UB.DISCOVERIES

ANNUAL RESEARCH REPORT **2024/2025**

SOLVING TOMORROW'S PROBLEMS TODAY

THUTO KE THEBE

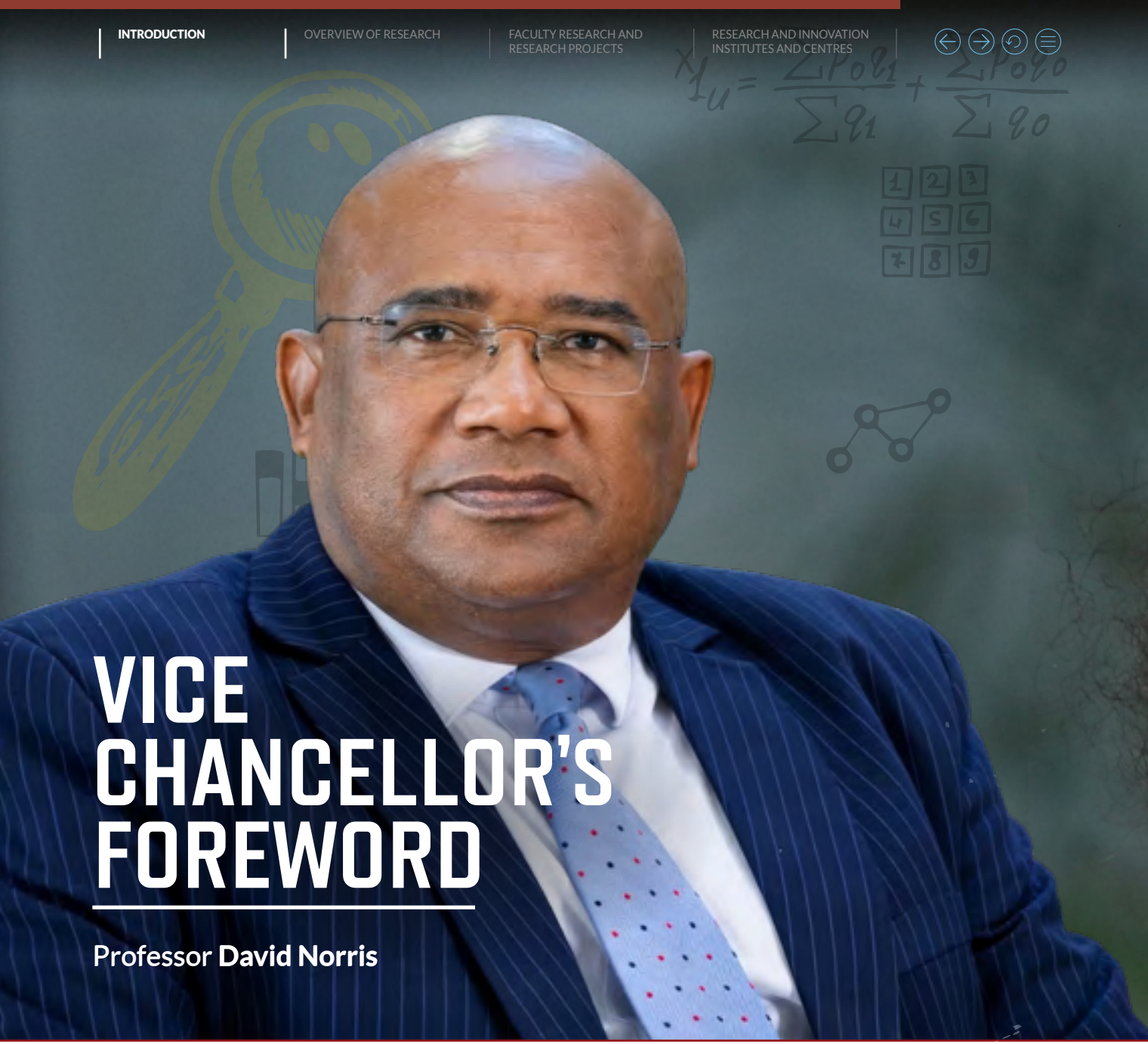
UNIVERSITY of BOTSWANA

Artwork Cover by Segolame Nkape (Color in Segoh

HISTORIC EVENT: UNIVERSITY OF BOTSWANA

Sir Seretse Khama at the University of Botswana and Swaziland graduation.
Sir Seretse Khama is the first President of Botswana and was in office from 1966-1980.

He spearheaded a fundraising campaign that was launched in 1976 to raise funds for the construction of the Botswana University Campus.
The campaign was formally known as the **Botswana University Campus Appeal.**



VICE CHANCELLOR'S FOREWORD

Professor **David Norris**

Greetings. We present this annual research report at a time of profound uncertainty for Botswana, for Africa, and for the wider world.

Our continent continues to confront intersecting crises: economic headwinds, climate vulnerability, rapid technological disruption, and stubborn inequalities in health and education.

These global and regional dynamics are reshaping the conditions under which our universities must teach, research and serve. Higher education is on the frontline of these shifts. Geopolitical tensions and new security anxieties are tightening immigration regimes, constraining research mobility, and placing fresh pressure on funding systems that sustain knowledge creation and scientific collaboration. In many contexts, the intellectual freedoms that allow us to question, to imagine alternatives and to innovate are under strain. As so often in history, academia is among the first sectors to feel these tremors, as the networks that connect the scientific world are disrupted or re-routed.

Yet, against this backdrop, global science is also quietly defying gravity. Researchers are finding new ways to work together across borders, to share data, to co-create solutions and to keep open channels of dialogue where politics sometimes closes doors. Universities remain one of the last, stubbornly hopeful spaces where societies can still think beyond the short term and work collectively for a more just, sustainable future. UB is not insulated from these global currents. We have felt the impact of geopolitical and economic shifts in our own fiscal environment. The rise of lab-grown diamonds and changes in global markets have tightened government revenue streams, with direct implications for the subvention funds that sustain our core business of teaching, research, innovation, and engagement. We are being asked to do more, and to do it differently, in a context of constrained public resources.

At the same time, Botswana itself is undergoing a historic transformation. In alignment with this national transition, the University is shifting from being predominantly a teaching and learning institution to becoming a fully-fledged research-intensive university. This is not simply a change of label; it is a strategic opportunity. It positions UB to help guide the country's transformation agenda, to anchor new sectors of the economy, and to respond more deliberately to regional and continental priorities.

To seize that opportunity, we must first change ourselves. We are reshaping our systems, processes and culture to become a genuinely high-performing organisation. That means clearer expectations, stronger accountability, more agile decision-making and an institutional architecture that supports excellence in research, teaching, innovation and engagement. Like all necessary change, this journey has been, at times, brutal and painful. But it is both unavoidable and worthwhile if we are to serve Botswana with the quality and relevance it deserves.

We are not the first generation at UB to face a daunting task. Our forebears were challenged to build this university from modest beginnings into a national flagship. Today our duty is more complex: we must protect and deepen that legacy while navigating global geopolitics, stewarding scarce resources, producing graduates for an unpredictable labour market, and helping to shape the very economies into which they will "land".

Despite the headwinds, I am deeply encouraged by what the University of Botswana is becoming. The progress documented in this report shows that our transformation is already bearing fruit, even before we reach our full potential as a research-intensive institution.

The quality and impact of our research publications is improving, our researchers are securing competitive grants, building powerful partnerships and embedding students in meaningful projects and innovation ecosystems. A new government brings with it a renewed national call for ideas, evidence and solutions.

We intend to be an active, critical and constructive partner in shaping "the new Botswana", not an observer on the sidelines.

Colleagues and friends of the University, I invite you to take a peek into what UB is becoming through the pages of this report. You will find evidence of a community that is more than motivated, and more than ready, to march into this new era – confident in our role as a national asset, a regional partner and a contributor to global knowledge. Together, we can ensure that the UB remains a beacon of hope, creativity and resilience in challenging times.

DEPUTY VICE CHANCELLOR RESEARCH AND ENTERPRISE'S FOREWORD

Professor **Doreen Ramogola-Masire**

This second volume of the University of Botswana's Annual Research Report appears under a new banner: the first **"UB Discoveries".**

The title signals that our focus is not only on outputs, but on the ideas, evidence and innovations that matter for Botswana in a time of significant change. Our guiding idea, "***Discovery in a Changing Botswana***", reflects a simple reality: as the country faces fiscal pressure, shifts in the diamond economy and wider global uncertainty, UB's discoveries are more important than ever.

The cover image, a Rubik's cube in progress, captures the complexity of this moment. Like the cube, UB's transformation requires careful navigation and determination as we align people, processes and systems to solve emerging national and global challenges.

Our work is guided by University Strategy (2020-2030), UB Research and Innovation Strategy (2025 - 2030), Botswana's Vision 2036, the National Development Plan (NDP) 12, the National Policy on Science, Technology, and Innovation 2024, the Africa Agenda 2063, and the Sustainable Development Goals (SDGs).

Despite fiscal and geopolitical pressures, we are reconfiguring our internal architecture to support a research-intensive future. A major reform is the introduction of Deputy Deans responsible for research, engagement and postgraduate studies in the newly configured five faculties, giving faculties greater accountability for driving their own research, innovation and enterprise agendas.

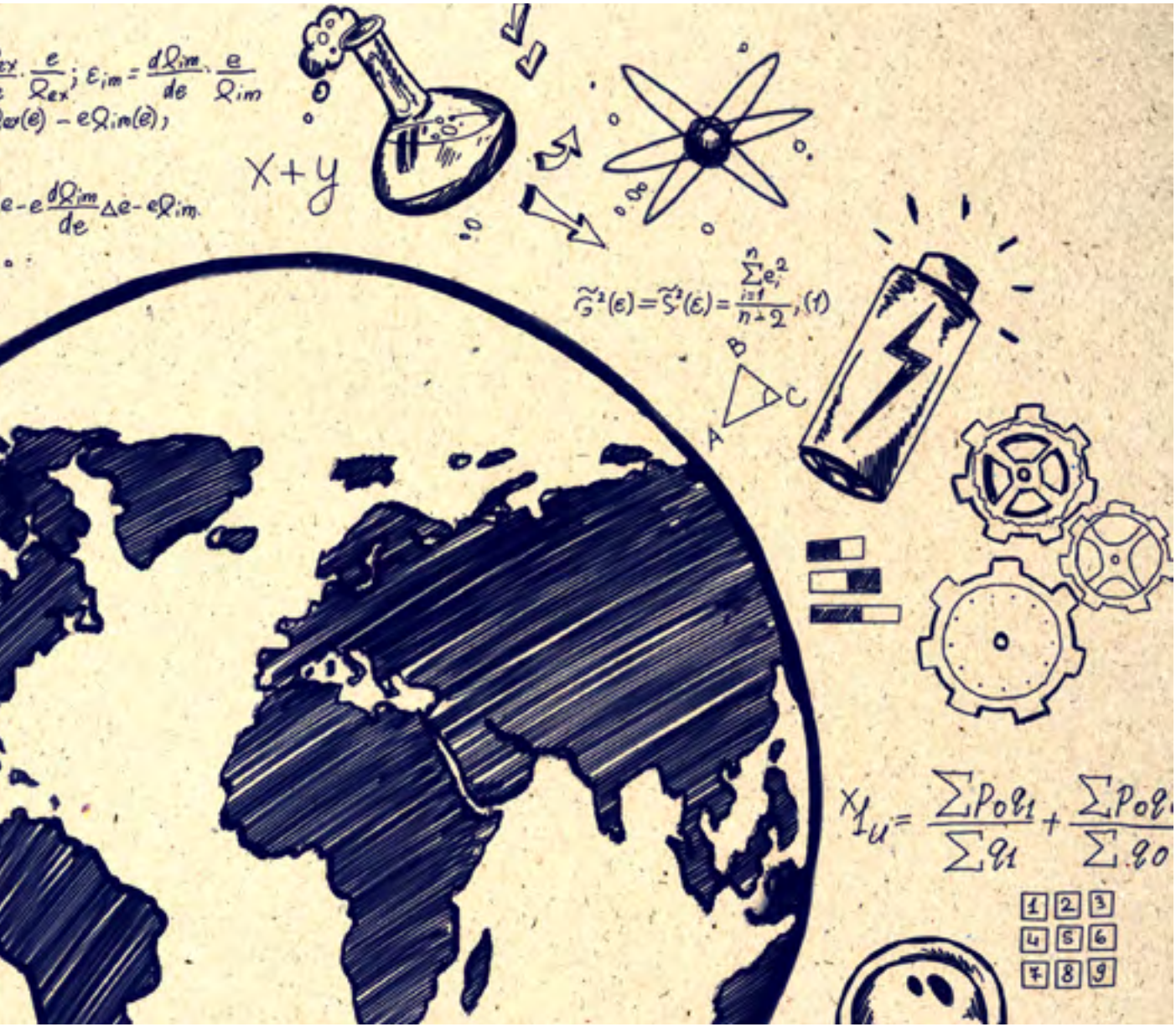
Our Research and Innovation Strategy places strong emphasis on developing research and innovation capacity, growing talent, creating a culture of innovation and entrepreneurship, strengthening collaboration and partnerships. It further emphasises the research engagement, communication and translation.

We are opening UB as an "experimental lab" for government, industry, civil society and communities, so that ideas can be co-created, tested and scaled along the full knowledge value chain.

Our international partnerships reflect this ambition. UB has built collaborations with leading institutions nationally, regionally and globally, and our transition towards a research-intensive university calls on us to harness these relationships more fully to drive impactful research, innovation and entrepreneurship. Looking ahead, we are broadening our partnership landscape beyond academia to include private-sector and civil-society actors, ensuring a more diverse and dynamic ecosystem for research and innovation.

As Deputy Vice Chancellor responsible for Research and Enterprise, I am excited by what this transformation will mean for the new Botswana, for Africa and for UB's global relevance: stronger research, more innovation and entrepreneurship, and solutions that are firmly rooted in our context yet globally competitive. UB Discoveries: Discovery in a Changing Botswana offers a glimpse of that emerging future.

OVERVIEW OF RESEARCH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DIRECTOR OFFICE OF RESEARCH AND DEVELOPMENT STATEMENT

Ms Kimberly Cornfield

In 2024/25 the University of Botswana took important strides towards becoming a fully-fledged research-intensive institution. Across faculties and institutes, our staff and students increased high-quality indexed publications, secured new external grants, and strengthened a pipeline of multi-year projects that speak directly to Botswana's Vision 2036 and the Sustainable Development Goals.

We are excited about the work that we do and the new changes. At the ORD office, we are aligning our work with the university's new High Performance Organisation (HPO) model. We have completed policies, strategies and guidelines to facilitate a unified research and innovation system that supports the full project lifecycle, from idea development, proposal submission, and ethics approval, to post-award management, open science, commercialisation, engagement and visibility. The achievements highlighted in this report show a university whose research is increasingly engaging, collaborative, impact-oriented, relevant and central to Botswana's transition to a diversified, knowledge-based economy, and relevant to Africa and global challenges.

TRANSFORMING INTO A RESEARCH-INTENSIVE INSTITUTION

The UB's Research and Innovation Strategy 2025–2030, aligned with Botswana's National Research Agenda 2024 and Vision 2036, defines ten strategic research priority areas that guide funding, collaborations and capacity-building.

These priorities ensure that UB's research portfolio speaks directly to national development needs, the African Union's Agenda 2063 and the Sustainable Development Goals.

UB prioritises research in:

1. Advanced Manufacturing and Materials Science
2. Art, Cultural Heritage, and Creative Industries
3. Clean Energy and Climate Change Mitigation
4. Digital Transformation and Innovation
5. Environmental Sustainability and Natural Resource Management
6. Good Governance, Democracy, and Public Policy
7. Health Sciences, Ways of Being, and Biomedical Research
8. Indigenous Knowledge Systems
9. Social Development and Inclusive Growth
10. Space Science, Earth Observation, Nuclear Science, and Technologies

TRANSFORMING RESEARCH AND INNOVATION SERVICES

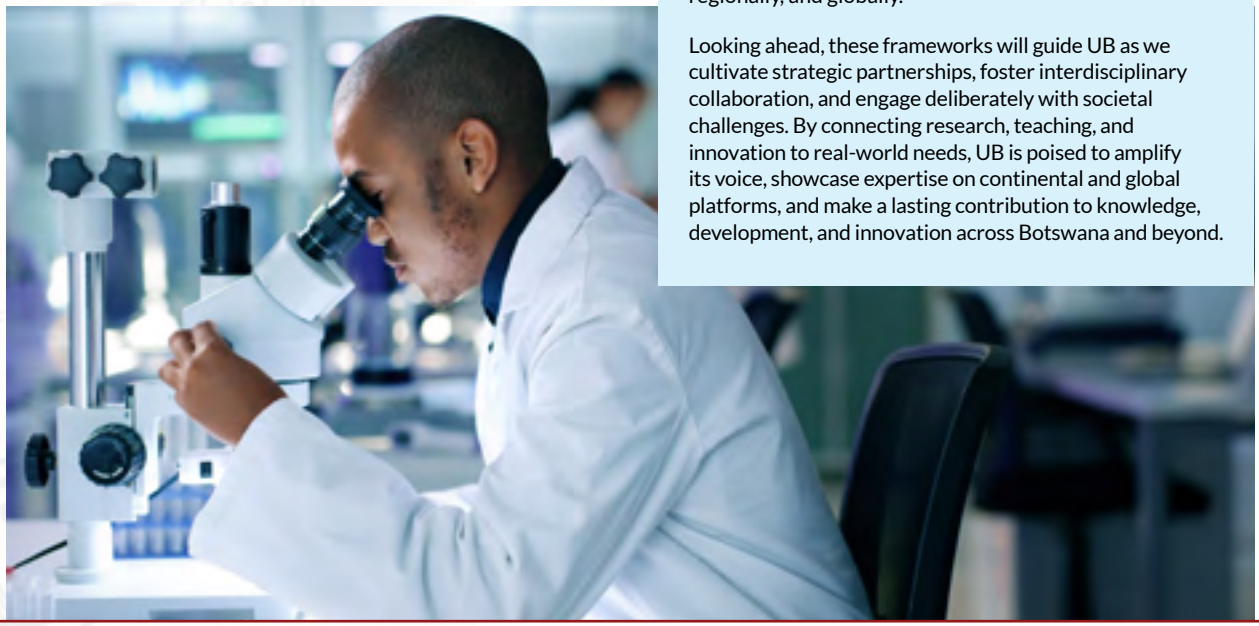
The ORD is reshaping UB's research and innovation services into an end-to-end support ecosystem. We are strengthening systems for pre-award grant development, ethics and integrity, contracts and post-award management, while expanding capacity in open science, data management, commercialisation, and research communication. Initiatives such as the University Innovation Pod (Unipod) and library-led evidence-synthesis services are being integrated into a single pipeline that takes ideas from concept to prototype, publication, policy brief or spin-out. Increasingly, our services are designed around researcher needs: targeted support for early-career academics, postgraduate supervision and mentorships, multidisciplinary teams and large consortia bids. This transformation is anchored in the Research and Innovation Strategy 2025–2030 and aims to improve efficiency of the research and innovation at UB.

FUTURE OUTLOOK

The 2024/25 financial year marks a defining moment in the UB's journey towards becoming a research-intensive institution. We have laid the foundations for this ambition through a revised Research and Innovation Policy and a new five-year Strategy, supported by aligned policies and guidelines. Together, these frameworks provide a clear roadmap for prioritisation, investment, and coordinated action, guiding the development of our researchers, strengthening capacity, and consolidating areas of research excellence.

These foundations ensure the University's research and innovation ecosystem is equipped to generate meaningful impact. By enhancing management systems and professional capability, we are creating the structures necessary for research that informs policy, drives industry collaboration, and benefits communities locally, regionally, and globally.

