

WALTER SISULU UNIVERSITY

**FACULTY OF NATURAL SCIENCES NEWSLETTER:
NOVEMBER 2025**



Albert Modi,
Executive Dean, Faculty of Natural Sciences



"Le Nto Kakade Yinto Yaloo Nto!" S.E.K. Mqhayi

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EXECUTIVE SUMMARY

November marked a critical period for the Faculty of Natural Sciences as academic activities reached their peak. This intensity revealed strong internal social organization, with academics and administrators sharing experiences that underscored the importance of **timing, sensitivity, and coherence** in our operations.

Key highlights from this month's performance include:

1. Staff Development

Training in systems and processes remains our most effective strategy to prevent vulnerability and strengthen alignment with our core purpose.

2. Evidence-Based Responsiveness

Well-organized evidence is essential for achieving the responsiveness we aim to be recognized for by stakeholders—particularly students and management.

3. Academic Performance

We are on track to achieve the **75% undergraduate pass rate target**, while our Honours cohort is expected to deliver **historic levels of distinctive performance**, with mini dissertations showing strong potential for publication.

4. Research-Led Community Engagement

Our researchers continue to demonstrate meaningful progress toward integrating research with community engagement initiatives.

As we close the year, we do so on a **positive footing**, confident in our position and future direction. Success lies in our hands—through **personal responsibility, hard work, focused effort, and determination**.

ADMINISTRATION ACTIVITIES

The interaction between the **Faculty of Natural Sciences Administration** and **Department Administration Officers** in November 2025 was marked by **cooperation and collective effort**, resulting in the successful delivery of examination services. This synergy exemplifies our commitment to operational excellence and timely execution of critical academic processes.

The synergy created a strong foundation for **upward accountability**, ensuring alignment with expectations from both institutional hierarchy and students. Meeting examination-related deadlines was a commendable collective effort—marked by professionalism and mutual respect.

Looking ahead, the **Director of Professional Services** role should be considered a long-term proposition to maintain a balanced **work–wellness nexus** through integrated systems and processes.

TEACHING AND LEARNING ENHANCEMENTS

Connecting student performance with staff performance remains **rudimentary**, requiring patience as cultural shifts take root.

Key observations and actions:

- **Dropout and retention challenges** acknowledged—avoiding minimalization.
- Direct influence on mitigating student failure aligns with four of five proven challenges:
 - ◊ **Financial constraints** (largely beyond control).
 - ◊ **Career guidance** (2025 orientation will emphasize data-driven approaches).
 - ◊ **Mental and physical well-being** (potential leadership in extracurricular initiatives).
 - ◊ **Academic preparedness** (blended teaching adopted; staff training in tech-enabled teaching justified).

- ❖ **Course and institutional fit** (Extended Curriculum Programme will be downsized as science applications grow).

Provisional exam results are **satisfactory**, but throughput impact remains low short-term.

Action Plan:

- Normalise **summer and winter schools**.
- Restructure tutorials and introduce **peer-to-peer learning**.
- Implement **compulsory monitoring and evaluation** of student and lecturer performance to improve accountability and attract institutional support.

Wishing Faculty of Natural Sciences Students Good Luck With Supplementary Examinations!

Supplementary examinations start on Thursday, 4th of December and end on Wednesday, 10th of December.

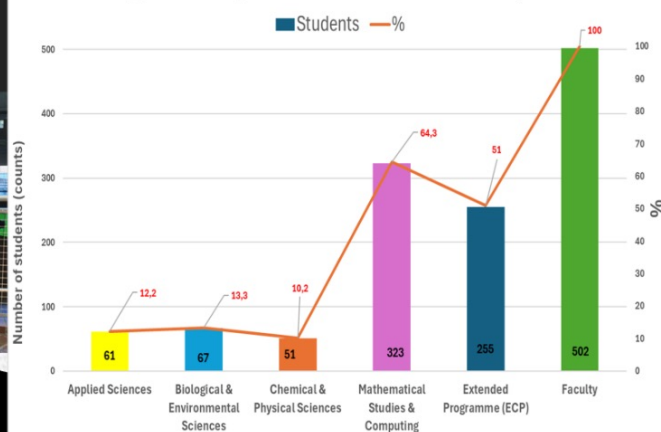
- ✓ You have plenty of time to make up – change your final examination mark for the better and hopefully get a positive progression decision.
- ✓ Give up everything and focus on a clear study plan, good attitude and personal wellness for your body to cope.
- ✓ Lecturers will be there to support you.

You are not a failure.

We want you to succeed; make the Faculty of Natural Sciences and WSU succeed.



