

JUNE 2025



**Albert Modi,**  
Executive Dean, Faculty of Natural Sciences

## Contents

EXECUTIVE SUMMARY .....	2
ADMINISTRATION .....	2
TEACHING AND LEARNING .....	4
RESEARCH AND INTERNATIONALISATION .....	6
COMMUNITY ENGAGEMENT .....	9
STUDENT ENGAGEMENT.....	10
NOTICES .....	10

## EXECUTIVE SUMMARY

I wish to thank all staff and students for the tenacity shown in June. Our ability to work together is shown in a number of ways:

- i. We completed all the teaching and learning activities within the period of academic extension by the university.
- ii. We completed examinations in Potsdam before the end of June as prescribed.
- iii. We are ready to start examinations on 30 June as planned.

The efforts of our academic staff could not be realised without the extensive support of our administration staff. Our success in research and community engagement continues as expected. We remain hopeful that our plans to improve in all areas of operations prescribed by the university remain on track. Positive feedback from external stakeholders, partners and collaborators gives more confidence.

### SHOUT-OUT TO FNS STAFF AND STUDENTS

- I am encouraged by the continual positive submissions and reports by FNS management and staff on the topical issue of examinations.
- It implies and gives assurance that there is no space for a dead end – a plan that is unproductive or leading nowhere.
- Following a genuine SWOT analysis shared as a simple statistical presentation, honest and respectful engagements, and visible collective commitment, “hope” must be replaced by “upbeat”.
- It boils down to a clear and effective communication (give and take and realise).
- Keep it up and leave no room for squabble – noisy quarrel about something trivial in place of intellectuals.
- The university relies on our attitudes to hear our concerns.



## ADMINISTRATION

As expected, our major focus has been to communicate effectively with the university directorates to facilitate implementation of existing plans. Notable is the accelerated effort by the faculty administrators to develop new initiatives. The following success stories are worth highlighting:

- i. The Faculty Administration Officer, Ms Nokuzola Dangazele confirmed that all modules are ready for examinations. Assessments are done, examination papers have been submitted, examination moderators have been appointed. All our students should be ready for examinations.
- ii. The Student Academic Advisor, Ms Okuhle Nkondlwana provides counselling guidance in the office and in residences, where she provided study time snacks. In addition to responding to questions, she developed a questionnaire to determine pre- and post-examination readiness. This will be used to facilitate communication with staff and students about mitigation of risks (Figure 1)
- iii. Dr Alfred Mapfumo, Academic Staff Development Advisor, organised and facilitated two workshops to enhance assessment and moderation knowledge for staff (Figure 2).



FACULTY OF NATURAL SCIENCES  
Undergraduate Student Pre-examination Readiness Questionnaire  
June 2025  
Academic Advisor: Ms Okuhle Nkondwana

Student Name: \_\_\_\_\_  
 Program: \_\_\_\_\_  
 Student Number: \_\_\_\_\_  
 Level of Study: \_\_\_\_\_  
 Gender: Male/Female: \_\_\_\_\_  
 Name of Residence: \_\_\_\_\_  
 Is your 800 number for a study line? \_\_\_\_\_  
 Have you been excluded before? Yes/No: \_\_\_\_\_

**A. Academic Preparedness (Tick the relevant answer)**

1. How prepared are you for upcoming readings and assignments for this event?  
☐ Yes, I am prepared  
☐ No, I am not prepared  
☐ I am not sure

2. How confident are you in your understanding of the key concepts?  
☐ Yes, I am confident  
☐ No, I am not confident  
☐ I am not sure

3. How prepared are you for the exam?  
☐ Yes, I am prepared  
☐ No, I am not prepared  
☐ I am not sure

**B. Study Habits**

4. How often do you study for this event?  
☐ Daily  
☐ 3-4 times a week  
☐ 1-2 times a week  
☐ Less than 1 time a week  
☐ I don't study