Looking ahead, these frameworks will guide UB as we cultivate strategic partnerships, foster interdisciplinary collaboration, and engage deliberately with societal challenges. By connecting research, teaching, and innovation to real-world needs, UB is poised to amplify its voice, showcase expertise on continental and global platforms, and make a lasting contribution to knowledge, development, and innovation across Botswana and beyond.



OVERVIEW OF RESEARCH IN 2024/25 (CONTINUED)

FUNDING OVERVIEW (AWARDED AND ACTIVE)

In 2024/25 the UB continued to grow and consolidate its external research funding base. New awards for the reporting period amounted to approximately USD 4.24 million (about BWP 57.8 million) across 33 projects, reflecting increasing success in competitive calls and a healthy spread of funding across faculties and institutes.

With these new awards, UB managed an active multi-year grants portfolio valued at roughly USD 14.7 million (BWP 182.6 million) in total award value across more than 60 ongoing projects. This portfolio is anchored by major investments in health, climate and environmental science, education, digital innovation, creative industries and governance, supported by national ministries, international agencies, foundations and industry partners. Together, the awarded and active grants illustrate a maturing research ecosystem with diversified funders and a growing pipeline of projects that align with UB's Research and Innovation Strategy 2025–2030 and Botswana's Vision 2036.

OUTPUTS (PUBLICATIONS, etc)

In 2024/25, UB produced 558 Scopus- and Web of Science–indexed outputs, with strong contributions from Science (108), Medicine (163), Engineering & Technology (59), Health Sciences (42), Humanities (39), Education (25) and Business (17).

POSTGRADUATES AND PROFESSORSHIPS

There were 117 postgraduate completions in Business, Humanities and Medicine alone (4 PhDs and 113 Masters-level graduates), with additional postgraduates in other faculties and new adjunct/affiliate professorships strengthening supervision capacity and international mentorship.

PARTNERSHIPS AND INTERNATIONALISATION

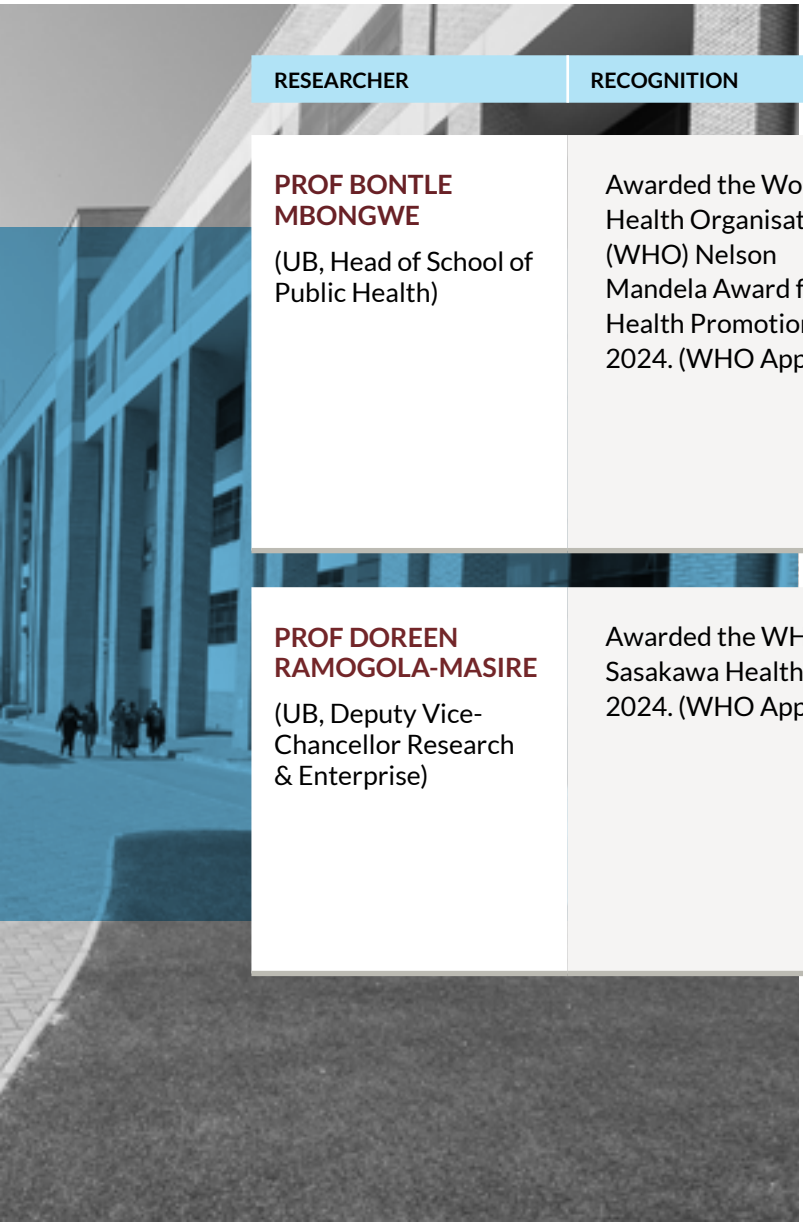
This year, 92% of UB's indexed outputs involve international collaborators, with major multi-country grants funded by the European Commission, National Institutes of Health (NIH), Wellcome Trust, Southern African Science Service Centre for Climate Change and Adaptive Land Management (SASSCAL), Africa Centres for Disease Control and Prevention (Africa CDC), Mastercard Foundation, and others, complemented by strong national co-investment from Botswana's Ministry of Communication and Innovation (MCI), underscores UB's growing global research footprint.

TOP RESEARCH AREAS AND TOP 10 RESEARCHERS (SCOPUS & WEB OF SCIENCE/CAPRAS)

Scopus and Web of Science data confirm health and clinical sciences, natural and environmental sciences, engineering and digital/AI, and education and social sciences as UB's leading research areas; the top 10 individual researchers collectively produced 115 indexed outputs in 2024/25, each contributing between 8 and 17 publications, demonstrating a strong core of highly productive scholars.

RESEARCH AWARDS AND RECOGNITIONS

Deans report multiple international keynote invitations, editorial roles, consortium leadership positions and competitive fellowships, reflecting growing recognition of UB researchers as thought leaders in health, education, engineering, humanities, social sciences and business; detailed award listings are captured in the faculty sections of this report.



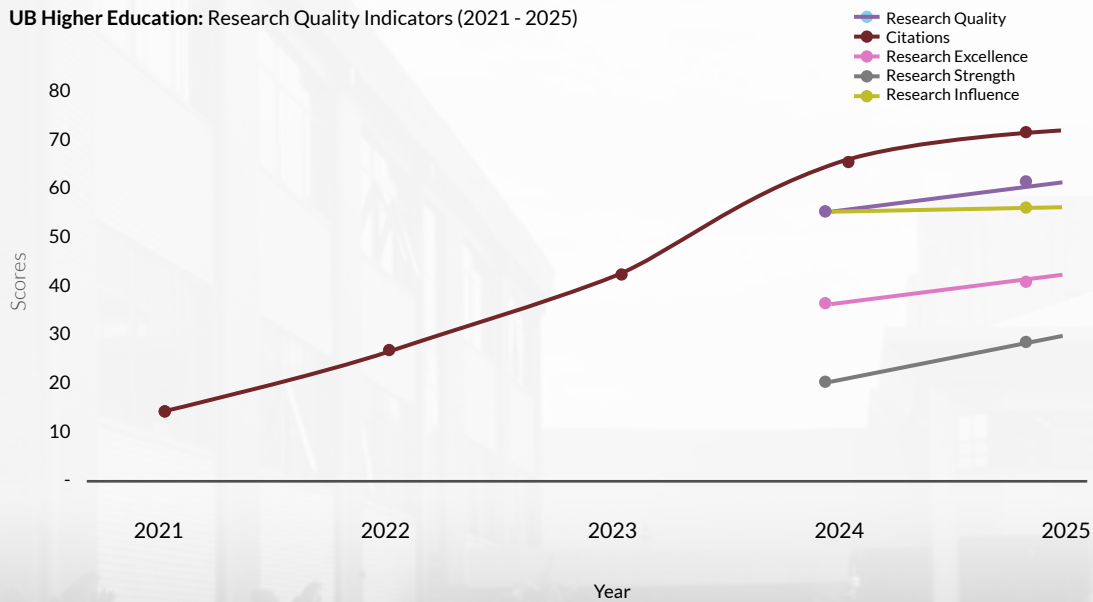
RESEARCHER	RECOGNITION	BRIEF SUMMARY
PROF BONTLE MBONGWE (UB, Head of School of Public Health)	Awarded the World Health Organisation (WHO) Nelson Mandela Award for Health Promotion 2024. (WHO Apps)	The Nelson Mandela Award for Health Promotion recognises "a person or persons who have made a significant contribution to health promotion". In Prof Mbongwe's case, the citation highlights her anti-tobacco advocacy and policy-impact work in Botswana (via her founding of the Anti-Tobacco Network) and contributions to global tobacco control. (WHO Apps) This again signals UB's influence in global health promotion policy and advocacy, not just local research.
PROF DOREEN RAMOGOLA-MASIRE (UB, Deputy Vice-Chancellor Research & Enterprise)	Awarded the WHO Sasakawa Health Prize 2024. (WHO Apps)	The Sasakawa Health Prize is given for "outstanding innovative work in health development". The recognition is global. In the citation, it notes Prof Ramogola-Masire's leadership in Botswana's national cervical-cancer prevention strategy, HPV screening & vaccination rollout, work in HIV strategy, and her role in research & enterprise at UB WHO Apps. This gives the university good visibility and signals strong research-leadership in public health.

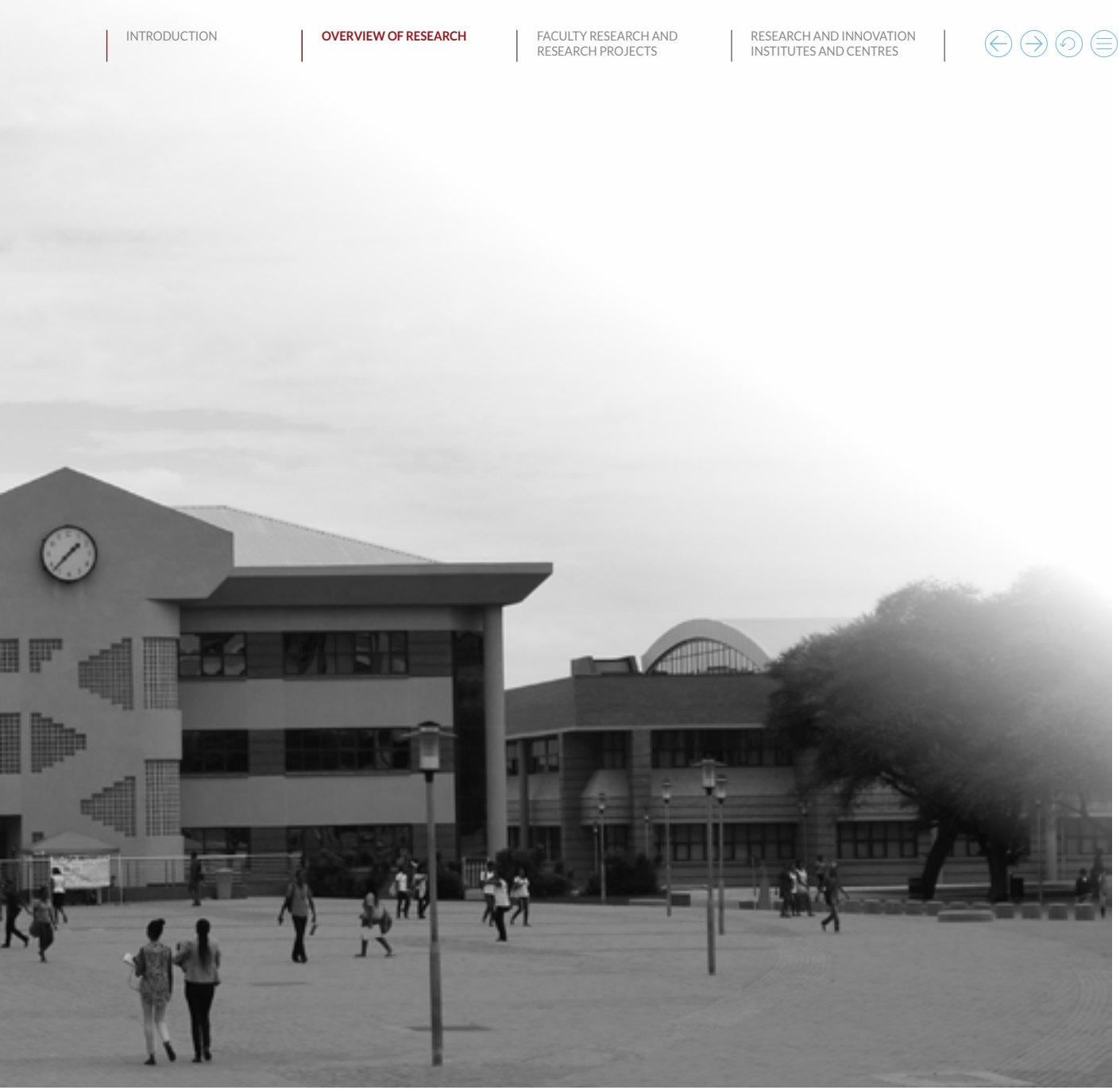
OVERVIEW OF RESEARCH IN 2024/25 (CONTINUED)

UB PERFORMANCE (TIMES HIGHER EDUCATION DATA)

UB is now ranked in the 1001–1200 band globally and around 25th in Africa in the Times Higher Education World University Rankings, with a research quality score rising from 13.7% in 2020/21 to about 63–64% by 2023/24, and strong subject performances in Clinical & Health, Social Sciences and Physical Sciences.

UB Higher Education: Research Quality Indicators (2021 - 2025)





FACULTY RESEARCH & RESEARCH PROJECTS

FACULTY OF BUSINESS


IDEA
http://

DEAN'S STATEMENT

Acting Dean, Prof Jaloni Pansiri

The Faculty of Business is a key driver of the University of Botswana's contribution to economic diversification, entrepreneurship and sustainable development.

Through its four departments, Accounting and Finance, Management, Marketing, and Tourism and Hospitality, the Faculty advances teaching, research and engagement that respond to Botswana's evolving business environment, with a strong emphasis on innovation, sustainability and inclusive growth.

In 2024/25, research and scholarly activity were anchored by two flagship international conferences and a high-level professional workshop. The International Conference on Tourism and Hospitality Education provided a platform to interrogate skills, policy and collaboration in the sector, while the 6th International Conference on Business Innovation and Growth convened regional academics and practitioners to explore how firms can innovate and stay competitive. The 18th Workshop for Senior Government Financial Managers reaffirmed the faculty's role in executive and professional education.

These activities were strengthened by collaborations with international and local partners, including Michigan State University, the Alliance for African Partnership, the Broad College of Business International Business Centre and the Citizen Entrepreneurial Development Agency, alongside ministries and industry stakeholders who contributed as co-funders, speakers and panellists.

Faculty members produced peer-reviewed outputs and participated in externally funded grants exceeding US$66,000.

Postgraduate training remained central, with one PhD, 31 MBA and 34 Master of Executive Entrepreneurship graduates, including doctoral work on wildlife-based tourism, rural livelihoods and biodiversity conservation. Going forward, the faculty will deepen its research focus areas, grow external funding and expand collaborations with government, industry and communities to build a vibrant, evidence-informed business and entrepreneurship ecosystem for Botswana.

RESEARCH PUBLICATIONS

In 2024/25, the Faculty of Business produced 17 Scopus- and Web of Science–indexed outputs, comprising 7 journal articles and 10 book chapters. These publications appeared in international journals and edited volumes, reflecting both disciplinary depth and growing engagement with global debates in business and management.

A strong cluster of outputs focused on sustainable transport, logistics and green energy, covering themes such as alternative energy for transport, eco-friendly packaging, end-of-life vehicle management and circular supply chains. Other contributions examined tax policy and administration (including presumptive tax, digitalisation of tax revenue and adoption of AI in tax administration in Botswana and Zimbabwe), as well as country branding, tourism and hospitality marketing, and the role of social media in brand loyalty.

Collaboration remained a defining feature of the Faculty's scholarship: around 67% of indexed outputs involved international co-authorship, with additional regional and cross-faculty collaborations (including joint work with the Faculty of Science). Together, these publications position the Faculty of Business as an emerging hub for research on sustainable transport and logistics, digital and fiscal innovation, and tourism and marketing in Southern Africa.

17 indexed publications

7 journal articles

10 book chapters

67% with international collaboration

RESEARCH FUNDING

In 2024/25, staff in the Faculty of Business participated in grants totalling USD66,099.78, largely in small- to medium-scale awards aligned with the Faculty's strengths in entrepreneurship, business innovation, finance, and tourism and hospitality. Much of this support was linked to conference and programme activities, helping to underwrite research presented at the International Conference on Tourism and Hospitality Education, the 6th International Conference on Business Innovation and Growth, and the Workshop for Senior Government Financial Managers.

In parallel, Business academics were actively involved in entrepreneurship and innovation programmes such as MIT Regional Entrepreneurship Accelerations Programme (REAP) and Mentorship in Action for Startup Acceleration (MASA), UniPod initiatives, and Alliance for African Partnership (AAP) public dialogues. While primarily programme and ecosystem support rather than large research grants, these collaborations deepen networks and capacity, positioning the faculty to secure more substantial external funding in future cycles.

POSTGRADUATE

In 2024/25, the Faculty of Business graduated **66 postgraduate students**:

1 PhD

31 MBA students

34 Master of Executive Entrepreneurship students.

The PhD research focused on the nexus between wildlife-based tourism, rural livelihoods and biodiversity conservation in the Ghanzi Wildlife Management Area, reflecting the Faculty's contribution to national priorities in tourism and sustainable development.

Together, these postgraduate programmes continue to build a pipeline of advanced skills in business leadership, management and entrepreneurship to support Botswana's transition to a knowledge-based economy.

FACULTY OF EDUCATION

DEAN'S STATEMENT

Acting Dean, Prof Maria Nnyepi

Across Botswana and much of Africa, education is under pressure: too many learners are leaving early grades without strong foundations; teachers face rising workloads; and learning methods are being disrupted by emerging technologies, from AI-enabled tools to digital attention and integrity challenges. The Faculty of Education (FOE) exists to turn evidence into classroom change and system improvement.

As the UB transforms into an HPO, we are broadening and deepening our research through interdisciplinary teams that link education with health sciences, computer science, social sciences and sport. This shift helps us respond to complex, modern pedagogical trends, AI in teaching and assessment, learner well-being, inclusive classrooms, and data-informed decision-making. New and strengthened Memoranda of Understanding (MoUs) with the Botswana Teaching Professions Council, the Botswana Examinations Council and the University of Cologne move us from projects to pilots at scale in teacher standards, assessment innovation and educational technology exchange.

I am excited to inform you that in alignment with the above, this year's outputs help to bring about:

1. **Culturally grounded evaluation:** African-rooted approaches that make programmes locally relevant and policy-ready, improving what works in schools and communities.
2. **Healthy, ready-to-learn learners:** Evidence from SUNRISE on physical activity and well-being to inform school health policies and practice.
3. **Engaged STEM learning:** Game-based and life-skills interventions that lift motivation and achievement in STEM subjects.
4. **Values and safety in sport:** Anti-doping education that protects youth, builds character and strengthens fair play.
5. **Digital teaching that works:** Educational technology studies, from primary to tertiary, that guide responsible AI use, effective classroom integration and teacher confidence.

As we transition to research-intensive focus, we invite stakeholders: communities, private sector, policymakers and civil entities to work with us: host a classroom pilot, commission an evaluation, co-fund a postgraduate cohort aligned to your priorities, or join our Research Schools Network. Together, through rigorous, interdisciplinary research and responsible use of new technologies, we can deliver healthier learners, confident teachers and policy-ready evidence for Botswana, and share what works across Africa.