Supplementary Exam Students: Semester 2, 2025



FNS SUPPLEMENTARY NUMBERS ARE NOT BAD

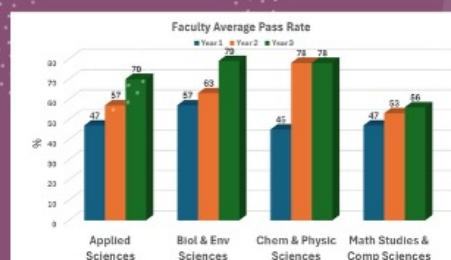
- Numbers show burden of teaching mathematical studies for every other faculty in WSU..
 - Half of Supp Students are ECP
- Effectively no significant differences between departments with ca. 13% share of supps.

- Sincere acknowledgements to the lecturers, administrators and HODs for the good results.
- We can expand the current pass rate of 74% to about 80% and exceed the 2025 KPI target

FACULTY ADMINISTRATOR SUCCESSFULLY MANAGES UNDERGRADUATE EXAMINATION RESULTS

Semester 2, 2025 – Student Satisfaction Reports Appreciated

- Faculty average: 74%
- Results across main and extended programmes
- Mainstream about 12% better
- Poor performance at level linked to drop out
- Adjust Matric APS score for Maths



RESEARCH AND INNOVATION

Despite facility access challenges, research outputs are accelerating, with **innovation potential evident** in basic and applied sciences.

- Recognition of performance is shifting from sporadic to continuous, with **women and youth excellence** trending upward.
- Publication output expected to **exceed 100% growth target**, driven by inter-institutional collaborations.
- New university rule:
 - ◊ **MSc = 1 publication**
 - ◊ **PhD = 2 publications**

This will transform productivity within 1–2 years.

- Supervisors embrace structured training:
 - ◊ **Honours:** Short communication publications.
 - ◊ **MSc:** Conference participation and impactful publications.
 - ◊ **PhD:** Research geared toward development innovation.

Institutional, national, and global footprints are evident through **research excellence awards**, increased conference participation, and leadership roles for senior researchers.

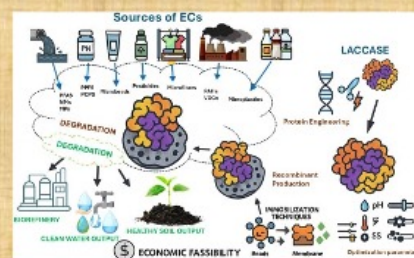
FNS RSESEARCH IMPACT VALIDATED
Staff and Students Received Performance Awards On WSU Research and Innovation Day

- ✓ **Prof R. Taziwa and Dr X Nqoko** – Early-stage Innovation
- ✓ **Dr R. Shukla** – Research Productivity
- ✓ **Dr E. Dube** – Postdoctoral Fellow Productivity
- ✓ **Dr W. Vambe** – Technology Mentor/Mentee
- ✓ **Dr J. Ike** – Best Poster Presentation (staff)
- ✓ **Miss N. Vundisa** – Best Presentation (Masters)
- ✓ **Miss H. Tsautse** – Best Poster Presentation (Honours)



BEST PUBLICATION OF THE MONTH

- **Eco-Powered Cleanup: Laccase as a Green Catalyst for Tackling Emerging Contaminants**
- Michael Dare Asemoloye, 08 November 2025
- <https://doi.org/10.1002/gch2.202500395>



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FACTOR
2.5

CITISCORE
5.5

Guest Editor:

Prof. Dr. Albert Thembinkosi Modi

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South Africa

Special Issue: Advanced Plant and Crop Protection Technologies for Precision Agriculture

Submission Deadline: 20 June 2026

Precision agriculture is revolutionizing crop science by integrating cutting-edge technologies to optimize productivity, sustainability, and resilience. Advanced plant and crop protection technologies—ranging from remote sensing and AI-driven diagnostics to biocontrol agents and smart delivery systems—are critical in addressing challenges such as climate change, pest resistance, and resource scarcity. This research field supports data-driven decision-making, enhances input efficiency, and promotes environmentally sound practices. The Special Issue aims to showcase innovative approaches that strengthen crop health and yield while aligning with global sustainability goals.

We are pleased to invite you to submit your research findings for publication in our Special Issue. This Special Issue aims to share new knowledge and advances in sustainable agriculture practices related to agronomy, horticulture, crop science and plant protection. Multidisciplinary research is encouraged, especially where explanations of technological advances in science, engineering and technology can be enhanced.



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SAMOS

South African Master in Ocean Sciences

Deliverable title	AOS-SAMOS Interim 2026 Teaching plan
Deliverable lead	UCT (Dr Louise Gammage); UKZN (Prof Ursula Schaler)
Related Work Package:	3
Related task	D3.3
Author(s)	Lead authors: Louise Gammage, Marcello Vichi, Ursula Scharler Contributing Authors: Isabelle Ansorge, Lara Atkinson, Chris Bova, Nicola Carrasco, Sarah Fawcett, William Froneman, Sharon Gabie, Mark Gibbons, David Glasson, Cliff Jones, Natasha Karenzi, Angus MacDonald, Magata Mangatane, Ntemesha Maseka, Estee Miltz, Warren Potts, Courtney Puckree-Padua, Moagabo Ragoasha, Mike Roberts, Warwick Sauer, Denise Schael, Lynne Shannon, AJ Smit, Jessica Thornton, David Walker, Matthew Farthing, Alexander Winkler
Dissemination Level	S
Due Submission Date	30 November 2025
Actual Submission Date	28 November 2025
Project number	101179091

Disclaimer

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COMMUNITY ENGAGEMENT

Commitment to **research-led community engagement** remains central to our ethos. While measurable impact will take time, initiatives such as **SAMOS**, strategic MoUs aligned with SDGs, and participation in global change narratives position us for **expanded collaborations and third-stream income projects**, enhancing visibility nationally and globally.