5. How often do you study for this event?  
☐ Daily  
☐ 3-4 times a week  
☐ 1-2 times a week  
☐ Less than 1 time a week  
☐ I don't study

**C. Mental & Emotional Readiness**

6. How often do you feel nervous or stressed before an exam?  
☐ Always  
☐ Often  
☐ Sometimes  
☐ Rarely  
☐ Never

7. How often do you feel nervous or stressed before an exam?  
☐ Always  
☐ Often  
☐ Sometimes  
☐ Rarely  
☐ Never

8. How often do you feel nervous or stressed before an exam?  
☐ Always  
☐ Often  
☐ Sometimes  
☐ Rarely  
☐ Never

9. How often do you feel nervous or stressed before an exam?  
☐ Always  
☐ Often  
☐ Sometimes  
☐ Rarely  
☐ Never

10. How often do you feel nervous or stressed before an exam?  
☐ Always  
☐ Often  
☐ Sometimes  
☐ Rarely  
☐ Never



## FNS Students Receive Continuous Support For Examinations: Food packs and interviews

- ▶ Ms Okuhle Nkondwana keeps her office accessible and visits student residences.
- ▶ She is implementing a new initiative to collect data on pre-examination readiness to be compared with post-examination results to assist both students and lecturers.

Figure 1. Student support services.

## Dr Alfred Mapfumo, FNS Staff Academic Development Advisor Organised Workshops to Enhance Assessment and Moderation Practices

### Key objectives

- ▶ Exploring essential aspects of the WSU assessment policy
- ▶ Applying constructive alignment principles in assessment design
- ▶ Discussing the opportunities and challenges posed by AI in assessment
- ▶ Critiquing current moderation practices
- ▶ Developing recommendations to enhance moderation processes



Figure 2. Staff development workshop



# TEACHING AND LEARNING

It is good to know that the average performance of our FTENS (First Time Entry Students) for 2025 is not disappointing, although we have a few dropouts (Figure 3).

