelling Ionospheric Disturbances Observed across the African-European Sector during the 15-19 July 2012 Geomagnetic Storm

Speaker

Golekamang Thaganyana

10:10–10:30 Plasma bubble evolution during the Mother's Day 2024 geomagnetic storm

Speaker

Prof. Zama Katamzi-Joseph

10:30

11:00

Astrophysics & Space Science: Astrophysics: Session 2

Session | Location: University of the Western Cape, Lecture Hall C5

11:00–11:20 Curvature-Scalar Coupling as a Driver of Accelerated Expansion

Speaker

Edmund Kyazze

11:20–11:40 Early results of tests on the Simba-C simulation with varying initial conditions

Speaker

Jaydon Durow

11:40–12:00 Joint cosmological constraints on interacting vacuum energy models

Speaker

Olebogeng Tlhapane

12:00–12:20

Kosmulator IDE: A Flexible MCMC Module for Interacting Dark Energy Models**Speaker**

Marcel van der Westhuizen

12:20–12:40

The Stellar Mass–Spin Relation of Galaxies in Simba: The Role of Environment and Kinematic Morphology**Speaker**

Moorane Emily Makwela

12:40

11:00

Astrophysics & Space Science: Space Science: Session 2**Session** | **Location:** University of the Western Cape, Lecture Hall C3 | **Convener:** Zama Katamzi-Joseph

11:00–11:20

The May 2024 Superstorm: Global Insights into Thermosphere-Ionosphere Coupling**Speaker**

Mr Thato Maja

11:20–11:40

Nighttime Medium-Scale Traveling Ionospheric Disturbances (MSTIDs) Over Sutherland (2018–2022): Occurrence and Relation to Sporadic-E Layers**Speaker**

phelokazi fodo

11:40–12:00

Geomagnetically Induced Currents**Speaker**

Ms Sibahle Mbatha

12:00–12:20

Ionospheric Response to Extreme Geomagnetic Storms**Speaker**

Mr Ishaan Bhatt

12:40

14:40

Astrophysics & Space Science: Astrophysics: Session 3**Session** | **Location:** University of the Western Cape, Lecture Hall C5

14:40–15:00

MeerKAT HI reveals ram-pressure stripping in Abell 3408 galaxy cluster**Speaker**

Xola Ndaliso

15:00–15:20

Probing diffuse HI in galaxies with kinematically guided stacking**Speaker**

Craig Smith

15:20–15:40

Radio Properties of WISE-Selected AGN Populations in the MIGHTEE Survey**Speaker**

Mr Karabo Khosa

15:40–16:00

Neutral Hydrogen, HI, in the Shapley Supercluster Core: Environmental Effects on Gas Content and Galaxy Evolution

16:00

Speaker
Lwandile Gwebushe

14:40

Astrophysics & Space Science: Space Science: Session 3

Session | **Location:** University of the Western Cape, Lecture Hall C3 | **Convener:** Lerato Shikwambana

14:40–15:00

Development of a Remote, Self-Sustaining Low-Cost GNSS RTK Base Station for CORS Applications

Speaker
Mr Mbhasobhi Manqele

15:00–15:20

Can Neutral Winds explain the TEC enhancement?

Speaker
Mr ZOTHILE DLAMINI

15:20–15:40

Comparative study of Long-Term Variations of Mesospheric Wind Velocity and Tidal Amplitude using SANA E HF Radar and WACCM-X data

Speaker
SIYABONGA CHILIZA

16:00

Wednesday 8 July

09:30

Astrophysics & Space Science: Astrophysics: Session 4

Session | Location: University of the Western Cape, Lecture Hall C5

09:30–09:50

Bayesian component separation and power spectrum estimation for 21 cm intensity mapping data cubes

Speaker

Dr Geoff Murphy

09:50–10:10

Exoplanet Discoveries using Transit Method

Speaker

Lungelo Chabaku

10:30

09:30

Astrophysics & Space Science: Space Science: Session 4

Session | Location: University of the Western Cape, Lecture Hall C3 | Convener: John Bosco Habarulema

09:30–09:50

Investigating the Impact of Auroral arcs on ionospheric electric fields, thermospheric Neutral Winds, and Joule Heating

Speaker

Siyanda Hlathi

09:50–10:10

Modelling Earth's magnetic field over the South Atlantic Anomaly region using Swarm satellite and ground-based data

Speaker

Mr Sanele Lionel Khanyile

10:10–10:30

Atmospheric Gravity Waves/Traveling Ionospheric Disturbances

Speaker

Mr Hudson Mims

10:30

11:00

Astrophysics & Space Science: Astrophysics: Session 5

Session | Location: University of the Western Cape, Lecture Hall C5

11:00–11:20

Identification and cleaning of contaminants for neutral hydrogen intensity mapping using machine learning

Speaker

Mosima Masipa

11:20–11:40

Scientific Discovery with Foundation Models

Speaker

Michelle Lochner

11:40–12:00

Anomaly detection in astronomical surveys using Astronomy

Speaker
Verlon Etsebeth

12:00–12:20 **Detecting anomalous radio spectrograms with unsupervised and active learning**

Speaker
Hanwool Koo

Astrophysics & Space Science: Space Science: Session 5

Session | **Location:** University of the Western Cape, Lecture Hall C3 | **Convener:** DuToit Strauss

11:00–11:30

Low latitude vertical drift modeling using satellite and ground-based magnetometer datasets

