

Session Program

6–10 Jul 2026



SAIP2026

Nuclear, Particle and Radiation Physics -1

University of the Western Cape

Tuesday 7 July

09:30

Nuclear, Particle and Radiation Physics -1: Session 1

Session | Location: University of the Western Cape, Lecture Hall GH2 | Convener: Sifiso Ntshangase

09:30–09:50

Modelling and validation of neutron detector response functions up to 140 MeV using Geant4

Speaker

Mr Miles Kidson

09:50–10:10

Selective extraction of fast and epithermal neutron beams from a Nuclear Research Reactor energy spectrum using a filter response matrix approach

Speaker

Deon Marais

10:10–10:30

Application of ICP-MS for low background measurement

Speaker

Ms Naomi Dikeledi Mokhine

10:30

11:00

Nuclear, Particle and Radiation Physics -1: Session 2

Session | Location: University of the Western Cape, Lecture Hall GH2 | Convener: Peane Maleka

11:00–11:20

SYSTEMATIC RADIOLOGICAL ASSESSMENT AND POPULATION RISK EVALUATION OF PRIMORDIAL RADIONUCLIDES IN SOILS OF TAMB UWAL, NIGERIA

Speaker

Dr Yusuf Ahijjo Musa

11:20–11:40

XRF-derived major elements for nuclear forensic signatures in radiothermic carbonatites area using machine learning and multivariate modelling

Speaker

Liteboho Ntsohi

11:40–12:00

Aerial Radiometric Measurements at an old disused Phosphate Mine in the West Coast Fossil Park, South Africa

Speaker

Masego Mothapo

12:00–12:20

Rare Earth Element and Soil Contamination Assessments around Mrima Hills, Kenya Using ICP-MS

Speaker

Ms Liteboho Ntsohi

12:20–12:40

Electronic Properties of $\text{CH}_3\text{NH}_3\text{SnI}_3$: A Density Functional Theory Study Toward Lead-Free Perovskite Solar Cells

Speaker
clarence Mabaso

Nuclear, Particle and Radiation Physics -1: Session 3

Session | **Location:** University of the Western Cape, Lecture Hall GH2 | **Convener:** Obed Shirinda

14:40–15:00 Search and analysis of the double hit events in the $^{242}\text{Pu}(\gamma, f)$ reaction

Speaker
Thembi Hope Vilane

15:00–15:20

Measurement of angular correlations in $\gamma - \gamma$ cascades using coincidence detection and Monte Carlo simulation

Speaker
Mikayla Chaplin

15:20–15:40 Status of the (γ, f) reactions research at the microtron in FLNR, JINR

Speaker
P. Z. Ngcobo

15:40–16:00

Optimisation of Hermetically sealed sample holders to study sensitive materials using powder XRD techniques

Speaker
Tjatji Tjebane

Wednesday 8 July

09:30

Nuclear, Particle and Radiation Physics -1: Session 1

Session | Location: University of the Western Cape, Lecture Hall GH2 | Convener: Livhuwani Masevhe

09:30–09:50

Effects of Re and B on the low-energy photon shielding properties of Re_2MnBO_6 (Re = La, Sm, and Nd and B = Co and Ni)

Speaker

Tinashe Dhlwayo

09:50–10:10

PRODUCTION Lu-177 BY REGENERATION OF THE YB TARGET FOR NUCLEAR MEDICINE AT THE RESEARCH REACTOR IRT-T

Speaker

Veronica Kgabisang Gouws

10:10–10:30

Structural and Shielding Properties of $\text{Er}_2\text{Os}_2\text{O}_7$ Pyrochlore Material

Speaker

Prof. Buyisiwe Sondezi

10:30

11:00

Nuclear, Particle and Radiation Physics -1: Session 2

Session | Location: University of the Western Cape, Lecture Hall GH2 | Convener: Prof. Steve Peterson

11:00–11:20

Assessing UAV Gamma-Ray Spectrometry for Soil Characterisation in Vineyards

Speaker

Liam Delaney

11:20–11:40

Experimental Test of the Generalized Brink-Axel Hypothesis and Thermodynamic Properties of ^{140}La

Speaker

Ayabulela Tsewu

11:40–12:00

Systematic investigation of density-independent and density-dependent nucleon–nucleon interactions in ^{16}O -fusion induced reactions

Speaker

Gerald Maluleke

12:00–12:20

Systematic Efficiency Characterisation of SiPM-Based Scintillator Trackers using Cosmic Muons

Speaker

Mr Malefetsane Lenka

12:20–12:40

Investigating Gamow–Teller β -decays using pn-QRPA framework

Speaker

Mr Odwa Tyuka

12:40

14:50

Nuclear, Particle and Radiation Physics -1: Session 3

Session | Location: University of the Western Cape, Lecture Hall GH2 | Convener: P. Z. Ngcobo

14:50–15:10

Effect of Coating Thickness on Proton Radiation Sensitivity for Titanium-Oxide Coated Novel Fiber Optic Sensors**Speakers**

Abdool Sattar Cassim, Emmanuel Igumbor, Samuel Temaugee, Timothy Brooks

15:10–15:30

Extracting Radioisotope Lifetimes from a 100 MeV Gamma Irradiation Experiment Using HPGe Spectroscopy**Speaker**

Thendo Emmanuel Nemakhavhani

15:30–15:50

pnQRPA study to extract the axial-vector coupling strength from β -decay data**Speaker**

Mr Sifiso Mngonyama

16:10

Thursday 9 July

09:30

Nuclear, Particle and Radiation Physics -1: Session 1

Session | Location: University of the Western Cape, Lecture Hall GH2 | Convener: Shanyyn Hart

09:30–09:50 A possible bound state of the ^{21}C as a halo nucleus

Speaker

Thando Timax Khedzi

09:50–10:10 Testing the vibrational nature of ^{100}Ru .

Speaker

Lwazikazi Maqungo

10:10–10:30

Role of Nuclear Density in Heavy-Ion Fusion Hindrance within the Double-Folding Framework

Speaker

Dr Joshua Tolulope Majekodunmi

10:30

11:00

Nuclear, Particle and Radiation Physics -1: Session 2

Session | Location: University of the Western Cape, Lecture Hall GH2 | Convener: Mohamed Kamil Mohamed

11:00–11:20

Fabrication of thin-film targets for nuclear physics experiments at iThemba LABS and Daresbury Laboratory

Speaker

Mr Esmond Craig Vyfers

11:20–11:40

Assessment of natural gamma radiation as a proxy for soil health indicators with application of spatial mapping for national security

Speaker

Anathi Cutha

11:40–12:00

Electric Quadrupole Matrix Elements Supports Triaxial Rotation in Semimagic ^{60}Ni

Speaker

Andile Zulu

12:00–12:20

UAV-Based Survey of the radionuclide isotopes on phosphate mining, South Africa

Speaker

Masego Mothapo

12:40

14:40

Nuclear, Particle and Radiation Physics -1: Session 3

Session | Location: University of the Western Cape, Lecture Hall GH2 | Convener: Edward Nkadameng

16:00

16:30

Nuclear, Particle and Radiation Physics -1: Session 4

Session | Location: University of the Western Cape, Lecture Hall GH2 | Convener: Zina Ndabeni

17:30

Friday 10 July

09:30

10:30

11:00

12:40

Nuclear, Particle and Radiation Physics -1

Session | **Location:** University of the Western Cape, Lecture Hall GH2

Nuclear, Particle and Radiation Physics -1

Session | **Location:** University of the Western Cape, Lecture Hall GH2