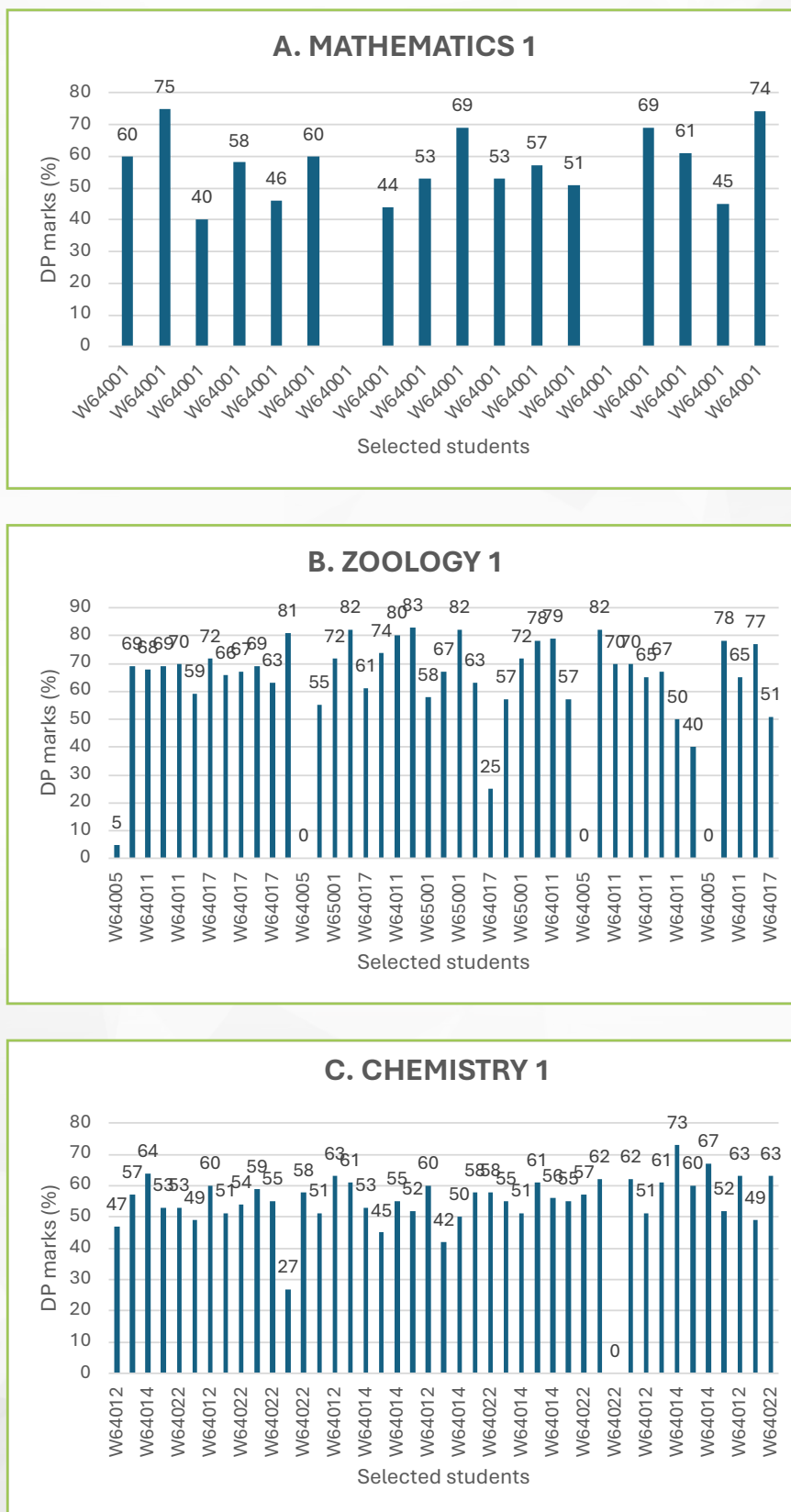


Figure 3. Randomly selected first year students marks before June examinations.

Our faculty represents WSU among fifteen institutions sharing a grant (ca. €800 000 )to initiate a Master of Science degree by course work virtually starting this year for full implementation in 2026. The programme is called SAMOS. It is funded by the European Union (Table 1).

**Table 1. WSU is one of 15 institutions funded to deliver SAMOS**

## EUROPEAN EDUCATION AND CULTURE EXECUTIVE AGENCY

Acronym	WP 001 WP1 Management and coordination	WP 002 WP2 Governance and accreditation	WP 003 WP3 Integrated teaching activities	WP 004 WP4 Logistical implementation	WP 005 WP5 Capacity-building activities	WP 006 WP6 Sustainability	WP 008 WP7 Communication and dissemination	Maximum Grant Amount
UBO	73 812	-	7 945	12 615	27 156	-	7 945	129 473
NMU	6 741	6 741	13 482	13 482	26 193	6 741	34 667	108 045
UWC	3 852	3 852	15 407	3 852	11 748	3 852	-	42 563
UCT	6 741	6 741	26 963	6 741	10 785	13 482	-	71 452
CPUT	3 852	3 852	11 556	3 852	11 748	3 852	3 852	42 563
WSU	3 852	3 852	3 852	3 852	15 600	3 852	-	34 859
UKZN	4 045	4 045	16 178	4 045	8 089	4 045	-	40 445
UFH	4 333	4 333	13 000	4 333	12 711	4 333	4 333	47 378
UniZulu	3 852	3 852	7 704	3 852	15 600	3 852	-	38 711
RU	4 526	9 052	13 578	4 526	13 096	4 526	-	49 304
IRD	11 074	-	11 074	11 074	15 389	-	-	48 611
UM	8 185	-	-	8 185	10 342	-	-	26 713
UIB	12 133	-	12 133	12 133	16 448	-	-	52 848
NRF	4 141	-	4 141	4 141	8 455	4 141	-	25 018
NERSC	12 567	-	-	12 567	16 881	-	-	42 015
Consortium	163 706	46 319	157 012	109 249	220 241	52 674	50 797	799 998