Speaker
Prof. John Bosco Habarulema

11:30–11:50

Characterisation of a Scintillator-based Detector for Radiation Monitoring in Low Earth Orbit

Speaker
Ms Isabella Maria Goodwin

11:50–12:00 **Break**

12:00–12:20 **Linking Coronal Structures to L1 Solar Wind Disturbances over Three Solar Minima**

Speaker
Thembaethu Zulu

12:20–12:40 **An unsupervised deep learning approach to McIntosh sunspot classification**

Speaker
Bernard Swanepoel

Astrophysics & Space Science: Astrophysics: Session 6

Session | **Location:** University of the Western Cape, Lecture Hall C5

Astrophysics & Space Science: Space Science: Session 6

Session | **Location:** University of the Western Cape, Lecture Hall C3 | **Convener:** Ruhann Steyn

14:50–15:10 **Simulating the field-line random walk process**

Speaker
Johan Joubert

15:10–15:30

A Comparative Analysis of Stochastic Differential Equation Solvers for Modeling Galactic Cosmic Ray Modulation

Speaker
Sello Motsoane

15:30–15:50 **Solar modulation of cosmic ray antiprotons over the magnetic field reversal period**

Speaker
THABO MAHLATJI

15:50–16:10

Cosmic Ray Neutron Sensors for Soil Moisture Monitoring: Investigating Atmospheric Dynamics

Speaker

Aimee Dumont

16:10

Thursday 9 July

09:30

Astrophysics & Space Science: Astrophysics: Session 7

Session | Location: University of the Western Cape, Lecture Hall C5

09:30–09:50

Searching for and modelling persistent radio sources associated with Fast Radio Bursts.

Speaker

Lebogang Mfulwane

09:50–10:10

Dark Matter Content of Gas-Rich Dwarf Galaxies

Speaker

OWEN BEUKES

10:10–10:30

Status of WIMP searches with MeerKAT

Speaker

Geoff Beck

10:30

09:30

Astrophysics & Space Science: Space Science: Session 7

Session | Location: University of the Western Cape, Lecture Hall C3 | Convener: Katlego Moloto

09:30–09:50

Commissioning of the SA-DLITE interferometric radio telescope

Speaker

DuToit Strauss

09:50–10:10

Solar modulation of galactic deuterons related to PAMELA, AMS02 and Voyager 1 observations

Speaker

Ms Innocentia Itumeleng Ramokgaba

10:10–10:30

Onboard measurement of cosmic-ray exposure on South African domestic flights

Speakers

Bosco Oryema, Joseph Omojola

10:30

11:00

Astrophysics & Space Science: Astrophysics: Session 8

Session | Location: University of the Western Cape, Lecture Hall C5

11:00–11:20

Three-dimensional MHD simulations of astrospheres and galactic cosmic ray transport.

Speaker

Christo Pretorius

11:20–11:40

Optimizing Stellar Velocity Dispersion Measurements for Upcoming Spectroscopic Surveys

Speaker

Mr Johan Nel

11:40–12:00

CATAclysmic Variables in the Meerlicht Southern Allsky Survey.

Speaker

Mkhatshwa Xolile

12:00–12:20

Spectroscopic Study of Uncertain Boo Stars Using Southern African Large Telescope High Resolution Spectrograph.**Speaker**

Magdeline Matobe

12:40

11:00

Astrophysics & Space Science: Space Science: Session 8**Session** | **Location:** University of the Western Cape, Lecture Hall C3 | **Convener:** Ruhann Steyn

11:00–11:20

Using URANOS Simulations to Understand Biomass-Soil Moisture Interactions in Cosmic-Ray Neutron Sensing Applications**Speaker**

Dr Katlego Moloto

11:20–11:30

Break

11:30–12:00

The manifestation of vorticity in the atmosphere of the Sun**Speaker**

Prof. Eamon Scullion

12:10–12:30

A numerical investigation of a pulse propagating through the stratified solar atmosphere**Speaker**

Calmay Lee

12:40

14:40

Astrophysics & Space Science: Astrophysics: Session 9**Session** | **Location:** University of the Western Cape, Lecture Hall C5

16:00

14:40

Astrophysics & Space Science: Space Science: Session 9**Session** | **Location:** University of the Western Cape, Lecture Hall C3 | **Convener:** Zama Katamzi-Joseph

14:40–15:00

Polar Coronal Hole Size Variations Across Multiple Solar Cycles**Speaker**

JG Coertze

15:00–15:20

Detailed study of a solar flare: photospheric deformation and chromospheric/coronal connectivity**Speaker**

Ruhann Steyn

16:00

16:30

Astrophysics & Space Science: Astrophysics and Space Science Division Meeting**Session** | **Location:** University of the Western Cape, Lecture Hall C3 | **Conveners:** Geoff Beck, Ruhann Steyn

17:30

Friday 10 July

09:30
10:30
09:30
10:30
11:00
12:40
11:00
12:40

Astrophysics & Space Science: Astrophysics: Session 10

Session | Location: University of the Western Cape

Astrophysics & Space Science: Space Science: Session 10

Session | Location: University of the Western Cape, Lecture Hall C3

Astrophysics & Space Science: Astrophysics: Session 11

Session | Location: University of the Western Cape

Astrophysics & Space Science: Space Science: Session 11

Session | Location: University of the Western Cape, Lecture Hall C3