FACULTY RESEARCH PUBLICATION

This year, FOE contributed 6% of the University's total scholarly output, delivering 32 peer-reviewed publications across reputable, indexed outlets (Scopus/Web of Science) and leading publishers and platforms. Collectively, these outputs target the core pressures facing Botswana and African education systems so evidence moves from page to practice.

Our publications span foundational learning and teacher practice (primary pedagogy, language-in-education, assessment), responsible EdTech and AI (classroom integration, integrity and effectiveness), learner health and well-being (school-health and physical activity), culturally grounded evaluation (African-rooted, policy-ready approaches), and sport pedagogy and anti-doping, each geared to deliver classroom-ready methods, practical tools and policy guidance that tackle early-grade literacy/numeracy gaps, teacher workload and confidence, technology disruption, and inclusion.

FACULTY RESEARCH FUNDING

In the reporting period, FOE secured USD 45,748 (BWP 622,845). In addition, FOE provided academic leadership on cross-faculty awards credited elsewhere, most notably the Mastercard Foundation consortium on African-rooted evaluation (USD 699,998, recorded under Humanities).

Highlights this year: the UNITE/University of Kentucky award (USD 45,748) to pilot game-based, life-skills-infused STEM teaching; and FOE's academic leadership on the African-Rooted Evaluation initiative (USD 699,998), which is co-creating culturally grounded, policy-ready evaluation tools across multiple countries.

What the funding enables: Targeted resources translate research into practice, designing and running classroom pilots, delivering teacher CPD, and producing concise policy briefs on foundational learning, responsible EdTech/AI use, school health and values-led sport education. Funding also underwrites rigorous evaluation and data systems, supports postgraduate training and mentorship, and strengthens HPO-aligned, interdisciplinary bidding with Health Sciences, Social Sciences and Sport, so partners get scalable, evidence-based solutions aligned to national priorities.

FACULTY OF EDUCATION (CONTINUED)

FEATURED PROJECTS

Faculty of Education's flagship projects turn evidence into action, tackling foundational learning, responsible technology use, learner well-being and values in sport, through school-based pilots and policy-ready outputs.

SUNRISE (Fiji, Botswana, Kenya):

Early-years Physical Activity, Sedentary Behaviour & Weight Status

Principal Investigator: Dr Dawn Tladi |
Co-Investigator: Prof Anthony Okely
Funder: World Cancer Research Fund International (Australia) — **USD 15,946 (BWP 217,095)**
Duration: 4 January 2023 – 31 March 2025

Overview
This is a three-country pilot in low- and middle-income settings assessing movement behaviours (physical activity and sedentary time) and weight status among young children. The study generates context-specific evidence to guide school-health programmes and early obesity prevention, strengthening readiness to learn and overall well-being.

Why it matters: Healthy movement in the early years underpins attention, behaviour, and learning. The project provides locally relevant data for Botswana alongside Fiji and Kenya, SUNRISE supports practical, school-level actions and policy adjustments that help children thrive.

Expected outputs & impact:
- A comparative dataset and concise policy brief for ministries and districts.
- Teacher- and parent-friendly guidance for promoting movement and reducing sedentary time in early childhood.
- Evidence to inform updates to school-health programmes and future longitudinal tracking.

Who Benefits? Children and families; teachers and school leaders; health and education policymakers.

Next steps: Complete data analysis; co-develop recommendations with ministries and participating schools; disseminate findings via policy briefings and practical workshops; explore integration into existing school-health initiatives.

African-Rooted Evaluation:

Mapping Methods & Tools (Pan-African Consortium)

Principal Investigator: Prof Bagele Chilisa |
Co-Investigators: Ms Thenjiwe Major, Mr Michael Gaotlhobogwe, Ms Setlhomo Koloi-Keaikitse | **Funder:** Mastercard Foundation — **USD 699,998 (BWP 9,530,265) Duration:** 3 Jan 2024 – 8 Jan 2025

Overview
FOE is leading a UB-anchored consortium to map, co-create and pilot Indigenous, Afrocentric evaluation approaches that reflect local values, languages and decision-making. The UB, led by Prof Bagele Chilisa and her colleagues, are re-centring African voices and knowledge in evaluation through the Pan African Indigenous Evaluation Consortium, reshaping how programmes are judged and learned from across the continent. The work advances policy-ready, context-fit evaluation and builds a pipeline of young African evaluators through mentored training and open curricula.

Why it matters: Many imported evaluation models lack context and equity. Centring African epistemologies produces fairer, more actionable evidence for education, youth, health and livelihoods, so programmes are designed, funded and scaled on what truly works here.

Key outputs & progress to date:
- Landscape map of Indigenous Evaluation (IE) methods and principles.
- Pilot-tested tools in Rwanda, Uganda, Ethiopia and Kenya; community engagement across Malawi and Zambia to ensure grassroots resonance.
- **Capacity building:** a six-week online M&E course (Africa contexts) and mentored cohorts of early-career evaluators.
- **Knowledge sharing:** presentations at AfrEA and SAMEA; draft toolkit and policy briefs in preparation.

Who Benefits?: Programme evaluators, ministries and funders; NGOs and community partners; universities training the next generation of evaluators.

Next steps: Finalise and publish the IE toolkit and open course materials; scale pilots with government and implementing partners; establish a continental fellows network to sustain practice; and embed IE standards in institutional M&E systems.

Effects of Game-Based Learning & Life-Skills on STEM Outcomes

(Botswana secondary schools)

Principal Investigator: Dr Kapule David Mabuta
Funder: UNITE, University of Kentucky — **USD 45,748 (BWP 622,845)** | **Duration:** 1 Nov 2024 – 31 Dec 2025

Overview
Classroom pilots that combine game-based pedagogy with life-skills (e.g., teamwork, problem-solving, self-management) to lift engagement and achievement in STEM subjects. Co-designed with teachers, the project provides practical lesson activities and teacher support while generating evidence on what works in Botswana's context.

Why it matters / expected impact: This project tackles low motivation and performance in priority STEM areas, strengthening pathways into science, engineering, and innovation.

Who Benefits?: Students, teachers and school leaders; curriculum planners; STEM-focused industries.

Next steps: Roll out game-based classes in 2025 and conduct a rigorous evaluation of learner engagement and outcomes to inform scale-up.

Anti-Doping Education & Intentions in Botswana, Zambia & Papua New Guinea

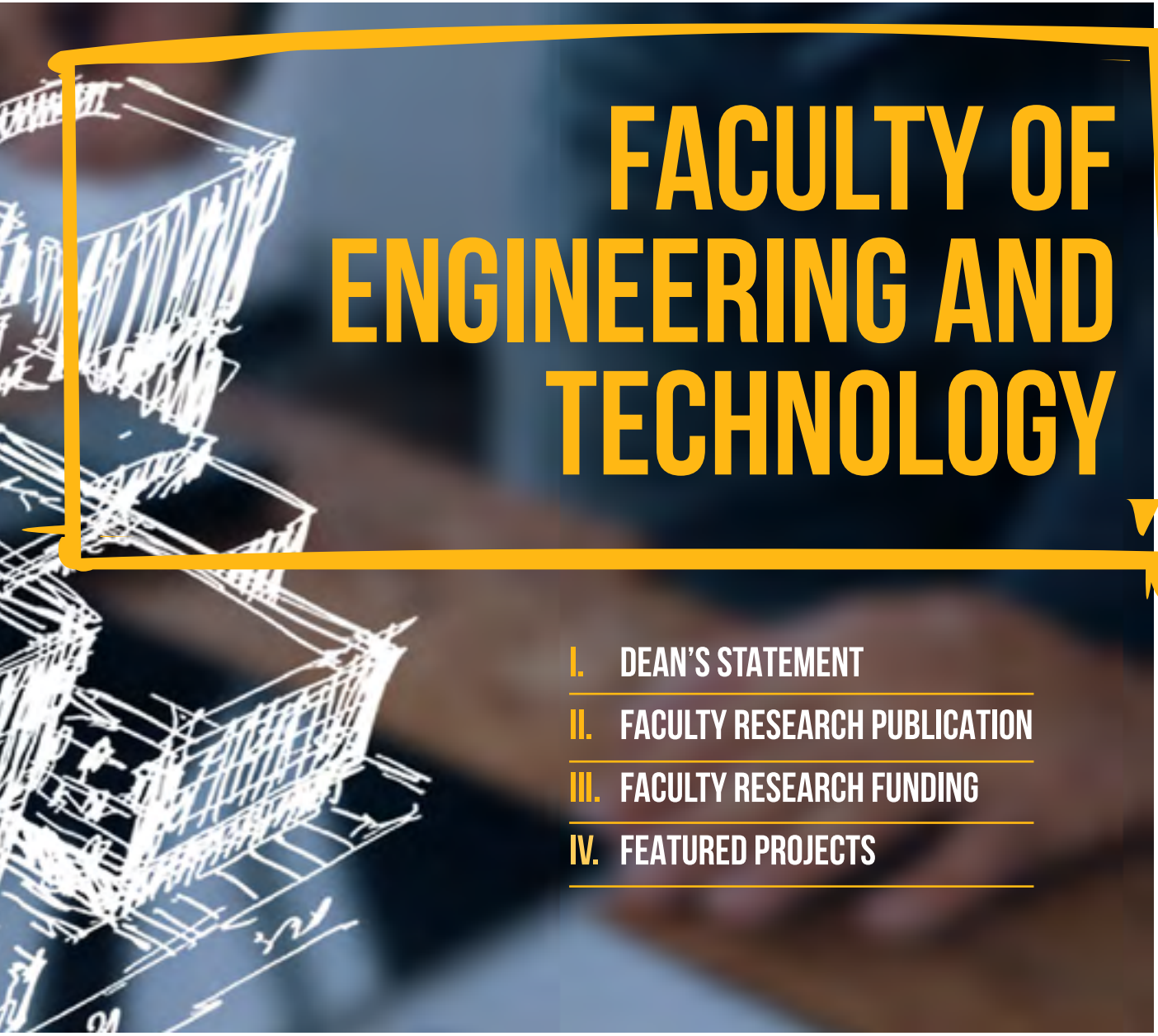
Principal Investigator: Dr Kapule David Mabuta
Funder: World Anti-Doping Agency (Canada) - **USD 59,662 (BWP 812,280)**
Duration: 1 Jan 2023 – 31 Dec 2025

Overview: A multi-country programme delivering anti-doping education and attitude/intent surveys among youth athletes, in partnership with sports bodies and schools/clubs. The project builds a practical toolkit for coaches and athletes and establishes an evidence base for targeted prevention.

Why it matters / expected impact: Protects athlete health, strengthens fair play and embeds values-based sport education—supporting a culture of clean sport across the region.

Who Benefits?: Athletes and coaches; schools and clubs; sports organisations and regulators.

Next steps: Finalise education modules with partners, deliver outreach and training, and disseminate findings to inform national clean-sport initiatives.



FACULTY OF ENGINEERING AND TECHNOLOGY

DEAN'S STATEMENT

Acting Dean, Prof Edward Dintwa

Botswana and Africa more broadly face a converging set of challenges: water scarcity and climate variability, food security pressures, the need to diversify industry, and a fast-growing youth population seeking meaningful work in a digital economy.

In 2024/25, the Faculty of Engineering and Technology (FET) positioned the UB to respond directly to these priorities, translating research into deployable solutions for farmers, firms and public agencies.

We focused on four impact lanes aligned to national and continental needs: food and water security, smart manufacturing, digital and AI capacity, and Africa-centred innovation. Flagship projects moved from concept to application, IoT tools for crop and resource management; Earth-observation mapping of Prosopis (Sexanana); a triple-pressure rain-simulation sprinkler to optimise irrigation; curriculum modernisation through SME2KE; SME digital-maturity upskilling; and DigiTREE's digital-education platforms. Our AI portfolio pairs a Critical Virtual Exchange with "Ubuntu and AI," blending indigenous knowledge with responsible AI so solutions are trusted, context-fit and adoptable.

Postgraduate training is embedded across these initiatives, with students producing publishable outputs, prototypes and deployment skills through funding from the European Commission, Carnegie Mellon University, Michigan State University and the Estonian Centre for International Development. In the year ahead, we will scale proven prototypes with farmers and SMEs, establish joint industry labs and internships, and publish open toolkits and datasets. FET's mandate remains clear: engineer practical innovations that strengthen livelihoods and accelerate Botswana's and Africa's transition to a resilient, knowledge-based economy.

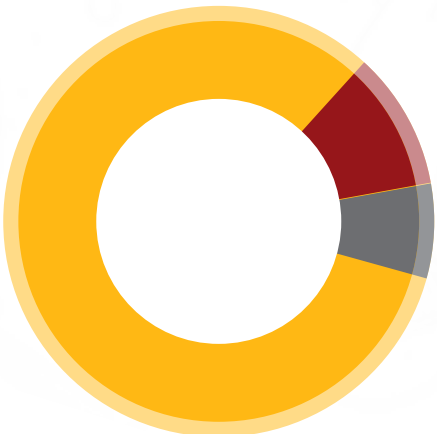
FACULTY RESEARCH PUBLICATION

FET produced 59 Scopus/Web of Science–indexed outputs between April 2024 and March 2025, a 28% year-on-year increase from 46 in 2023/24. Publication quality and reach continue to rise, anchored in our priority lanes (food & water security, smart manufacturing, digital/AI, and Africa-centred innovation).

At a glance

1. **Output mix:** Articles 75% (43), Reviews 16% (9), Book chapters 9% (5); plus 1 Book and 1 Proceedings paper.
2. **Where indexed:** Scopus 34 | Web of Science 25.
3. **Collaboration:** 92% international co-authorship (up from 67% in 2023/24), reflecting deeper global partnerships.
4. **Representative journals:** Results in Engineering, Scientific Reports, Energies, Discover Sustainability, PLOS ONE, Cogent Engineering

Output mix

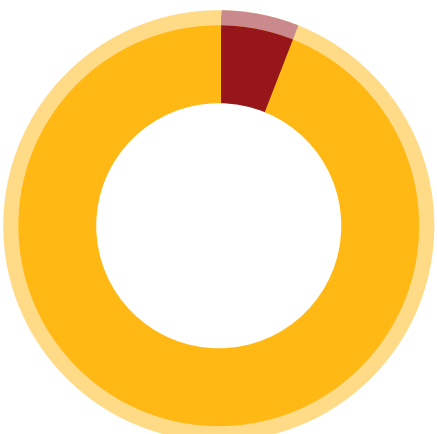


ARTICLES
75%
43

REVIEWS
16%
9

BOOK CHAPTERS
9%
5

Collaboration



INTERNATIONAL
92%

LOCAL
8%

FACULTY RESEARCH FUNDING

Between April 2024 and March 2025, FET secured five new awards totalling USD 965,577 (BWP 13,146,041) and managed eight active grants totalling USD 2,524,016 (BWP 34,351,974). The portfolio is predominantly international (98%), complemented by a 2% domestic line from the Government of Botswana (Ministry of Communication and Innovation, MCI) for the irrigation prototype. Grant scale remains healthy, with average sizes of USD 193k (awarded) and USD 316k (active), and medians of USD 102k and ~USD 154k respectively, signalling a balanced mix of large programmes and delivery-focused mid-sized projects.

Funding is anchored by the European Commission (SME2KE, Virtual Exchanges in AI, CBHE) and strategically aligned with Botswana–Estonia ties via the Estonian Centre for International Development (SME digital maturity). Michigan State University supports Ubuntu & AI, while Carnegie Mellon University backs IoT for agribusiness. The largest active lines include SME2KE (USD 851k), EU Virtual Exchanges (USD 533k and USD 206k), and EU CBHE (USD 670k), collectively financing curriculum modernisation, SME digital upskilling, Africa-centred AI capacity, and field pilots that translate research into impact.

What the funding enabled

- **Food & water security:** IoT for agribusiness; Prosopis mapping with ML/AI; rain-simulation sprinkler prototype.
- **Smart manufacturing & SMEs:** Curriculum modernisation (SME2KE); SME digital-maturity upskilling and accelerator.
- **Digital & AI capacity (Africa-centred):** Virtual exchange networks; Ubuntu & AI integrating indigenous knowledge.

FACULTY OF ENGINEERING & TECHNOLOGY (CONTINUED)

FEATURED PROJECTS

FET's flagship projects turn engineering research into field-ready solutions for Botswana and Africa, improving food and water security, modernising manufacturing, building digital and AI capacity, and designing technologies grounded in indigenous knowledge.

1 ADDRESSING AGRIBUSINESS CHALLENGES THROUGH INTERNET OF THINGS:

Case Study Botswana

Principal Investigator: Prof Sajid Sheikh
Funder: Carnegie Mellon University (USA) - **USD 50,000 (BWP 680,735)**
Duration: 1 November 2024 – 31 October 2025

This project deploys low-cost IoT sensors and analytics to support crop monitoring and water/fertiliser management on Botswana farms, generating real-time insights for smallholders and commercial producers. The project offers unlimited opportunities that will enable farmers to track key indicators such as soil moisture, weather patterns and fertiliser levels, the system provides real-time insights that guide better decisions on when and how to irrigate or apply inputs. The result is smarter, more sustainable farming that saves resources, improves yields and strengthens food security for both small-scale and commercial producers across the country.

WHY IT MATTERS:

Precision data helps farmers make timely, cost-saving decisions in a water-scarce climate, improving yields, profitability and food security.

EXPECTED OUTPUTS & IMPACT:

- Farmer-validated sensor kits and dashboards for key crops.
- Operational guidelines for extension officers.
- Evidence for scale-up in national smart-agriculture programmes.

WHO BENEFITS?:

Farmers and cooperatives; agribusinesses; agricultural extension services; policymakers.

NEXT STEPS:

Expand field pilots; train extension officers and lead farmers; publish a practical adoption guide.

2 SMART MANUFACTURING ENGINEERING EDUCATION FOR A KNOWLEDGE ECONOMY (SME2KE, CBHE)

Principal Investigator: Dr Jerekias Gandure | **Co-Investigators:** Professor V.P Kummula, Professor N.Batane, Mr L. Seboni, Mr R. Monangeng, Mr B. Kapurua, Mr M. Raditsebe, Mr K. Mashaba
Funder: European Commission (Belgium) - **USD 850,617 (BWP 11,580,899)**
Duration: July 2023 – June 2026

This initiative modernises engineering education around an Industry 4.0 toolchain co-designed with Botswana's firms. Students and lecturers work in upgraded labs that integrate PLC/SCADA, robotics, sensors and IIoT gateways, data pipelines to MES/ERP, and simulation through digital twins. The curriculum adds applied analytics (SPC, predictive maintenance), additive manufacturing, and lean/Six Sigma so learners can design, operate and optimise smart production lines. Work-integrated learning is embedded via capstones and internships drawn from real factory bottlenecks, e.g., downtime reduction, energy management, quality control, producing measurable gains for partner plants and SMEs. The programme also builds lecturer capacity, creates stackable micro-credentials for technicians and supervisors, and aligns assessment with international accreditation standards to ensure portability of skills.

WHY IT MATTERS:

Precision data helps farmers make timely, cost-saving decisions in a water-scarce climate, improving yields, profitability and food security.

EXPECTED OUTPUTS & IMPACT:

- Updated modules and labs aligned to industry needs.
- Internships, capstones and micro-credentials.
- A pipeline of graduates who boost productivity and innovation.

WHO BENEFITS?:

Students; manufacturing firms; TVET/HE educators; national skills bodies, Policy makers.

NEXT STEPS:

Establish joint industry–university labs; expand placements; publish an industry skills playbook.