WSU REPRESENTATION BY FNS CHEMISTS

Report on WSU's Presentation at the THENSA
Green Energy Colloquium
Venue: Pivot Conference Centre, Montecasino,
Johannesburg
Dates: 26–27 November 2025

- Solar Energy Innovations
- Hydrogen Economy Research
- Waste-to-Energy Solution
- Energy Storage Technologies
- Passive Cooling Technologies

YAMKELA SILWANYANA ATTENDEND SCIENCE FORUM SOUTH AFRICA: 26-28 NOVEMBER, CSIR, PRETORIA

- The FNS Research Officer was sponsored by the WSU R&I

The forum brought together researchers, policymakers, industry leaders, and international delegates to discuss key scientific advancements and strategic priorities for national development. Our participation enabled us to engage with current debates, emerging research trends, and policy directions that directly influence the higher education and research landscape in South Africa. It also provided valuable opportunities for networking, strengthening potential collaborations, and positioning our faculty within broader scientific and innovation conversations.





Objectives

- Increase household knowledge of the nutritional value of commonly grown vegetables, pulses, and tubers.
- Equip households with vegetable processing techniques to retain as much nutritional value and stability of supplies,
- Train households in simple, low-cost food preservation methods to reduce post-harvest losses and extend the availability of seasonal produce.
- To equip participants with the knowledge and practical skills to effectively use food diaries as a tool for tracking dietary habits, and to promote the adoption of climate-smart diets that support personal health and environmental sustainability

CENTRE FOR GLOBAL CHANGE

NUTRITIONAL EDUCATION AND AWARENESS, AGRO-PROCESSING, FOOD PRESERVATION METHODS AND FOOD DIARIES AND CLIMATE-SMART DIETS IN ACCORDANCE WITH COMPONENTS 7 AND 8 OF THE VILLAGE ECONOMY (FOOD SECURITY) IN PORT ST JOHNS (MAGCAKINI, MASAMENI, NJELA VILLAGES) HELD ON 21-23 OCTOBER 2025

STAFF DEVELOPMENT AND APPOINTMENTS

We commend WSU HR and ICT for decisive efforts in **training for process and system improvements**:

- **Administration and support staff:** Data packaging for online accessibility.
- **Academics:** Teaching and research with technology.

Staff retention remains a priority. Promotions and NRF rating applications are encouraged, with submissions planned for early next year.



MAMETSI HAS BEEN APPOINTED AS ACTING HEAD OF DEPARTMENT (CHEMICAL AND PHYSICAL SCIENCES)

Dr Mametsi Maseme (PhD, Chemistry), Senior Lecturer

RESPONSIBILITIES

The Head of Department (HOD) provides academic leadership and is responsible for effective coordination, review and development of all programmes in the department. S/he must be an active academic in teaching and research; simultaneously oversee and ensure curriculum development, its quality and effective tuition delivery. S/he plays the role of Director who supports both academic and administrative programmes in an environment with a friendly, warm and respectful atmosphere, fostering positive interactions and collaboration. The HOD is responsible for department operations and administration; reports to and may represent the Dean.





MFUNDO FUNANI HAS BEEN APPOINTED AS FACULTY EXECUTIVE SECRETARY

Mfundo Funani

- B Soc Sc- Industrial Psych, BA Hons -Industrial Psych (WSU)
- 11 years experiences in office administration.

Key Performance Areas

- Alignment of faculty reporting with respect to management and governance matters.
- Development and management of information systems, including coordination and sharing of data and documents related to administration processes.
- Intra and interfaculty relations to facilitate stakeholder engagements, acting as liaison officer and programme coordinator.

RESPONSE TO WSU COUNCIL CALL FOR ACTION

The Dean engaged with Council to present the faculty's state and contribute to future recommendations. Success depends on integrating **undergraduate teaching and postgraduate supervision**, underpinned by **health and safety imperatives**.

Face-to-face dialogues reaffirmed leadership's commitment to a **strategic pathway emphasizing wellness, integrity, and ownership of our destiny**.

The **faculty strategic plan** will be revised for short-, medium-, and long-term monitoring and evaluation starting in 2026.



NOTICES

- FNS: [2026- Faculty Academic structure.xlsx](#)
- National: [ASSAf Newsletter December 2025.docx](#)