Module Name	Module Code	Semester/ Year Offered	Credit Value	NQF Level
<b>Core Modules:</b>				
Whole-of-systems approach to ocean sustainability	MOST510	Year 1, Sem 1	20	9
Dynamics of African marine ecosystems	MAME510	Year 1, Sem 1	20	9
Quantitative skills for ocean sciences	MQSO510	Year 1, Sem 1	20	9
Ocean Sciences Research Project	MORP510	Year 2	90	9
<b>Elective Modules:</b>				
<b>Select any 3 (three) modules. 3 x 10 credits =30 credits</b>				
Advanced data analysis	MADA410	Year 1, Sem 2	10	9
Modelling	MOSM510	Year 1, Sem 2	10	9
Research tools and technologies	MRTT510	Year 1, Sem 2	10	9
Assessing impacts and change	MAIC510	Year 1, Sem 2	10	9
The blue economy	MBEC510	Year 1, Sem 2	10	9
Current issues under global change	MCGC510	Year 1, Sem 2	10	9
<b>Total credits</b>			<b>180</b>	



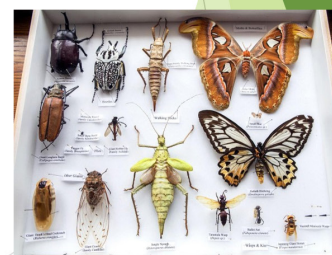
## RESEARCH AND INTERNATIONALISATION


Congratulations to Professor Niba on his inaugural lecturer and farewell to former HOD of MSC (Figure 4). The Faculty Higher Degrees and Research Committee continues to monitor progress in our plans to publish the 2024 Honour' projects and encourage all MSc and PhD students to publish research outcomes before graduation. This month FNS received good news about our staff obtaining improvement in NRF ratings (Figure 5). The faculty publication record will be matched by quality. This month we received evidence of this evolving ethos, which will accelerate FNS contribution to the impact of WSU nationally and globally (Figures 6 and 7).

### Professor Augustine Niba Inaugural Lecture: 25 June 2025

► LECTURE TITLE:

**Navigating the Landscape of Applied  
Entomology & Invertebrate Conservation  
Ecology**





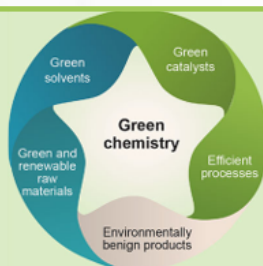
#### FAREWELL CHRISPIN KABUYA

Dr Panicker and MSC Staff Say He Is Not Lost to FNS and WSU

- He served the Faculty of Natural Sciences as a dedicated Computer Science Lecturer and offered services as HOD despite the need to complete PhD.
- He graciously consulted MSC staff about handing over the reins to Acting HOD to complete his PhD.
- Snatched - UJ took him for Biometrics and AI contribution to STEM from 01 July 2025.
- However, he will remain associated with FNS as a research associate in the Nano-Micro Manufacturing node of CSRI at WSU.

Kabuya, Chrispin, Jackson Phiri, and Tiejue Zhao. "Metric Based Technique in Multi-factor Authentication System with Artificial Intelligence Technologies." *Future Wireless Networks and Information Systems*: 89.

Figure 4. Professor Niba presented inaugural lecture and farewell to Chrispin Kabuya



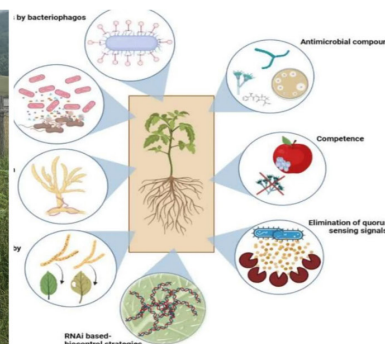
**Professor Raymond Taziwa**  
**NRF Rating: C3**  
**Effective 1 January 2025**