FACULTY OF ENGINEERING & TECHNOLOGY (CONTINUED)

3 CRITICAL VIRTUAL EXCHANGE IN ARTIFICIAL INTELLIGENCE

Principal Investigator: Dr Yaone Rapitsenyane
Funder: European Commission (Belgium) — **EUR 496,949 (USD 533,253; BWP 7,260,080)**
Duration: 1 February 2025 – 31 January 2028

This project cultivates virtual exchanges to advance AI education and research, connecting African and European institutions to share knowledge. The initiative uses virtual classrooms, shared data, and online labs to help students and researchers collaborate across borders and learn from each other. It delivers co-taught modules, joint project studios and mentorship, with shared datasets, tools and virtual labs to lower barriers to participation. Through co-taught courses, joint research projects, and mentorship, the programme will make AI education more accessible and inclusive. It also builds a lasting network that supports future postgraduate studies and industry partnerships.

WHY IT MATTERS:

Shared curricula and co-taught modules accelerate AI capacity where local expertise and infrastructure are still developing.

EXPECTED OUTPUTS & IMPACT:

- Co-created AI modules and project studios.
- Student/faculty exchanges and joint publications.
- A sustained network that feeds postgraduate pipelines.

WHO BENEFITS?:

Undergraduates and postgraduates; academic staff; tech-sector partners.

NEXT STEPS:

Launch co-taught courses; seed collaborative student projects; align with industry mentors.

4 DIGITREE

Principal Investigator: Dr Yaone Rapitsenyane
Funder: European Commission — **EUR 191,520.98 (USD 205,512; BWP 2,797,988)**
Duration: 1 June 2024 – 31 May 2027

Develops digital-education platforms and content to address environmental and social challenges, with a focus on practical learner use.

WHY IT MATTERS:

Digital skills and tools enable learners and communities to respond to climate and development priorities.

EXPECTED OUTPUTS & IMPACT:

- Pilot-ready digital platforms and open resources.
- Teacher and learner guides for local contexts.
- Improved digital competencies for youth and communities to tackle challenges such as climate change.

WHO BENEFITS?:

Learners; educators; communities; education policymakers.

NEXT STEPS:

Pilot with cohorts; iterate from feedback; plan scale-up with education partners.

5 UBUNTU AND AI: INTEGRATING AFRICAN INDIGENOUS KNOWLEDGE SYSTEMS AND EMERGING TECHNOLOGIES

Principal Investigator: Prof Richie Moalosi
Funder: Michigan State University (USA) — **USD 75,000 (BWP 1,021,103)**
Duration: 21 October 2024 – 30 April 2026

This project tackles a common barrier to technology adoption in Africa: imported AI tools that lack cultural fit, local languages and trusted data practices. It operationalises Ubuntu principles, community benefit, reciprocity and collective decision-making, into the AI design process. Through participatory co-design with users, the team captures indigenous knowledge (e.g., seasonal indicators, land-use norms), stewards it ethically, and embeds it into models and interfaces tailored to local realities (offline-first, low-bandwidth). Early application areas include agriculture (context-aware advisories, soil/water use) and community resource management (mapping, early-warning cues), producing solutions that people understand, trust and use.

WHY IT MATTERS:

Technologies designed with communities are more usable, ethical and sustainable, improving uptake and outcomes.

EXPECTED OUTPUTS & IMPACT:

- Prototypes co-created with user communities.
- Design toolkits for Africa-centred, responsible AI.
- Case studies to inform policy and practice.

WHO BENEFITS?:

Communities; researchers; technology developers; public agencies.

NEXT STEPS:

Field-test prototypes; publish toolkits; convene policy and industry roundtables.

6 DIGITAL MATURITY UPSKILLING AND ACCELERATOR PROGRAMME DEVELOPMENT

Principal Investigator: Prof Richie Moalosi
Funder: Estonian Centre for International Development (Estonia) — **EUR 94,881.25 (USD 101,821; BWP 1,386,235)**
Duration: 1 May 2024 – 31 May 2025

Aligned with Botswana's growing diplomatic and technical ties with Estonia, this programme adapts proven Estonian digital-transformation practices for Botswana's SME context. It tackles common pain points, manual bookkeeping, weak online presence, fragmented payments, limited data use, through diagnostics, hands-on coaching and implementation sprints. Firms are supported to deploy practical, low-cost tools for accounting and inventory, e-commerce and digital marketing, e-payments, basic CRM and data dashboards, alongside cyber-hygiene essentials. The accelerator layer then helps participants turn these upgrades into sales growth, supply-chain readiness and access to finance and procurement opportunities.

WHY IT MATTERS:

Digitally enabled SMEs are more productive, resilient and competitive, creating jobs and diversifying the economy.

EXPECTED OUTPUTS & IMPACT:

- Diagnostics and tailored digital adoption plans.
- Improved e-commerce readiness and data use.
- Revenue growth and employment in participating firms.

WHO BENEFITS?:

SMEs and entrepreneurs; industry associations; support agencies.

NEXT STEPS:

Provide alumni accelerator services; link firms to finance and procurement pipelines; monitor outcomes.

FACULTY OF HEALTH SCIENCES

DEAN'S STATEMENT

Acting Dean, Prof Mabel Magowe

Botswana continues to face a dual burden of disease, persistent HIV/TB alongside rising non-communicable conditions such as cancers, cardiovascular disease and mental-health challenges, compounded by prevention gaps, rural–urban access inequities and the need for stronger data and ethics systems. In 2024/25, the Faculty of Health Sciences (FHS) focused on high-impact, Botswana-relevant science that speaks directly to these needs.

Two flagship strands illustrate our approach. First, basic and translational cancer science advanced through the Modulating Role of Circulating Exosomes in Cervical Neoplasia Progression During HIV Infection, which seeks early-detection biomarkers and therapeutic leads for women with HIV at elevated cervical-cancer risk. Second, implementation research for behaviour change in routine care progressed via the Bots Smoking Abstinence Reinforcement Trial (UB in partnership with the University of Maryland), targeting tobacco cessation to reduce cancer and CVD risks, particularly among people living with HIV.

Coupled with an expanding postgraduate pipeline and strong national–international partnerships, FHS translated scholarship into practice, strengthened laboratory platforms, and delivered a solid publication year across indexed outlets, evidence that our science is informing policy and service delivery while building future research leaders.

FACULTY RESEARCH PUBLICATION

The faculty recorded 42 indexed outputs in 2024/25, published across 51 distinct journals/outlets. This has enabled the Faculty to maintain international visibility and a high collaboration profile (90% international co-authorship). The portfolio continues to be anchored in peer-reviewed journal articles (79% of outputs), with a modest tilt towards evidence synthesis (reviews) and conference dissemination, reflecting the faculty's translational and implementation focus on cancer, HIV–NCD intersections, and maternal–newborn health.

FACULTY RESEARCH FUNDING

FHS managed 9 grants in the year, 6 active/continuing and 3 newly awarded, totalling US$393,678 (BWP 5.36 million). The portfolio was led by programme and implementation awards aimed at vaccine effectiveness, wastewater pathogen surveillance, and tobacco cessation within HIV care. Top funders by value were Africa CDC and Mastercard Foundation (27.5%), NRF (25.4%), and PEPFAR (25.4%), followed by NIH/National Cancer Institute (NCI), Henry Ford Health Systems, and the Global Center for Good Governance in Tobacco Control. Largest awards included PROVE: COVID-19 Vaccine Effectiveness (Africa CDC & Mastercard Foundation, US$108,246) and Wastewater Detection and Genomic Analysis (NRF, US$100,000).

Together with BSMART (NIH/NCI) and nursing workforce/quality-of-care grants (PEPFAR; Henry Ford), the funding mix reflects a strong emphasis on policy-relevant, system-level research that links basic and translational science to real-world impact.

POSTGRADUATE

Postgraduate training remained central to FHS's mission in 2024/25, with Masters and doctoral candidates embedded in basic, translational and implementation studies. The faculty continued building supervision capacity and laboratory platforms, while preparing to expand throughput via newly introduced doctoral pathways in Nursing and Public Health, which will strengthen pipeline continuity from Masters to PhD and postdoctoral stages.

FEATURED PROJECTS

1

MODULATING ROLE OF CIRCULATING EXOSOMES IN CERVICAL NEOPLASIA PROGRESSION DURING HIV INFECTION

Principal Investigator: Dr Moses Koobotse |
Co-Investigators: Dr Matshediso Zachariah; Dr Norman Carl Swart
Funding: University of Botswana
Duration: July 2023 – July 2025

Women living with HIV have a higher risk of cervical cancer even on treatment. This study analyses circulating exosomes to identify HIV-linked molecular cargo that may drive neoplastic change. By comparing blood samples from women with and without HIV (and with/without cervical disease), the team aims to pinpoint early-detection biomarkers and potential therapeutic targets.

WHY IT MATTERS:

Earlier, molecularly informed detection could reduce late presentations, improve survival, and guide precision prevention in high-risk groups.

WHO BENEFITS?:

Women living with HIV; healthcare providers; Ministry of Health.

NEXT STEPS (2024-2025):

Secure extension and permit renewal; recruit control cohorts; initiate laboratory analyses; generate preliminary biomarker panels for validation.

2

BOTSWANA SMOKING ABSTINENCE REINFORCEMENT TRIAL (BSMART) — IN PARTNERSHIP WITH UNIVERSITY OF MARYLAND

Principal Investigator: Prof Bontle Mbongwe
Funder: NIH/NCI, US$55,432 (BWP 754,687)
Duration: September 2022 – August 2026

A multi-site trial integrating evidence-based cessation (reinforcement/contingency management with routine counselling) into HIV and primary-care pathways. The study tests sustained abstinence supports and service-delivery models suitable for scale-up across Botswana.

WHY IT MATTERS:

Tobacco use amplifies cancer and CVD risk, especially among people living with HIV. Embedding cessation in routine care strengthens prevention, reduces long-term treatment costs, and advances NCD control.

WHO BENEFITS?:

Smokers and their families; HIV and primary-care programmes; Ministry of Health policy makers.

NEXT STEPS:

Expand site implementation and provider training; monitor mid-term abstinence outcomes; prepare policy briefs and scale-up toolkit with service partners.

FACULTY OF HUMANITIES


OMG

DEAN'S STATEMENT

Acting Dean, Prof Thapelo Otlogetswe

In 2024/25, the Faculty of Humanities advanced this agenda: we graduated 23 master's and two PhD students; strengthened expertise with Dr Philip Olhmann (Adjunct, Theology & Religious Studies) and Dr Sarah Mothulatshipi (Affiliate, History); and deepened interdisciplinary work through the Horizon Europe Agri-Dry Project and archaeological collaborations with the University of Oxford.

Flagship outputs included a Setswana personal names dictionary, expanded digital-archiving of fragile records and oral histories, and new studies on religion and development, translating humanities research into policy insight, cultural preservation, and community tools.

Next, we will scale digital humanities, grow Indigenous Knowledge partnerships, and enhance graduate supervision to position Botswana's scholarship at the forefront of continental debates and impact. UB's move towards research intensity aligns with our trajectory in Humanities. The projects we delivered and partnerships we built equip us to power Botswana's and Africa's innovation ecosystem, connecting knowledge, communities and policy. We will be a critical driver of the university's research culture.

FACULTY RESEARCH PUBLICATION

Humanities research advanced solutions where policy and technology alone fall short, language, memory, belief and creative practice. From identity and ethics to archives and community advocacy, our outputs translated scholarship into public value. At the Faculty of Humanities, we are happy to have provided some leadership in authorship, the faculty produced 39 indexed outputs, about 7% of UB's 558 total, with a 97% lead-authorship rate.

What stands out

1. **Books that matter.** UB recorded two books this year, both authored in Humanities (Dr Kebaneilwe, Brill), elevating Botswana's voice in global debates.
2. **Depth and diversity.** Theology & Religious Studies delivered 6 journal articles and 4 book chapters; Dr Lebogang Disele-Pitso published in Canadian Theatre Review on interactive theatre and freedom; a Setswana personal names dictionary strengthened language preservation and cultural analytics.
3. **Global reach, local relevance**. Prof Nathan Mnjama delivered three keynotes (Makerere; Northumbria & Waseda; ESARBICA), while colleagues presented in Germany, Kenya and South Africa, on sustainable development, oppression and liberation, Indigenous Knowledge Systems, and religion & society.

These publications equip policymakers, educators and communities with evidence and tools, preserving heritage, informing social cohesion, shaping ethical tech use, and amplifying citizen voices in Botswana and across Africa.

HUMANITIES RESEARCH FUNDING (2024/25)

In a year when Botswana needs ideas that connect culture to capability, Faculty of Humanities attracted investment that does exactly that, funding to digitise Setswana, safeguard national memory, study faith and fertility, and embed Botswana scholars in major international consortia.

Humanities accounts for USD 322,439 (BWP 4.4m) tagged directly to the faculty (Agri-Dry; DLIS national archives policy; MultiChoice partnership). It is important to note that, combined with department-reported awards, consultancies, collaborations as well as active projects, all Humanities-linked projects total BWP 21.2m activated or awarded this year (plus £5,000 held at Oxford), signalling rising confidence from public, private and multilateral funders and preferred partner.

Grants Administered in Humanities Faculty

- Department of Library and Information Studies National Archives & Records Management Policy (BWP 2,643,500)

  Drafting a modern policy framework to safeguard Botswana's records and cultural memory and improve public-sector information governance.
- Horizon Europe: Agri-Dry BWP 1,717,422.

  Interdisciplinary climate-heritage research led in part by History, using past adaptations to inform today's dryland resilience and community livelihoods.
- The Vibe Lounge: Creative Industries Pilot (BWP 29,000).

  A public-engagement programme with MultiChoice that showcases student/staff creative work and links Humanities to the creative economy.

Humanities-linked awards/collaborations

- UB–University of Wroclaw Collaboration (BWP 8,000,000).

  A multi-year research and mobility programme deepening UB's European partnerships and co-producing Humanities scholarship and training.
- TRS & Psychology, Women and Fertility (BWP 2,000,000).

  Examines how belief, behaviour and health systems intersect to inform reproductive-health policy and services.
- Prof Otlogetswe, Digitising Three Setswana Dictionaries (CIPA) (BWP 965,110).

  Preserves and opens access to Setswana lexicons, enabling education, AI/NLP applications and cultural analytics.
- Prof Connie Rapoo, Queen Mantatisi: A Historical Drama of Tenacity (CIPA) (BWP 942,303).

  A public-history theatre project that translates archival research into performance, strengthening heritage literacy and civic dialogue.
- Prof Bolaane / San Research Centre, Community Consultancy (Palms for Life) (BWP 165,880).

  Participatory work with San communities to centre indigenous knowledge in well-being and development initiatives.
- Africa Oxford Initiative (AfOx), Early Iron Age Archaeology (Oxford-held) (£5,000).

  Seed funding for fieldwork and analysis with Oxford, advancing Botswana's archaeological record and training.
- DFG Emmy Noether, Kgalagadi Human Origins (Kiel University) (amount partner-held).

  High-calibre collaboration placing UB scholars in frontier human-origins research for the Kgalagadi region.

FACULTY OF HUMANITIES (CONTINUED)

POSTGRADUATE RESEARCH & PROFESSORSHIPS

The Faculty of Humanities is growing the next generation of research leaders while securing world-class expertise to mentor them and anchor flagship grants.

Stronger pipeline:

We graduated 23 master's and 2 PhD candidates, evidence of a healthy, supervised pipeline feeding Botswana's research, policy and creative sectors.

Global expertise in residence:

Dr Philip Olhmann (Berlin University) joined Theology & Religious Studies as Adjunct Professor, expanding our comparative religion scholarship and international networks.

Continuity on major grants: Following retirement, Dr Sarah Mothulatshipi was appointed Affiliate Researcher (History) to continue as Principal Investigator and Administrator of the Horizon Europe Agri-Dry project, ensuring momentum, compliance and impact delivery.

Why this matters:

More graduates, deeper supervision capacity, and targeted professorial appointments translate into sustained grant performance and sharper, globally connected scholarship that serves Botswana and the region.

FEATURED PROJECTS

1 THE Agri-Dry PROJECT

Principal Investigator: Dr Sarah Mothulatshipi
Funder: European Commission — **EUR 135,360 (USD 126,145; BWP 1,717,423)** | **Duration:** 1 Oct 2024 – 1 Mar 2028
Network: Part of a Europe–Africa research collaboration

WHAT IT DOES

Agri-Dry trains a new cohort of doctoral researchers to study dryland agriculture through the lens of traditional ecological knowledge and historical practice. By comparing how dryland communities adapted in the past with today's climate realities, the team generates evidence and insights that can strengthen food systems, guide land-use choices and support resilient livelihoods in Botswana and across Africa.

WHY IT MATTERS FOR BOTSWANA & AFRICA:

Drylands are home to millions and sit at the frontline of climate change, soil loss and water stress. Agri-Dry turns heritage into a toolbox, linking community knowledge with rigorous research, to inform policy, improve farm-level decision-making, and inspire sustainable, climate-smart practices.

WHO BENEFITS?:

Smallholder farmers and pastoralists: especially women and youth, gain climate-smart practices that improve yields and incomes.

Extension officers, councils and national policymakers: get evidence and tools for land, water and drought-resilience decisions.

PhD candidates and UB partners build skills and networks; agri-tech, seed systems and NGOs use locally adapted insights to scale solutions.

2 NATIONAL ARCHIVES & RECORDS MANAGEMENT POLICY (CONSULTANCY)

Lead unit: Department of Library & Information Studies
Funder: Botswana National Archives & Records Services - **BWP 2,643,500 (USD 194,165)**
Period: 24 Jan 2025 – 25 Dec 2025

WHAT IT DOES

Co-develops a modern, country-wide policy for creating, keeping and opening records, paper and digital, so Botswana's memory is preserved, discoverable and usable across government and society.

WHY IT MATTERS:

A clear policy strengthens service delivery and accountability, safeguards heritage, and prepares ministries for e-government and digital preservation.

EXPECTED OUTPUTS

Draft policy, implementation roadmap, standards toolkit (classification, retention, metadata), and a capacity-building plan.

PROGRESS & NEXT STEPS

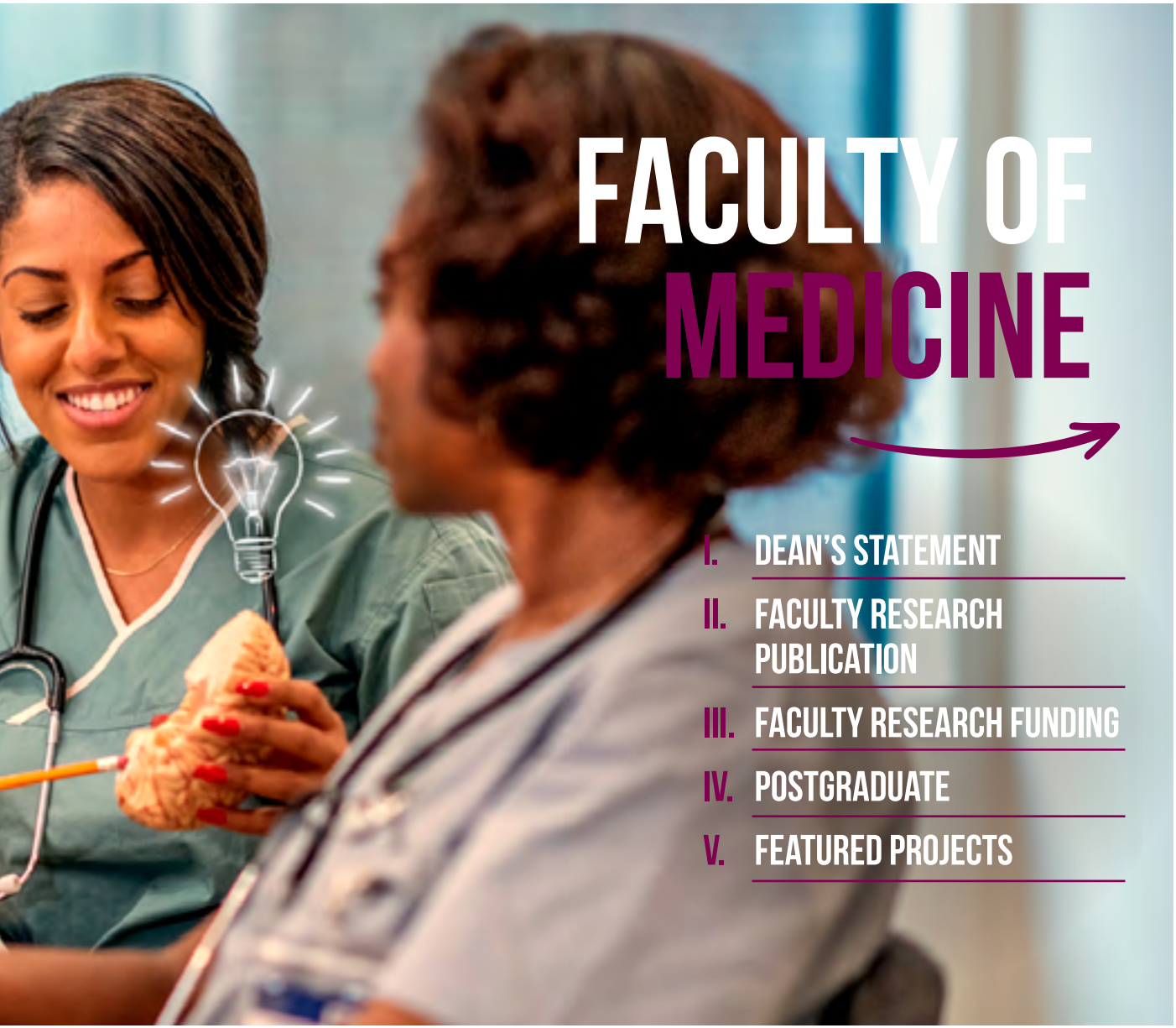
Policy drafting underway; next: stakeholder consultations with ministries, local authorities, archives staff and community representatives.

WHO BENEFITS

Government ministries and councils get clearer rules that improve efficiency and compliance.

Historians, journalists and researchers gain reliable access to public records.

Citizens and communities see stronger transparency and protection of national heritage.



FACULTY OF MEDICINE

DEAN'S STATEMENT

Acting Dean, **Prof Billy Tsima**

In 2024/25 the Faculty of Medicine deepened its role as Botswana's clinical research hub, aligning our work with SDG 3: Good Health and Well-being.

Our programmes spanned cancer, maternal and child health, infectious diseases and antimicrobial stewardship, mental health, medical education, neonatal care, and health–climate intersections, topics shaped by national need and our multidisciplinary strengths across eleven departments. Flagship studies continued to move from design to real-world delivery. We also convened regional peers as Botswana hosted African Conference on Emergency Medicine (AfCEM) 2024 in Gaborone, strengthening communities of practice across emergency medicine.

We invested in people and platforms that accelerate discovery. The Regenerative Medicine Lab secured a competitive grant to develop locally sourced biomaterials and establish a human cell bank, laying the foundation for bone (and, prospectively, skin) tissue regeneration using Botswana's resources. Our portfolio continued to attract competitive partners and funding, with the European Commission, MCI, and the NIH among UB's leading external funders in 2024/25. Looking ahead, we will consolidate integrated HIV–Non-Communicable Diseases (NCD) care models; scale cervical-cancer pathway innovations; deepen antimicrobial stewardship; and accelerate AI-enabled diagnostics, including the Penn CFAR pilot on digital scanning/AI for paediatric diarrhoeal specimens.

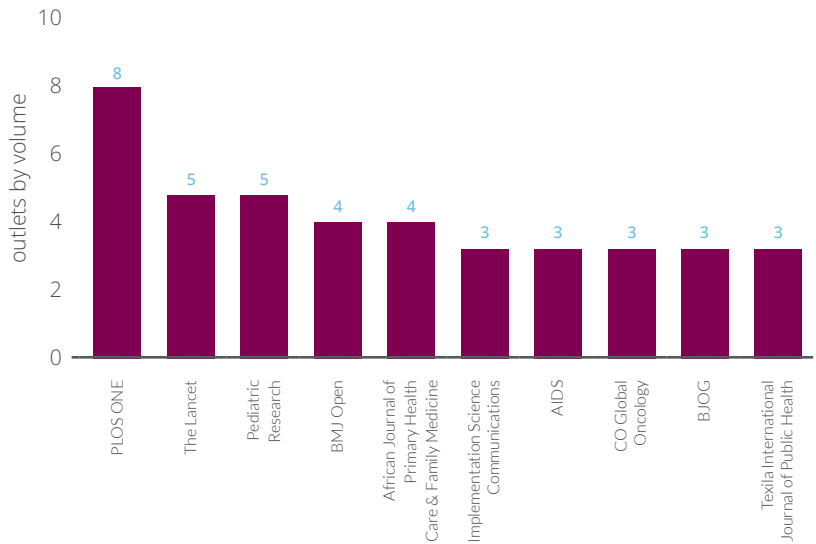
Our commitment remains clear: rigorous, collaborative research that improves outcomes for patients in Botswana while contributing robust evidence to the global health community.

FACULTY RESEARCH PUBLICATION

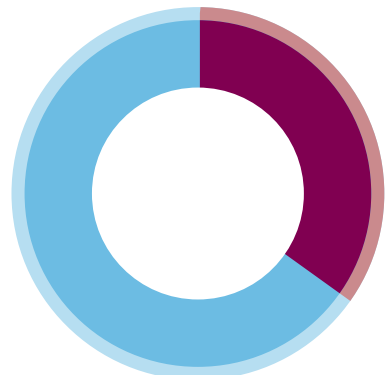
The Faculty of Medicine recorded 163 peer-reviewed outputs in 2024/25 (Apr 2024–Mar 2025), up 18% from 139 the previous year. Outputs were published across leading indexed outlets, with 64% Scopus (105 items) and 36% Web of Science (58 items). The portfolio was led by journal articles (117), alongside reviews (23), meeting abstracts (13) and editorials (10), reflecting both discovery science and practice-oriented dissemination.

Publication themes mirror our clinical priorities: strong threads in HIV and the NCD interface, cervical and other cancers, paediatrics and adolescent health, cardiovascular/metabolic conditions, maternal health, mental health, tuberculosis, and antimicrobial stewardship. Collaboration remained a hallmark of our scholarship: 91% of outputs involved international partners, with frequent co-authorship from Harvard (incl. T.H. Chan School of Public Health), University of Pennsylvania, Oxford, University of Liverpool, and Duke University, among others.

Top outlets by volume



Indexing mix



SCOPUS
64%
105 ITEMS

WEB OF SCIENCE
36%
58 ITEMS

91% COLLABORATION INTERNATIONAL CO-AUTHORSHIP

These results underscore a growing, outward-facing research footprint that translates evidence into Botswana's clinical practice while contributing to global health science.

By type

117 Articles | 23 Reviews | 13 Meeting Abstracts | 10 Editorials

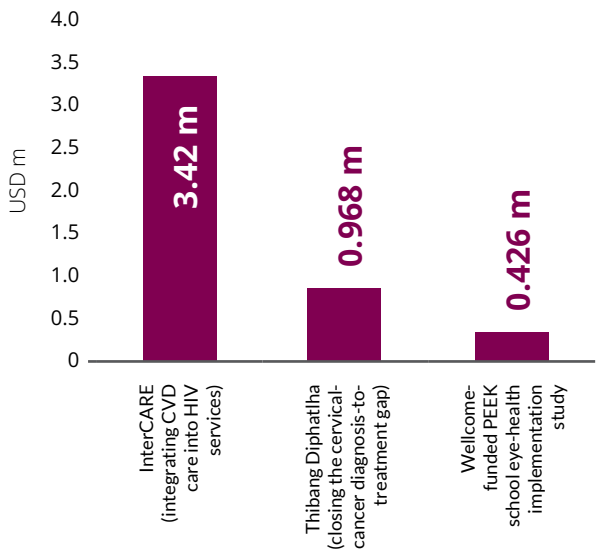
FACULTY OF MEDICINE (CONTINUED)

FACULTY RESEARCH FUNDING

The Faculty of Medicine sustained strong external funding anchored by multi-year NIH programmes and new awards that broaden our portfolio into HPV screening, mental health, primary care systems and rehabilitation.

Flagship active grants include InterCARE (integrating CVD care into HIV services) at USD 3.42 m and Thibang Diphatlha (closing the cervical-cancer diagnosis-to-treatment gap) at USD 968k, alongside the Wellcome-funded PEEK school eye-health implementation study at USD 426k.

Top outlets by volume



AT A GLANCE

Active (in-year) funding: 24 awards | USD 7.43 m (BWP 101.01 m). **Largest:** InterCARE (USD 3.42 m), PEEK (USD 426k), Thibang Diphatlha (USD 968k).
New (awarded) funding: 12 awards |
USD 1.66 m (BWP 22.55 m)

FUNDING MIX:

Active: 93.3% international / 6.7% domestic MCI). New awards = 70.1% international / 29.9% domestic (MCI).

TOP FUNDERS BY SHARE (USD):

Active: NIH -73.8%; top-3 (NIH, MCI, Wellcome) = 86.2%.
New awards: NIH 42.0%, MCI -29.9%, GIZ -13.9%.

POSTGRADUATION

THE FACULTY OF MEDICINE CELEBRATED

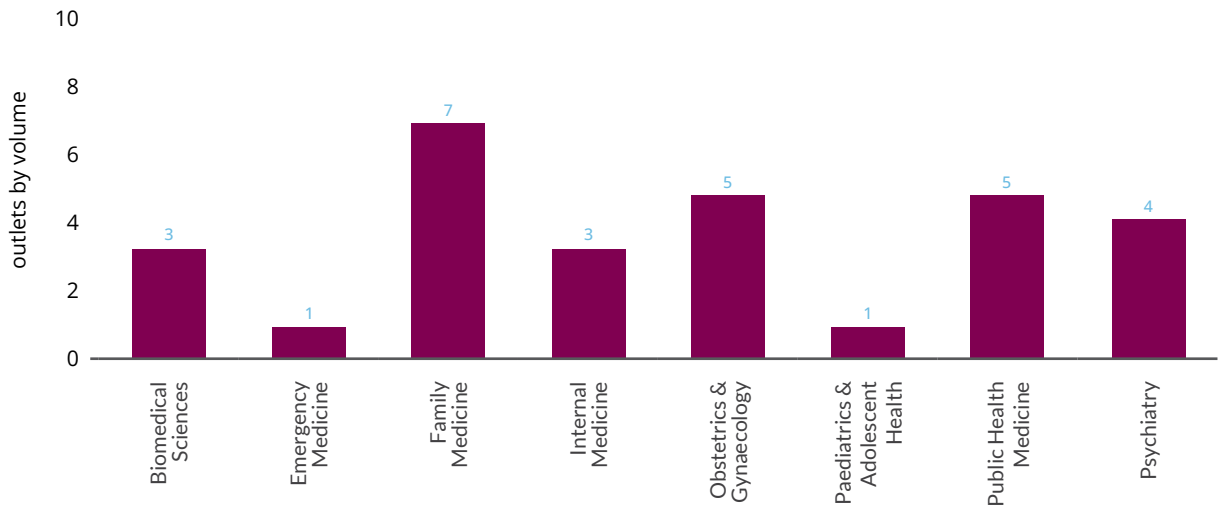
26 POSTGRADUATE COMPLETIONS,

25 MASTER'S AND

1 PhD

UNDERSCORING OUR COMMITMENT TO BUILDING ADVANCED CLINICAL AND RESEARCH CAPACITY IN A RESOURCE-CONSCIOUS ENVIRONMENT.

Master's breakdown:



Beyond the numbers, postgraduate projects delivered tangible impact. The E-MOTIVE sub-study (G. Justus Hofmeyr) reported a 60% reduction in severe postpartum haemorrhage, informing global maternal-health policy and practice. Jillian H. Hurst's work on serotype epidemiology of pneumococcal isolates in Botswana infants is shaping vaccine strategy and efforts to curb antimicrobial resistance. Together, these examples show how postgraduate research translates into better outcomes for mothers, children, and communities.

No professorial promotions were recorded this period. However, our structured supervision, writing support, and early-career development pathways continue to nurture emerging research leaders, strengthening the pipeline from postgraduate training to independent scholarship and funded investigation.

FACULTY OF MEDICINE (CONTINUED)

FEATURED PROJECTS

1 THE PEEK PRACTICE-BASED EVIDENCE FRAMEWORK (CHILD EYE HEALTH)

Principal Investigator: Dr Keneilwe Motlhatlhedi | **Co-Investigators:**
Prof Luke Allen, Dr Malebogo Tlhajoane, Prof Andrew Bawsterous, Dr David McCleod, Ms Sarah Karanja, Dr John Thato Tlhakanelo, Mr Ari Ho-Foster
Funder: Wellcome Trust (UK), **USD 425,850 (BWP 5,797,822)**
Duration: 1 July 2021 – 31 May 2025

School screening identifies many children with potential vision problems, yet too few complete referral and treatment. This project pinpoints where and why families drop off the pathway, unclear messaging, transport costs, inconvenient appointments, stigma, and co-designs low-cost fixes with communities. Drawing on behavioural science, it prototypes solutions such as tailored SMS reminders, visual referral slips, caregiver helplines and transport support, then measures which combinations most increase attendance. Qualitative insights are paired with simple implementation metrics to compare feasibility across districts. Findings are packaged into practical "how-to" guides for school health teams, with training and supervision checklists that fit existing staffing and budgets. By moving beyond technology to address real-world behaviours and constraints, the framework aims to lift referral-to-care completion, prevent avoidable vision loss and inform national guidance on child eye-health delivery at scale.

WHY IT MATTERS:

Preventable vision loss undermines learning; closing the "referral-to-care" gap changes life trajectories.

EXPECTED OUTPUTS & IMPACT:

- Tested, low-cost interventions that raise clinic attendance.
- Implementation playbooks for districts and school health teams.
- Policy briefs for Ministries of Health/Education.
- Strengthened local capacity through training and supervision.
- Better educational and quality-of-life outcomes for children.

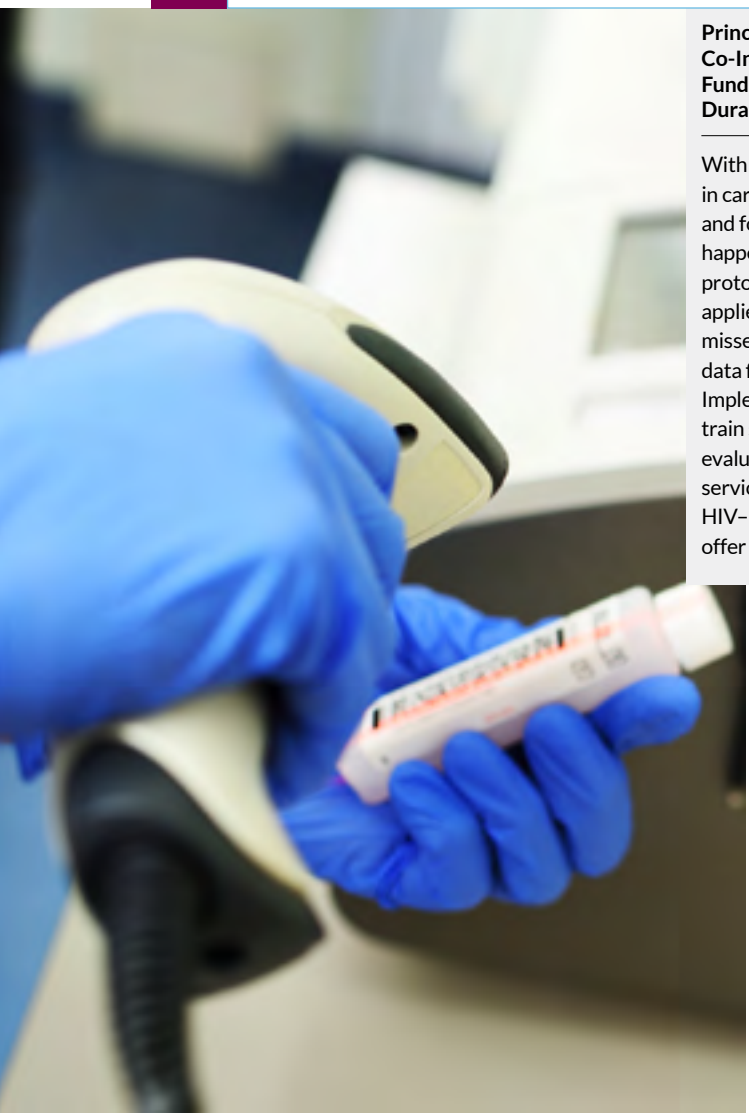
WHO BENEFITS?:

Schoolchildren and families; Ministry of Health & Education; eye-care providers.

NEXT STEPS:

Publish results; embed solutions with MoH; prepare scale-up plan.

2 INTERCARE: INTEGRATING HYPERTENSION AND CARDIOVASCULAR DISEASES CARE INTO EXISTING HIV SERVICES PACKAGE IN BOTSWANA



Principal Investigator: Prof Mosepele Mosepele
Co-Investigators: Dr. Tendani Gaolathe
Funder: NIH (USA), **USD 3,418,699 (BWP 46,544,575)**
Duration: 1 September 2020 – 31 August 2025

With improved HIV survival, cardiovascular risk is rising among adults in care. InterCARE redesigns clinic pathways so screening, initiation and follow-up for hypertension and cardiovascular disease (CVD) happen within the same visit as ART services. The project standardises protocols, introduces task-sharing for measurement and counselling, applies simple risk calculators and activates electronic prompts to close missed opportunities. It tests supply-chain and referral fixes, strengthens data flows for cohort monitoring and models costs to guide scale-up. Implementation teams work with facility managers to adapt workflows, train staff and co-develop job aids that fit real clinic constraints. By evaluating control rates, retention and patient experience, alongside service efficiency, InterCARE generates practical playbooks for integrated HIV–NCD care, aiming to reduce hospitalisations, protect productivity and offer a scalable template for primary care across Botswana and the region.

WHY IT MATTERS:

Integrated, one-stop services improve outcomes, reduce fragmentation and stretch limited resources further.

EXPECTED OUTPUTS & IMPACT:

- Tested models for integrated HIV–NCD care.
- Improved blood-pressure control and CVD risk reduction.
- Job aids, prompts and data tools for routine use.
- Cost and efficiency evidence to inform national policy.
- A replicable scale-up package for primary-care systems.

WHO BENEFITS?:

People with HIV and NCD risk; Ministry of Health; primary-care teams.

NEXT STEPS:

Complete implementation evaluation; refine scale-up package; support national roll-out.

FACULTY OF MEDICINE (CONTINUED)

3 HUMAN PAPILLOMAVIRUS (HPV) VACCINE IMPACT MONITORING IN BOTSWANA

Principal Investigator: Prof Doreen Ramogola-Masire
Co-Investigators: Dr. Anikie Mathoma | **Funder:** CDC / Gates Foundation (USA), **USD 387,816 (BWP 5,280,000)**
Duration: 13 March 2023 – 30 September 2026

Human papillomavirus (HPV) infection is the causative agent for almost all cervical cancer cases and contributes significantly to other anogenital and oropharynx cancers worldwide. About 70% of the world's cervical cancers are caused by HPV types 16 and 18. In Botswana, cervical cancer is the leading cause of cancers among women. In 2015, the country took a step to introduce HPV vaccine into the national immunisation programme using the quadrivalent HPV vaccine (4vHPV), which targets HPV 6, 11, 16, and 18, using a 2-dose schedule.