- ▶ **Green Chemistry specialist and HOD (Applied Sciences)**
- ▶ Optimisation, Synthesis, and Characterisation of ZnO Nanoparticles Using *Leonotis ocymifolia* (*L. ocymifolia*) Leaf Extracts for Antibacterial and Photodegradation Applications. *International Journal of Molecular Sciences* (IJMS) 25(21):11621.DOI: 10.3390/ijms252111621

	All	Since 2020
<u>Citations</u>	1281	1170
<u>h-index</u>	19	18
<u>i10-index</u>	29	27

**PROFESSOR SIMON KURIA**  
**NRF Rating: C3**  
**Effective 1 January 2025**

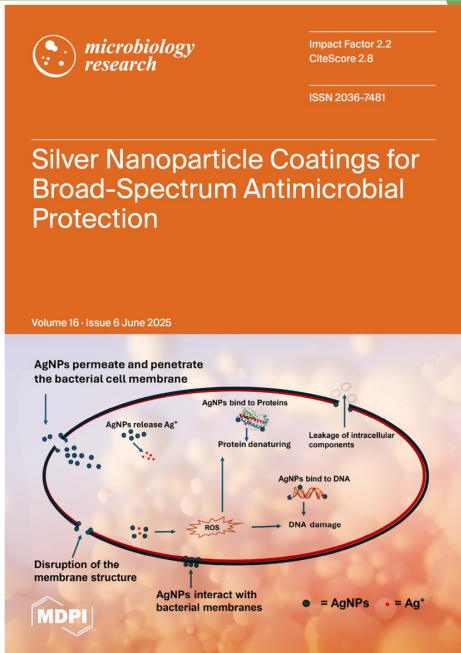
- ▶ **Pest Management Specialist**
- ▶ Effectiveness of citrus essential oils as a biopesticide against stored food product pests: A review; March 2025. *Journal of Essential Oil Bearing Plants* 28(2):1-17



	All	Since 2020
<u>Citations</u>	216	153
<u>h-index</u>	8	6
<u>i10-index</u>	7	5

Figure 5. Faculty professors improved NRF rating.





**Silver Nanoparticle Coatings for Broad-Spectrum Antimicrobial Protection**

Volume 16 · Issue 6 June 2025

Impact Factor 2.2  
CiteScore 2.8  
ISSN 2036-7481

AgNPs permeate and penetrate the bacterial cell membrane

AgNPs release Ag<sup>+</sup>

AgNPs bind to Proteins

Protein denaturing

Leakage of intracellular components

AgNPs bind to DNA

DNA damage


ROS

Disruption of the membrane structure

AgNPs interact with bacterial membranes

● = AgNPs    ● = Ag<sup>+</sup>

MDPI



## Edith Dube & Grace Okuthe Receive International Editorial Recognition For Excellent Publication

► “Dear Dr. Edith Dube, We are preparing cover for the issue 6. After evaluation of all the published papers of this issue, we are quite interested in highlighting your paper on the issue page: <https://www.mdpi.com/2036-7481/16/6> “

**Title:** Silver Nanoparticle-Based Antimicrobial Coatings: Sustainable Strategies for Microbial Contamination Control **Available Online:** <https://www.mdpi.com/2036-7481/16/6/110>

Ms. Carolyn Chen, Marketing Specialist, MDPI

**SDG 3: GOOD HEALTH AND WELL-BEING**

Antimicrobial resistance (AMR) threatens the effectiveness of treatments for infections, making diseases harder to treat and increasing mortality. Protecting antimicrobials ensures continued success in treating infections, surgeries, and chronic diseases.

Figure 6. Faculty aims to introduce and accelerate the ethos of research impact.