The roll out of the programme was very successful as it achieved 90% coverage in the targeted age groups of 9-13 years. This study is evaluating the impact of Botswana's 2-dose HPV vaccination programme, including direct impact on HPV prevalence among women with and without HIV and indirect impact among men aged 18-21 years. The cross-sectional study designed by UB in collaboration with the Ministry of Health and CDC in Botswana and Atlanta is a follow-up of a 2019-2021 baseline prevalence study, which included 18-22-year-old males and females, the youngest unvaccinated cohort. The findings of the baseline study indicated a high prevalence of HPV, including HPV types targeted by the quadrivalent vaccine, in both female and male students; and in the HIV cohort, over one-third of WLWH had vaccine-type HPV detected.

WHY IT MATTERS:

Cervical cancer is largely preventable; robust impact data accelerates elimination strategies and prudent resource allocation.

EXPECTED OUTPUTS & IMPACT:

- Reduced HPV-related disease burden among women and men.
- Policy briefs informing national screening and vaccination strategy.

WHO BENEFITS?:

Women and girls; Government-Ministry of Health (policy makers); clinicians and programme managers.

NEXT STEPS:

Data analysis, publishing findings and issuing policy recommendations.

4

RCT OF AN INTERSECTIONAL STIGMA INTERVENTION TO SUSTAIN VIRAL SUPPRESSION AMONG WOMEN LIVING WITH SERIOUS MENTAL ILLNESS AND HIV IN BOTSWANA

Principal Investigator: Dr Phillip Opondo
Co-Investigators: Mr Ari Ho-Foster, Dr Hlanganiso Roy, Dr Anthony Olashore
Funder: NIH (USA), **USD 322,439 (BWP 4.4m)**
Duration: 1 July 2022 – 30 June 2025

Women living with HIV and serious mental illness often encounter overlapping stigma, from health providers, families, and communities, that disrupts adherence and undermines viral suppression. This RCT evaluates an intersectional stigma intervention that engages women, caregivers, community leaders and policy actors to strengthen supportive norms, improve care navigation and reduce internalised stigma. The programme layers brief group sessions, guided family conversations and practical problem-solving tailored to local contexts, with fidelity and outcomes tracked through viral load, retention, and mental-health measures. By codifying what works and what it costs, the study generates an implementation package for routine HIV and mental-health services.

WHY IT MATTERS:

Reducing stigma improves adherence, viral suppression and quality of life, key to ending HIV as a public-health threat.

EXPECTED OUTPUTS & IMPACT:

- Evidence of intervention effectiveness on viral suppression and retention.
- A clinic-ready toolkit (session guides, job aids, training plan).
- Cost and feasibility data for scale-up.
- Policy briefs on integrating mental health into HIV care.

WHO BENEFITS?:

Women with HIV and SMI; families; mental-health and HIV programmes; policymakers.

NEXT STEPS:

Complete analysis (including biological ageing sub-studies); publish results; develop a national implementation guide.

FACULTY OF MEDICINE (CONTINUED)

5

INTIMATE PARTNER VIOLENCE STIGMA AND HELP-SEEKING BEHAVIOUR

Principal Investigator: Mr Ari Ho-Foster
Co-Investigators: Ms Lorato Moalosi, Mr Kabelo Poloko (BGBV) | **Funder:** Sexual Violence Research Initiative (SVRI, South Africa), **USD 111,000 (BWP 1,511,232)**
Duration: 1 March 2023 – 30 June 2025

Stigma around intimate partner violence silences survivors and blocks access to care. This project maps how stigma operates at household, community and service levels, and codesigns solutions with survivors, service providers and policymakers to make help-seeking safer and easier. Mixed-methods research identifies barriers, from fear of judgement to weak referral pathways, then tests pragmatic fixes such as confidential referral mechanisms, survivor-centred messaging and provider training.

WHY IT MATTERS:

Reducing stigma increases reporting and service uptake, preventing further harm and informing national Gender based violence (GBV) policy.

EXPECTED OUTPUTS & IMPACT:

- Evidence on stigma drivers and protective factors.
- Survivor-centred referral and communication tools.
- Provider training materials and practice briefs.
- Recommendations to strengthen GBV policy and services.

WHO BENEFITS?:

Women with HIV and SMI; families; mental-health and HIV programmes; policymakers.

NEXT STEPS:

Host dissemination workshops (Jul–Aug 2025); support integration of tools within GBV services.

6 AFFORDABLE ROBOT-BASED ASSESSMENT OF COGNITIVE AND MOTOR IMPAIRMENT IN PEOPLE LIVING WITH HIV AND HIV-STROKE

Principal Investigator: Dr Maikutlo Kebaetse
Co-Investigators: Prof Billy Tsima, Dr Cassandra Ocampo-Ilagan, Dr Lingani Mbakile-Mahlanza, Dr Monageng Kgwadi, Dr Ntirelang Batane, Dr Stephane Tshitenge
Funder: NIH (USA), **USD 37,281 (BWP 507,570)**
Duration: 10 July 2023 – 30 June 2026

This project tests low-cost robotic tools to objectively assess cognitive and motor impairment among people living with HIV, including those with HIV-related stroke. The study evaluates accuracy against clinician assessments, feasibility in busy clinics, and user experience. If effective, the robots can standardise assessment, support earlier referral, and free clinician time.

WHY IT MATTERS:

Affordable, scalable assessment improves rehabilitation access and outcomes in resource-limited settings.

EXPECTED OUTPUTS & IMPACT:

- Validation data vs. clinician gold standards.
- Feasibility and acceptability evidence for scale-up.
- Two peer-reviewed publications planned.

WHO BENEFITS?:

Patients with HIV/stroke; rehabilitation teams; hospitals.

NEXT STEPS:

Complete data collection; analyse results; publish findings and develop a scale-up brief..

7 THE PRACTICABILITY OF STREPTOCOCCAL RAPID ANTIGEN TESTING IN CHILDREN WITH PHARYNGITIS IN LOW-RESOURCE SETTINGS IN SUB-SAHARAN COUNTRIES

Principal Investigator: Prof Julius Mwita
Funder: Harvard T.H. Chan School of Public Health (USA), **USD 55,006 (BWP 748,890)**
Duration: 1 June 2024 – 31 May 2025

The project assesses whether rapid strep tests can be reliably implemented in low-resource paediatric settings to improve diagnosis, reduce empiric antibiotics, and lower the risk of rheumatic fever. It tracks test accuracy, workflow fit and provider/patient acceptability.

WHY IT MATTERS:

Timely, accurate diagnosis improves child health and supports antibiotic stewardship.

EXPECTED OUTPUTS & IMPACT:

- Feasibility and performance data for rapid tests.
- Clinic workflow guidance and training aids.
- Antibiotic-use and referral recommendations.

WHO BENEFITS?:

Children; clinicians; public-health programmes.

NEXT STEPS:

Evaluate effectiveness; publish guidance; support adoption in primary-care settings.

FACULTY OF MEDICINE (CONTINUED) | V. FEATURED PROJECTS

8 PENN GLOBAL REHABILITATION (MULTI-PROJECT INITIATIVE)

Principal Investigator: Prof Billy Tsima
Funder: University of Pennsylvania — Center for Global Health (USA), USD 103,895.74 (BWP 1,414,510)
Duration: 22 July 2024 – 30 June 2025

The initiative codesigns and pilots rehabilitation strategies for priority conditions, strengthening protocols, training and referral systems. It emphasises low-cost, high-impact approaches adaptable to Botswana's service context.

WHY IT MATTERS:

Better rehab improves recovery, function and quality of life.

EXPECTED OUTPUTS & IMPACT:

- Standardised rehab protocols and training.
- Improved patient outcomes and care coordination.
- Evidence for sustainable scale-up

WHO BENEFITS?:

Patients; rehab centres; clinicians.

NEXT STEPS:

Implement pilots; evaluate outcomes; publish and embed effective models.

9 IMPROVING THE CORE FUNCTIONS OF PRIMARY CARE IN SUB-SAHARAN AFRICA

Principal Investigator: Dr. Keneilwe Motlhatlhedi
Funder: National Institute of Health Research (NIHR, UK), **GBP 41,191.20 (USD 44,200; BWP 601,775)**
Duration: 1 November 2024 – 31 October 2027

Focusing on access, continuity, coordination and comprehensiveness, this project strengthens core primary-care functions through team-based models, practical quality-improvement tools and data-informed decision-making.

WHY IT MATTERS:

Stronger primary care lowers system costs and improves outcomes across common conditions.

EXPECTED OUTPUTS & IMPACT:

- Tools for practice improvement and measurement.
- Training resources for multidisciplinary teams.
- Policy briefs for primary-care reform.

WHO BENEFITS?:

Communities; primary-care teams; health planners.

NEXT STEPS:

Pilot tools; evaluate improvements; support adoption across districts.

10 IMPLEMENTING LAY COUNSELLOR BASED MENTAL HEALTH SERVICES TO MEET THE COMPLEX NEEDS OF YOUTH LIVING WITH AND AT RISK FOR HIV IN BOTSWANA

Principal Investigator: Dr. Hywet Sleamsaw
Funder: Laerdal Foundation for Acute Medicine (Norway), **USD 12,826 (BWP 174,622)**
Duration: 13 January 2025 – 12 January 2026

This project trains lay counsellors to deliver evidence-based mental-health support for youth living with, or at risk for, HIV. Integrated within youth-friendly services, the model addresses stress, depression and adherence challenges with brief, structured interventions and referral pathways.

WHY IT MATTERS:

Mental health is pivotal to HIV prevention and treatment success.

EXPECTED OUTPUTS & IMPACT:

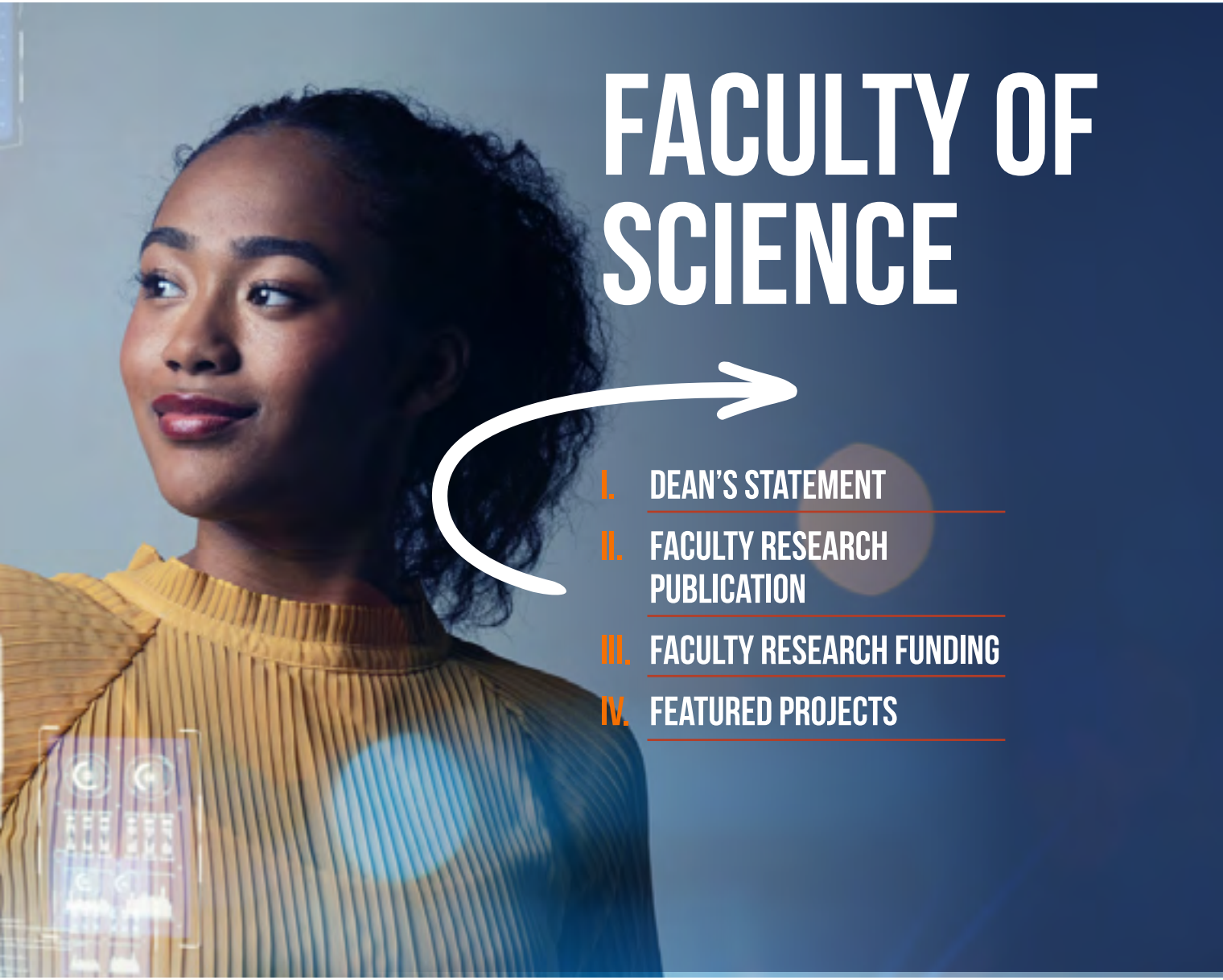
- Trained cadre of lay counsellors and supervision model.
- Youth-adapted session guides and referral tools.
- Improved well-being and service engagement.

WHO BENEFITS?:

Adolescents and young adults; HIV programmes; families.

NEXT STEPS:

Roll out training; monitor outcomes; refine and scale effective elements.



FACULTY OF SCIENCE

DEAN'S STATEMENT

Acting Dean, Prof Moffat Setshogo

This year, the Faculty of Science advanced multidisciplinary research addressing national priorities in health, environment, and digital innovation. We deepened partnerships with government, industry, and communities, translating discovery into solutions, from open science and e-health to climate-resilient cities and natural products.

Our students gained hands-on experience through living-lab projects with local authorities, while staff secured competitive external awards that strengthened infrastructure and skills. Guided by Vision 2036 and the SDGs, we focused on research that is locally grounded, globally connected, and visibly useful to Botswana. We enter the new year with momentum, clarity of purpose, and a strong culture of collaboration and mentorship.

Looking ahead, we will consolidate our open-science ecosystem (OSCAR 2.0), scale the EPIC living-lab model with councils and communities, and progress the blueprint for an e-Health Research Centre. Priority themes include climate-smart science (water, biodiversity, energy), bio-prospecting and natural-products pipelines, and responsible AI and data science. We will strengthen researcher support through grant incubation, methods clinics, and robust ethics and reproducibility practices, while expanding postgraduate training and entrepreneurship pathways, from prototyping to IP and spinouts.

Together with our partners, we will track impact more rigorously and grow science that drives Botswana's knowledge-based economy.

FACULTY RESEARCH PUBLICATION

This year (2024/25), the Faculty of Science produced 108 Scopus/ Web of Science-indexed outputs. Peer-reviewed articles dominated (92), complemented by reviews (6) and book chapters (2), with conference items and editorials rounding out the remainder. Collaboration remained robust: 73% of outputs included at least one international co-author, and team sizes reflected active networks.

Our work appeared across a broad spread of reputable outlets, with the highest volumes in the Journal of Asian and African Studies, ACS Omega, Scientific Reports, Frontiers in Microbiology, and Natural Product Research, signalling strong contributions in health (including HIV), chemistry and natural products, environmental sciences, and quantitative disciplines. Going forward, we will continue to strengthen open-science practices, support early-career researchers, and encourage cross-faculty co-authorship to sustain both quality and societal impact.

FACULTY RESEARCH FUNDING

This year, the Faculty of Science managed 11 active grants totalling USD 2.65 million (BWP 18.51 million), alongside 6 newly awarded grants totalling USD 573,386 (BWP 7.80 million). Average sizes were USD 240k for active and USD 95k for new awards. Funding is moderately concentrated, the top three funders account for 73% of active and 90% of new award value, reflecting a focused but strategic portfolio.

The funding mix shows a healthy balance: international/regional sources provide ~86% of active grant value (EU/ Erasmus+), while new awards skew domestic (65%) through the Ministry of Communication and Innovation (MCI),

which is a signal of strong national co-investment. Illustrative highlights include the Erasmus+ "Open Science Communities" programme, NIH's DSPACE data-science work in health, SASSCAL TIPPEX on climate tipping points, and MCI's Academic Track for Sodium-Ion Batteries. Together, these investments strengthen open science, climate resilience, health analytics, and emerging technologies, advancing a research pipeline that is locally relevant and globally networked.

FEATURED PROJECTS

1 OSCAR 2.0, TOWARDS OPEN SCIENCE COMMUNITIES IN SUB-SAHARAN AFRICA

Principal Investigator: Dr Audrey Masizana
Funder: EU Erasmus+ Programme, **EUR 111,157.61 (BWP 1,513,377.85)**
Duration: 1 February 2024 – 31 December 2026

Across Botswana and Zambia, valuable research outputs are often hard to find, reuse, or verify due to fragmented systems, limited repository infrastructure, and policies that don't yet reward sharing of data, code, and methods. OSCAR 2.0 tackles these bottlenecks by building practical Open Science communities and aligning people, policy, and platforms. The project convenes researchers, librarians, IT teams, and policymakers to co-design workable incentives and governance; stands up core infrastructure (institutional repositories, data workflows, training modules); and embeds Open Science in curricula and research support services. By normalising transparent, reproducible practices, and linking local priorities to international standards, OSCAR 2.0 aims to speed knowledge exchange, raise research quality and visibility, and strengthen the evidence base for teaching, innovation, and policy.

WHY IT MATTERS:

Open, reproducible research increases the return on public funding, elevates the visibility of African scholarship, and accelerates evidence-informed decision-making across health, environment, and technology.

EXPECTED OUTPUTS & IMPACT:

- Institutional Open Science policies and governance frameworks.
- Operational repositories, data-management workflows, and training toolkits.
- Staff and student capacity-building (short courses and curriculum inserts).
- Multi-stakeholder forums and communities of practice across partner HEIs.
- Improved research visibility, integrity, and reuse within and beyond the region.

WHO BENEFITS?:

Researchers and students; librarians and research managers; government agencies and national councils; local communities accessing publicly funded research.

NEXT STEPS:

Finalise institutional policies; deploy priority infrastructure; roll out training and curriculum modules; train OS champions in partner units; mobilise additional support for infrastructure and policy engagement.

FACULTY OF SCIENCE (CONTINUED)

2 FOCUS ON AFRICA SPACE SCIENCE AND TECHNOLOGY 4 FUTURE DEVELOPMENT (FAST4FUTURE)

Principal Investigator: Dr Rapelang E. Simon,
Funder: European Commission (Belgium), **EUR 669,614 (BWP 9,116,601)**
Duration: 1 November 2023 – 30 November 2025

FAST4Future advances space science and Earth-observation (EO) capacity for practical use in Botswana and the region. The project develops workflows that turn satellite data into decision-ready insights for range land and crop monitoring, drought and flood risk, and water-body management. By pairing EO analytics with local field validation and user training, the team is building repeatable tools (dashboards, alerts, maps) that ministries, extension services, and researchers can use to plan, allocate resources, and respond faster to climate and environmental shocks.

WHY IT MATTERS:

Reliable, timely EO data enables smarter decisions in a climate-stressed, water-scarce context, improving preparedness, productivity, and public service delivery.

EXPECTED OUTPUTS & IMPACT:

- Pilot dashboards and geospatial products for agriculture, disaster risk, and water resources.
- Standard operating procedures for EO data ingestion, analysis, and reporting.
- Practitioner training (short courses) and user guides for government and research teams.
- Evidence and methods to inform integration of EO into national monitoring programmes.

WHO BENEFITS?:

Government agencies (agriculture, environment, water, disaster management); scientists and students; farmers and cooperatives; planners and local authorities.

NEXT STEPS:

Finalise pilot use-cases with partner agencies; expand field validation; deliver training for end-users; publish tools and methods; prepare scale-up options for national adoption.

3 OPPENHEIMER MASTERS SCHOLAR PROGRAMME

Principal Investigator: Prof Jeremy Perkins
Funder: Oppenheimer Generations Foundation (South Africa), **GBP 37,440 (USD 40,200; BWP 547,275)**
Duration: 1 July 2022 – 30 June 2025

This postgraduate scholarship programme strengthens Botswana's research talent pipeline by supporting master's students in priority science areas (e.g., climate resilience, biodiversity, health, data science). Scholars receive tuition support, research mini-grants, and structured supervision, enabling fieldwork, laboratory work, and applied analyses aligned to national needs. The programme emphasises rigorous methods, open research practices, and communication skills (policy briefs, community feedback, and conference presentations) to ensure that dissertations translate into usable evidence for decision-makers.

WHY IT MATTERS:

Targeted investment in early-career scientists builds local expertise, improves retention, and accelerates problem-solving on challenges such as climate variability, public health, and sustainable resource management.

EXPECTED OUTPUTS & IMPACT:

- Completed Master's dissertations, journal submissions, and policy briefs.
- Skills transfer in research design, data analysis, and scientific writing.
- Alumni ready for roles in academia, government, and industry; stronger supervisor capacity and departmental research culture.

WHO BENEFITS?:

Master's students and supervisors; academic departments; government and NGOs seeking evidence; communities benefiting from applied research.

NEXT STEPS:

Support thesis completion and examinations; facilitate dissemination (seminars, briefs, conferences); broker placements with partner agencies; establish an alumni/mentorship network and track graduate outcomes.

TIPPING POINTS EXPLAINED BY CLIMATE CHANGE (TIPPECC)

4

Principal Investigator: Prof Jeremy Perkins
Funder: SASSCAL, **EUR 242,523 (USD 260,300; BWP 3,543,654)**
Duration: 1 July 2022 – 30 June 2025

TIPPECC investigates how climate change drives "tipping points" in southern African drylands, sudden shifts such as prolonged drought, pasture collapse or shrub encroachment that undermine livelihoods. The team combines satellite data, long-term climate records and field observations to identify thresholds, map hotspots, and test early-warning indicators that land managers can act on.

WHY IT MATTERS:

Anticipating non-linear ecosystem change helps farmers and planners adapt before losses escalate—protecting rangelands, water sources and food security.

EXPECTED OUTPUTS & IMPACT:

- Decision-ready risk maps and hotspot dashboards for rangelands and water resources.
- Threshold/early-warning indicators and monitoring protocols for extension and parks agencies.
- Policy briefs and guidance for adaptive land-use planning and drought response.

WHO BENEFITS?:

Farmers and pastoral communities; land boards and conservation agencies; disaster-risk and water authorities.

NEXT STEPS:

Finalise analyses and publish indicators; co-design operational guidance with agencies; translate findings into policy recommendations and training modules.

FACULTY OF SCIENCE (CONTINUED)

5 AU/NEPAD AFRICA WATER CENTRES OF EXCELLENCE (ACEWATER) III

Principal Investigator: Prof Piet Kenabatho
Funder: European Union (Belgium) — **EUR 123,198.25 (USD 132,200; BWP 1,799,775)**
Duration: 1 January 2024 – 1 July 2026

ACEWATER III strengthens African capacity for integrated water management. At UB, the project advances hydrological monitoring and modelling, water-quality assessment and climate-risk analytics, while training postgraduates and practitioners to apply tools that support allocation, drought planning and catchment restoration.

WHY IT MATTERS:

Reliable water data and skilled people are essential to manage scarcity, protect ecosystem services and sustain agriculture and urban supply under climate stress.

EXPECTED OUTPUTS & IMPACT:

- Calibrated models and datasets for priority basins; water-quality baselines and trend analyses.
- Practitioner short courses and postgraduate training in hydrology/EO/GIS.
- Technical notes and policy dialogues informing basin management and national planning.

WHO BENEFITS?:

Communities and farmers; water authorities and municipalities; researchers and students.

NEXT STEPS:

Consolidate regional collaborations; extend monitoring sites; publish decision-support tools and convene policy roundtables for adoption.

6 DSPACE: UTILISING DATA SCIENCE TO PREDICT AND IMPROVE HEALTH OUTCOMES IN PAEDIATRIC HIV

Principal Investigator: Dr. Gaone Retshabile
Funder: National Institutes of Health (USA), **USD 235,948 (BWP 3,212,362)**
Duration: 1 September 2023 – 31 August 2025

DSPACE applies AI and advanced analytics to routine health records (and related biomarker/genetic signals where available) to predict high-risk events in children living with HIV—particularly metabolic syndrome and tuberculosis. The team builds and validates risk-scoring models and decision-support prototypes that help clinicians identify vulnerable patients earlier, tailor treatment, and streamline referrals. External collaborators include Samuel Kyobe, Eric Katagirya, Busisiwe Mlotshwa, Savannah Mwesigwa, Mogomotsi Matshaba, Dithan Kiragga, and Ahmed Alaa.

WHY IT MATTERS:

Early, data-driven risk detection can reduce complications and hospitalisations in resource-constrained settings, improving child health outcomes and easing pressure on clinics.

EXPECTED OUTPUTS & IMPACT:

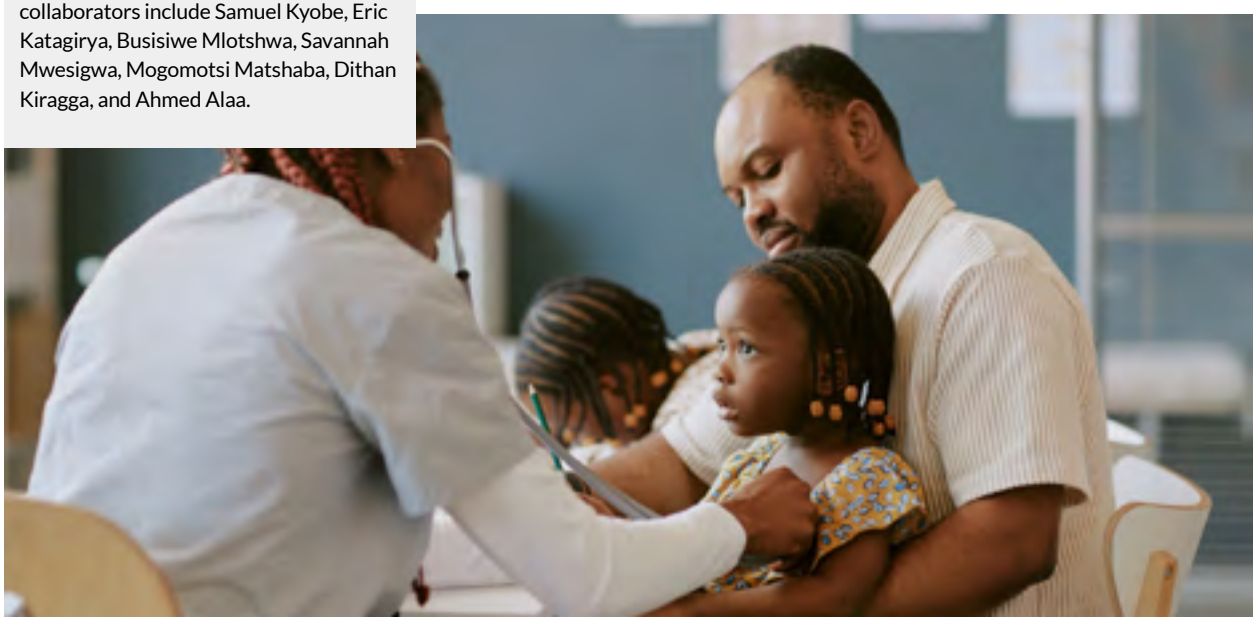
- Validated machine-learning risk models and dashboard prototypes for clinic use.
- Three manuscripts and dissemination workshops for clinicians and policymakers.
- Improved patient stratification and timelier TB/metabolic screening pathways.

WHO BENEFITS?:

Ministry of Health and paediatric HIV clinics; healthcare providers; children living with HIV and their caregivers; research partners.

NEXT STEPS:

Deploy tools in pilot clinics; finalise and submit manuscripts; run national dissemination workshops; expand computational capacity (GPUs, secure storage) to accelerate model training and future NIH bids.



FACULTY OF SCIENCE (CONTINUED)

7

PRODUCTION OF MEDICAL STEROIDS BY FUNGI ISOLATED FROM EXTREME ENVIRONMENTS

Principal Investigator: Dr. Daniel Loeto
Funder: Government of Botswana (MCI), **BWP 1,688,160.40 (USD 123,995)**
Duration: 1 August 2024 – 1 July 2026

This project screens extremophile fungi for their capacity to biosynthesise medically relevant steroids, followed by optimisation of fermentation and downstream purification. The aim is to identify strains and processes that can lower costs and localise supply for essential steroid-based therapies.

WHY IT MATTERS:

Local biomanufacturing of active ingredients can reduce treatment costs, improve medicine security, and seed a biopharma value chain in Botswana.

EXPECTED OUTPUTS & IMPACT:

- Curated culture library and priority strains with steroid-producing pathways.
- Optimised fermentation and purification methods; candidate molecules for testing.
- Partnerships with regulatory and industry stakeholders for translation.

WHO BENEFITS?:

Patients and hospitals; local pharmaceutical manufacturers; regulators; research and training programmes.

NEXT STEPS:

Prioritise high-yield strains; scale up in pilot bioreactors; conduct efficacy/safety assays with clinical partners; progress IP and technology-transfer pathways.

8 ACADEMIC TRACK OF THE BOTSWANA SODIUM-ION BATTERY CATHODE MATERIALS RESEARCH PROGRAMME

Principal Investigator: Dr. James Matshwele
Funder: Government of Botswana (MCI), **BWP 2,817,218.40 (USD 206,925)**
Duration: 22 January 2025 – 23 January 2028

The programme develops sodium-ion battery cathode materials and characterisation workflows to enable affordable, resource-flexible energy storage for Botswana. Workstreams span materials synthesis and testing, prototype coin/pouch cells, and an academic track that trains postgraduates in electrochemistry and battery engineering.

WHY IT MATTERS:

Cost-effective storage accelerates renewable integration and energy access for off-grid and grid-support use cases, reducing reliance on imported, fossil-fuel-intensive solutions.

EXPECTED OUTPUTS & IMPACT:

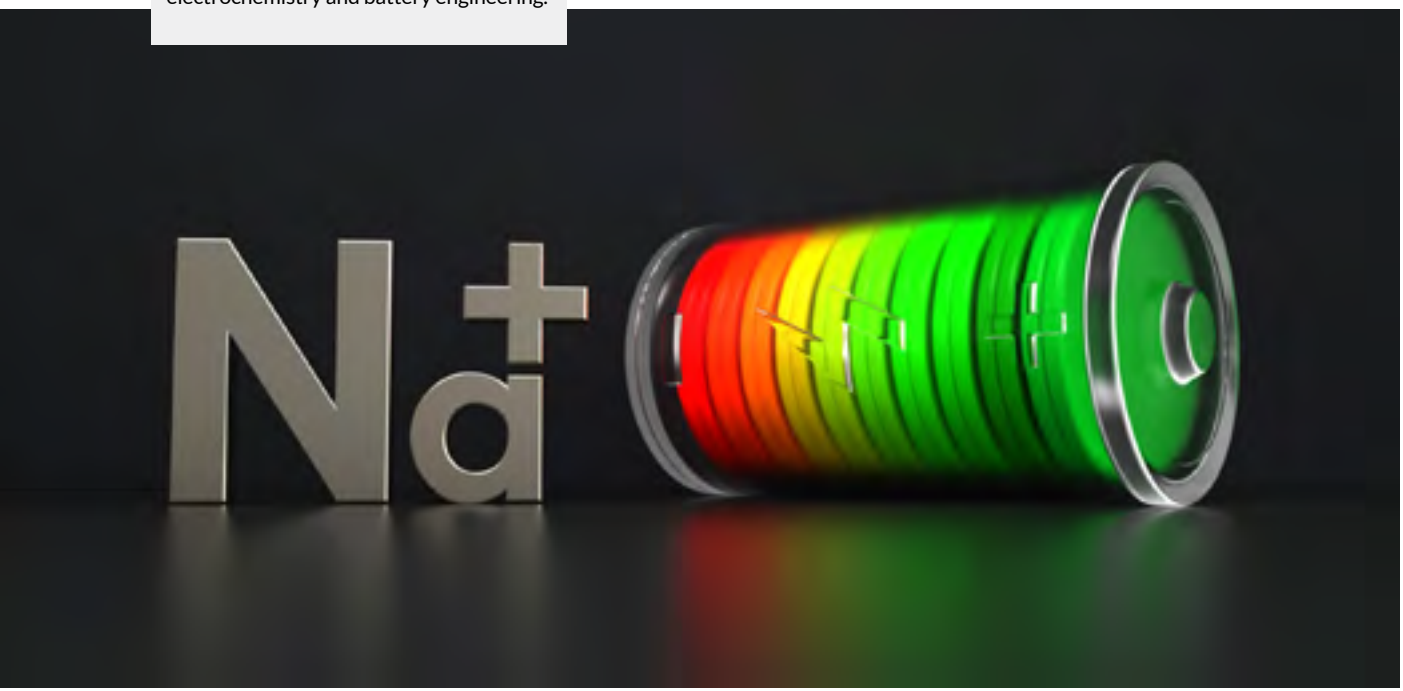
- Prototype cathode powders and validated test cells with performance metrics.
- Methods/toolkits for materials characterisation and battery safety.
- Trained graduates; publications; groundwork for IP and industry partnerships.

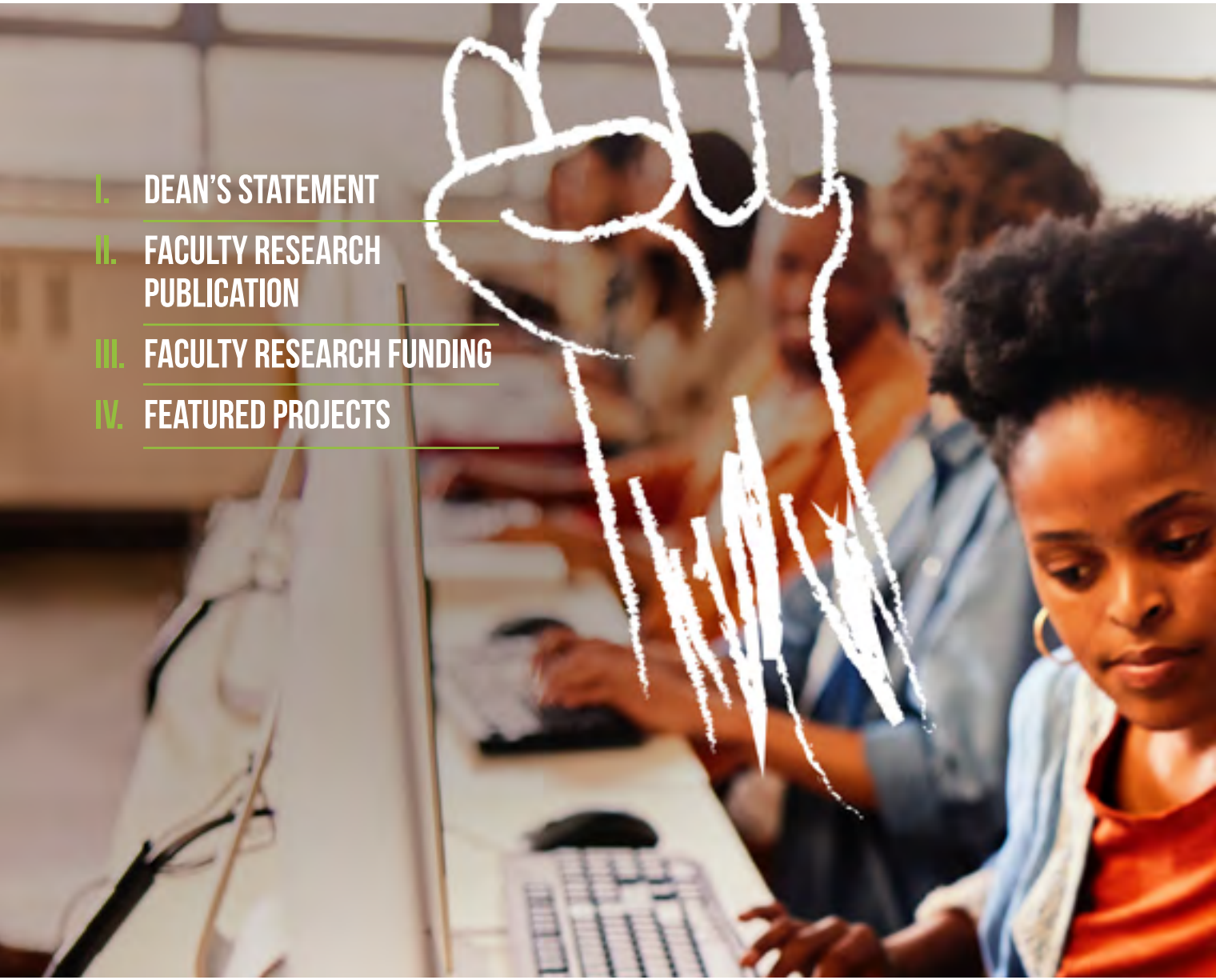
WHO BENEFITS?:

Power and mining sectors; micro-grids and communities; policymakers and standards bodies; researchers and students.

NEXT STEPS:

Optimise cathode compositions; assemble and test coin/pouch cells; engage industry on pilot-line options; develop a national roadmap for sodium-ion R&D and adoption.





FACULTY OF SOCIAL SCIENCES

DEAN'S STATEMENT

Acting Dean, Prof Tachilisa Balule

This year, the Faculty of Social Sciences (FSS) advanced policy-engaged research that speaks directly to Botswana's national priorities and SADC–AU ambitions, equity and social protection, youth well-being and employability, justice and governance, safe and inclusive communities, and evidence-led decision-making.

Flagship efforts include the Social Work Outreach Programme for Research, Policy and Practice (SWOPRPP-UB), which tackles poverty and inequality, GBV, marital dissolution, mental ill-health, crime and delinquency, substance abuse, and lived experiences of chronic illness and disability.

Population Studies remained a national reference point, co-leading analysis of the 2022 Population & Housing Census and United Nations Population Fund (UNFPA) - supported briefs on maternal health and youth well-being, while Law's Law Reform Series convened public dialogue on legislative priorities. Statistics underpinned our evidence ecosystem with work in Bayesian inference, complex survey design, time-series and predictive analytics, biostatistics and stochastic processes, capabilities that strengthen programme evaluation, service delivery and foresight across sectors.

Guided by Botswana's Vision 2036, SDGs, Africa Union Agenda 2063, and UB's new Research and Innovation Strategy, the faculty aims to deepen community-anchored research models, expand training in advanced methods (from impact evaluation to data governance), and scale partnerships that translate findings into policy and practice. Priorities for 2025 include: embedding SWOPRPP-UB pilots into local service pathways; expanding census-to-policy pipelines on youth, health and labour; advancing justice sector reform dialogues; and building shared data assets and dashboards for social protection, health systems and local governance. FSS will continue to incubate early-career scholars, promote open and reproducible research, and track our impact more rigorously, so that FSS remains a trusted partner in Botswana's transition to a knowledge-based, inclusive economy.

FACULTY RESEARCH PUBLICATION

The Faculty delivered 77 indexed publications in 2024/25, with 78% of outputs produced through international collaboration, and a 44 to 33 Scopus–Web of Science split.