## FNS EXECUTIVE DEAN REPRESENTED AFRICA IN INDIA

- MoU between NAAS and AAS proposed action points for collaboration between African Academy of Sciences (AAS) and National Academy of Agricultural Sciences (NAAS).
- The Head of AAS Science Technology and Innovation Policy, Dr Nkem Khumbah visited the National Academy of Agricultural Sciences (India) from 03 to 06 June 2025.
- He was accompanied by Professor Albert Modi, a Senior Fellow of AAS and member of the Special Africa-India Committee which negotiated the terms of reference for the MoU between NAAS and AAS.
- The objective of the meeting was to officially confirm and launch the MoU at the 32nd Annual General Body Meeting and Foundation Day of NAAS held from 04-05 June 2025.




Figure 7. Faculty Executive Dean at the launch of AAS-NAAS (Africa-India) agreement in June 2025.



# COMMUNITY ENGAGEMENT

The Faculty of Natural Sciences continues to reach out to the communities through its research centres (Figure 8). There are also plans to expand research-led community engagement (Figure 9).

## Professor Nakin took Centre for Global Change to the people

- ▶ WSU-UNDP GEF AGP Village Economy (Food Security) project took place in Ward 2, Port St Johns, on June 26, 2025.
- ▶ The primary objective of the project is to engage schools and local households in sustainable agricultural and environmental practices to promote food security and encourage healthy eating habits and food production.
- ▶ The event was attended by four representatives from the UNDP, WSU-CGC Team, PST Ward 2 Councillor, Educators and Community members.



Figure 8. Monitoring and evaluation event for the WSU-UNDP GEF AGP Village Economy (Food Security) project, Port St Johns, June 26.

## PROPOSED SANBI GCF PROJECT: "Ecosystem-Based Approaches for Transforming Smallholder Farming Systems That Are Vulnerable to the Impacts of Climate Change in South Africa"

**SANBI**  
Biodiversity for Life  
South African National Biodiversity Institute



Celebrating biodiversity for the benefit and enjoyment of all South Africans

www.sanbi.org

### OVERSIGHT, MANAGEMENT AND FLOW OF FUNDS



### GOVERNANCE AND COORDINATION

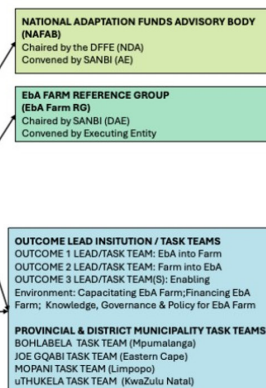


Figure 9. Proposed SANBI GCF Project



# STUDENT ENGAGEMENT

The Faculty of Natural Sciences is working with SRC to implement the WSU 2024 World Food Day resolution to address student food in security ([https://youtu.be/wcGj\\_yzfri0](https://youtu.be/wcGj_yzfri0)). A meeting held on 25 June 2025 was attended by SRC representatives from all faculties in Mthatha and produced a plan of 'creativity – collaboration – collision' nexus by students across WSU campuses (Figure 10). The business model for student entrepreneurship "GreenGrow" will be launched on World Food Day 2025, 16 October 2025. From now, the students will work on gaining participation of WSU students in residences, WSU faculties and public-private institutions in Eastern Cape, South Africa and globally.

**GreenGrow Initiative for Student Success**

**Adding Value to WSU Vision, Mission and Strategic Goals of an African University**

- Indiphile Mgaba (FNS)
- Afikile Magubeni (FLHSS)
- Sibusiso Gogoba (FMHS)
- Sinethemba Jalubana (FEFS)
- Refentse Mmusi (FMHS)
- Oko Mnyabiso (FED)

**Our vision:**

**Student entrepreneurship through creativity, collaboration and collision of disciplines**

Figure 9. WSU students plan to launch GreenGrow for entrepreneurship in 2025.

## NOTICES

HELTASA Annual (un)Conference 2025: [unconference 2025 | HELTASA](#)

INDIGENOUS SCIENCE NETWORK: <https://research.acer.edu.au/isn/vol26/iss1/1/>

BIOINFORMATICS COURSES: These free online bioinformatics courses will give you a better understanding of the importance of storing, retrieving, and analysing large amounts of biological information [BioInnovate Africa - BioInnovate](#)