FACULTY RESEARCH FUNDING

In 2024/25 the FSS secured one new international award totalling USD 338,000 (BWP 4.60 million). The award was from the European Commission for Towards Enhancing Sustainable and Innovative Environmental Change Solutions (TESIECS) (Jan 2025–Dec 2027), underscoring FSS's ability to compete successfully in European calls and to align social-science expertise with sustainability and innovation priorities.

The funding mix was 100% international this year, led by the European Union. Although the number of new awards was modest, the quality and strategic fit were strong: TESIECS sits at the intersection of environmental transitions, governance, and community outcomes, areas where FSS contributes through policy design, behaviour change, legal frameworks, and data-driven decision-making. The award also provides a platform for cross-department collaboration (e.g., Political & Administrative Studies, Law, Sociology, Statistics) and for engaging government and civil-society partners.

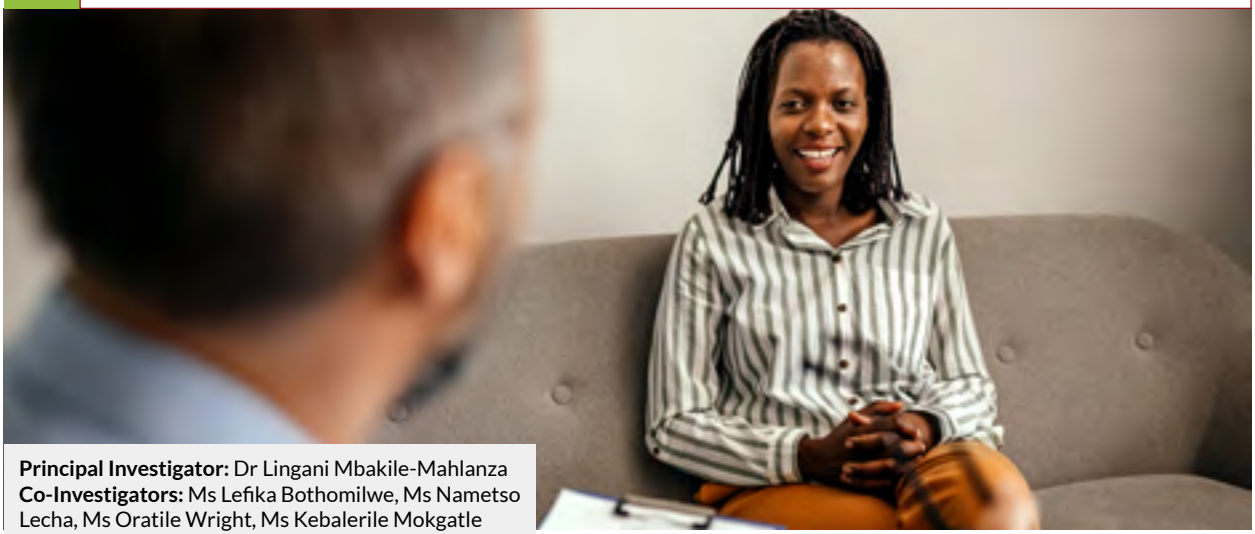
Alongside the new award, FSS continued to deliver on significant multi-year projects that remained active during 2024/25, notably in brain health led from Psychology:

1. **Building Brain Health Research Capacity in Rwanda:** Neurocognition and Neurobehavior Across the Lifespan (NIH, USD 1,204,527)
2. **Validation of a cognitive assessment battery in the Botswana population** (Alzheimer's Association, USD 150,000)
3. **Evaluating the effectiveness of informational supports for people with traumatic brain injury (TBI) and their caregivers** (GBHI, USD 25,000)

FACULTY OF SOCIAL SCIENCES (CONTINUED)

FEATURED PROJECTS

1 VALIDATION OF A COGNITIVE ASSESSMENT BATTERY IN THE BOTSWANA POPULATION



Principal Investigator: Dr Lingani Mbakile-Mahlanza
Co-Investigators: Ms Lefika Bothomilwe, Ms Nametso Lecha, Ms Oratile Wright, Ms Kebalerile Mokgatle
Funder: Alzheimer's Association, **USD 150,000 (BWP ~2,040,000)**
Duration: 1 July 2022 – 30 June 2026

Botswana's clinics lack validated, language-appropriate tools for dementia and related disorders. This project translates, culturally adapts and psychometrically validates tablet- and paper-based instruments (BHA, UCSF Bedside Cognitive Screen, PFAQ), using forward–back translation, expert panels, cognitive interviewing and piloting to reduce bias. It builds Botswana-specific norms and diagnostic cut-offs, prepares clinician user guides and short trainings for non-specialist providers, and maps referral pathways from primary care to specialist services. The aim is national adoption of a robust, feasible battery that improves diagnosis, management and planning for an ageing population.

WHY IT MATTERS:

Without context-valid tools, impairment is missed or misclassified - delaying support for patients and carers and weakening system planning.

EXPECTED OUTPUTS & IMPACT:

- Validated instruments with Botswana-specific norms and cut-offs.
- Quick-reference clinician guides and brief training modules.
- Referral pathways linking primary care to specialist services.
- Data to inform ageing/NCD policy and service planning.
- Earlier diagnosis and more appropriate care plans.

WHO BENEFITS?:

Older adults and families; primary-care and specialist clinicians; health planners and policymakers.

NEXT STEPS:

Complete data collection; finalise norms and guides; roll out provider training and implementation pilots; publish results.

2 EVALUATING THE EFFECTIVENESS OF INFORMATIONAL SUPPORTS FOR PEOPLE WITH TRAUMATIC BRAIN INJURY (TBI) AND THEIR CAREGIVERS

Principal Investigator: Dr Lingani Mbakile-Mahlanza
Co-Investigators: Ms Lefika Bothomilwe, Ms Nametso Lecha | **Funder:** Global Brain Health Institute, **USD 25,000 (BWP ~340,000)**
Duration: 1 August 2023 – 31 July 2025

After TBI, families often leave hospital with limited, fragmented guidance. This pilot co-designs a plain-language, culturally appropriate booklet covering symptom trajectories, red-flag signs, graded return to activity, medication safety, caregiver self-care, community-based rehabilitation and social-protection entitlements. A pre–post evaluation measures changes in knowledge, stress and coping when the booklet is added to routine care. Distribution is tested through outpatient clinics, community health workers and NGOs, building an implementation playbook for low-cost, scalable patient education.

WHY IT MATTERS:

Accessible information reduces anxiety, improves adherence to rehab plans and strengthens recovery for survivors and families.

EXPECTED OUTPUTS & IMPACT:

- Co-designed TBI booklet integrated into discharge packs.
- Evidence of effect on caregiver stress, coping and knowledge.
- Training tips for providers and a referral/resource map.
- Implementation guidance for scale-up across districts.
- Better quality of life for survivors and carers.

WHO BENEFITS?:

TBI survivors; caregivers and families; community and clinical providers; rehabilitation services.

NEXT STEPS:

Complete analysis; refine materials; integrate into routine discharge; scale to additional facilities; disseminate findings.

RESEARCH AND INNOVATION INSTITUTES AND CENTRES

I. OKAVANGO RESEARCH INSTITUTE (ORI)
II. CLEAN ENERGY RESEARCH CENTRE (CERC)
III. SAN RESEARCH CENTRE
IV. UNIVERSITY INNOVATION POD (UniPod)

RESEARCH AND INNOVATION INSTITUTES AND CENTRES (CONTINUED)

OKAVANGO RESEARCH INSTITUTE

Director, Dr Casper Bonyongo

The Okavango Research Institute (ORI) delivers science that protects the Delta and supports Botswana's Vision 2036 and the transition to NDP 12.

This year our agenda centred on water security, climate resilience, sustainable tourism and inclusive livelihoods, responding to drought–flood variability, human–wildlife coexistence, and pressures on land use across the Cubango-Okavango Basin. We strengthened the bridge from research to policy through regular forums with district authorities, technical briefs for ministries, and co-design with communities.

Our teams advanced work in wetland monitoring, ecosystem dynamics and services, and One Health. We expanded remote sensing products for flood risk and vegetation condition, supported community-based tourism analytics, and contributed evidence on rangeland and large-herbivore ecology. Regionally, ORI deepened collaboration with SASSCAL, Limpopo Watercourse Commission (LIMCOM) and Kavango-Zambezi Transfrontier Conservation Area (KAZA), and participated in Global Monitoring for Environment and Security (GMES) & Africa services, improving the data available to decision-makers across borders.

Alongside publications, we invested in postgraduate training, technician upskilling and citizen-science networks to build local capacity that endures.

In the year ahead, we will scale participatory ecosystem-services assessments, enhance greenhouse-gas observations and modelling for tropical wetlands, and develop practical tools, dashboards, risk maps and policy notes, that inform land-use planning, conservation finance and disaster preparedness. ORI's commitment is clear: to convert excellent, collaborative science into solutions that safeguard the Delta, improve well-being in northern Botswana, and strengthen resilience across the wider Southern African region.

RESEARCH PUBLICATION

In the 2024/25 reporting year, the ORI produced a strong and diverse body of scholarly output, reflecting its continued leadership in environmental and water related research. A total of 25 publications were recorded across peer reviewed journals, books, and edited volumes.

The portfolio is dominated by journal articles (22), complemented by book chapters, as well as reviews, a book, and a conference abstract, demonstrating both depth in primary research and contribution to synthesis and knowledge dissemination.

ORI's publications span critical themes including wetland ecology, hydrology, biogeochemistry, climate variability, biodiversity conservation, and sustainable resource management in the Okavango Delta and broader Southern African systems. The work is notably interdisciplinary and collaborative, with contributions involving regional and international partners, reinforcing ORI's position within global research networks.

Collectively, these outputs advance scientific understanding of fragile ecosystems, inform policy and management decisions, and strengthen the evidence base for sustainable development in Botswana and the region.

RESEARCH FUNDING SUMMARY

In 2024/25, ORI secured a total of BWP 3,789,965 in research funding (approximately USD 278,373), reflecting strong national and regional investment in environmental sustainability, water security, and ecosystem resilience.

The funding portfolio was anchored by two major Government of Botswana (MCI) funded projects. The first examines the spread and ecological impact of invasive alien plant species in Kgalagadi and Ghanzi (BWP 893,490 / USD 65,627), generating evidence and community driven solutions to protect rangelands and livelihoods. The second, a flagship biogeochemistry study in the Okavango Delta (BWP 2,596,475 / USD 190,711), is producing the first comprehensive atmospheric deposition budget to inform water quality management in a globally significant ecosystem.

Complementing these is a regional SASSCAL funded wetlands monitoring service (BWP 300,000 / USD 22,035), which provides operational data and decision support tools for transboundary river basins across Southern Africa.

Together, these investments position ORI at the forefront of applied environmental research—delivering actionable science that supports policy, strengthens regional collaboration, and safeguards critical ecosystems and livelihoods.

ORI TOP RESEARCH AREAS

ORI's 2024/25 portfolio clusters into five tightly linked themes that serve Vision 2036, NDP 12 and SDG targets for the Okavango region.

1. Water Resource Management delivers monitoring and models that track flows, flood–drought cycles and water quality, informing fair allocation and early-warning for communities and planners.

2. Ecosystems Dynamics examines vegetation, wetlands, fisheries, rangelands and wildlife, from large herbivores to carnivores, to guide land-use, coexistence and restoration.

3. Ecosystem Services maps and values Delta's benefits (water supply, carbon, tourism, cultural heritage) and tests policy tools that protect these services for local livelihoods.

4. Sustainable Tourism provides evidence on carrying capacity, diversification and community benefits sharing to keep nature-based tourism resilient and inclusive.

5. Climate Change quantifies environmental and socio-economic risks and co-designs adaptation pathways, linking greenhouse-gas observations, scenario planning and practical options for basin governance.

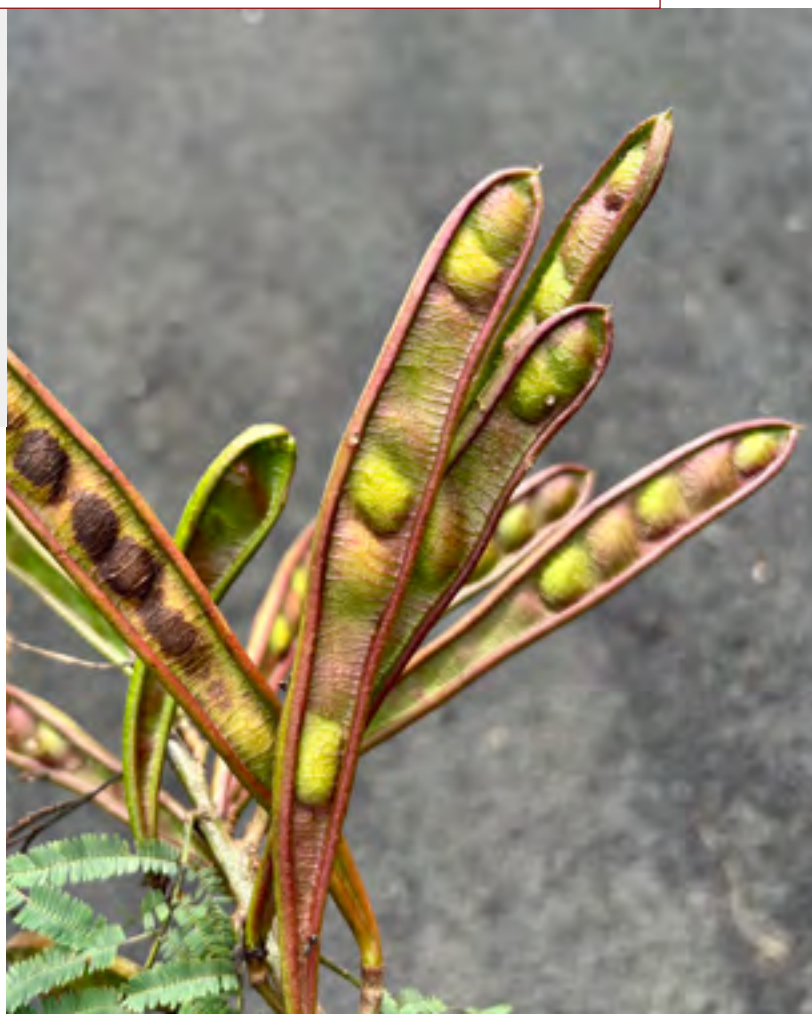
RESEARCH AND INNOVATION INSTITUTES AND CENTRES (CONTINUED)

FEATURED PROJECTS

1 THE DISTRIBUTION AND ECOLOGICAL IMPACT OF INVASIVE ALIEN PLANT SPECIES IN KGALAGADI AND GHANZI DISTRICTS

Principal Investigator: Dr Keotshephile Kashe
Co-Investigators/Partners: Prof D. Fanta (BUAN), Mr D. Ketumile (NARDI)
Funder: Government of Botswana (MCI), **BWP 893,490 (USD 65,627)**
Duration: 1 Aug 2024 – 31 Jul 2026

Botswana's dryland districts face rapidly spreading invasives (e.g., Prosopis, Cenchrus biflorus, Leucaena leucocephala, Verbesina encelioides) that degrade rangelands, deplete groundwater and undermine livelihoods. This study maps invasion hotspots, quantifies ecological and socio-economic impacts, and co-designs control strategies with local authorities and communities to inform a national response.



WHY IT MATTERS:

Controlling invasives protects biodiversity, restores grazing capacity and reduces costs for farmers and councils.

EXPECTED OUTPUTS & IMPACT:

- GIS maps of invasion extent and pathways.
- Field protocols and management guidelines for priority species.
- Policy brief for a national invasive-species framework.
- Targeted community action plans (mechanical/biological control trials).

WHO BENEFITS?:

Farmers and pastoralists; district councils; Department of Forestry & Range Resources; communities in Kgalagadi & Ghanzi.

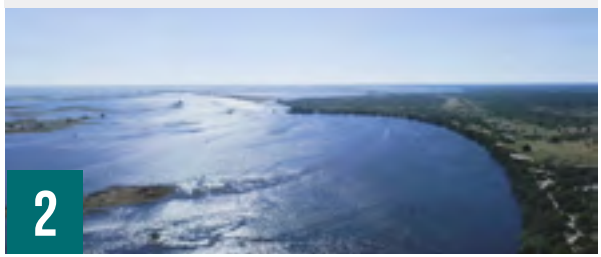
NEXT STEPS:

Complete herbaceous surveys (Mar–Apr 2026); pilot control in priority hotspots; disseminate policy and community toolkits.

THE ROLE OF ATMOSPHERIC DEPOSITION IN THE BUDGET OF PHOSPHORUS, NITROGEN, SILICON AND OTHER POLLUTANTS IN THE OKAVANGO DELTA

Lead Unit: ORI (Water & Biogeochemistry Programme)
Funder: Government of Botswana (MCI), **BWP 2,596,475 (USD 190,711)**
Duration: 1 Aug 2024 – 1 Jul 2026

Nutrient and pollutant inputs from the atmosphere can alter Delta productivity, water quality and food webs. This project measures dry and wet deposition of P, N, Si and trace pollutants across seasons and links fluxes to hydrology and land-use signals upstream, providing the first coherent deposition budget for the Okavango.



WHY IT MATTERS:

Evidence on external nutrient loads helps safeguard a UNESCO World Heritage ecosystem and underpins sustainable tourism and fisheries.

EXPECTED OUTPUTS & IMPACT:

- Seasonal deposition rates and source apportionment.
- Early-warning thresholds for eutrophication risk.
- Decision tools for water-quality management and licensing.
- Peer-reviewed papers and technical briefs to regulators.

WHO BENEFITS?:

Ministry responsible for environment & water; tourism operators; fisheries; communities reliant on Delta services

NEXT STEPS:

Complete full annual cycle of sampling; integrate with water-quality models; publish guidance on mitigation options.

WETLANDS MONITORING AND ASSESSMENT SERVICE FOR TRANSBOUNDARY RIVER BASINS IN SOUTHERN AFRICA

Lead Unit: ORI with SASSCAL partners
Funder: SASSCAL (Namibia), **BWP 300,000 (USD 22,035)**
Duration: 11 Jul 2018 – 1 Aug 2025

This service delivers routine wetland indicators, flood extent, vegetation condition, fire scars, to support water security, biodiversity conservation and disaster-risk reduction across key SADC basins, including the Cubango-Okavango. Products are shared with agencies for planning, response and long-term basin stewardship.

WHY IT MATTERS:

Consistent, shared data improves early warning, cross-border coordination and evidence-based land- and water-use decisions.

EXPECTED OUTPUTS & IMPACT

- Operational remote-sensing layers and basin dashboards.
- Training and protocols for national and transboundary use.
- Inputs to RAMSAR reporting and climate-risk planning.
- Stronger data pipelines for OKACOM/KAZA partners.

WHO BENEFITS?

Water authorities, parks & wildlife, disaster-management units, local councils and communities across SADC basins.

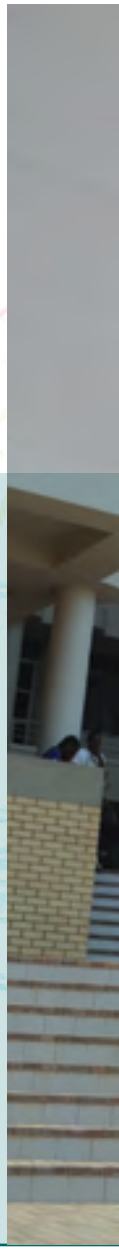
NEXT STEPS

Finalise handover of products; align with successor funding; expand indicators (e.g., sediment/erosion proxies) based on user demand.

RESEARCH AND INNOVATION INSTITUTES AND CENTRES (CONTINUED)

CLEAN ENERGY RESEARCH CENTRE (CERC)

Director, **Prof Kevin N. Nwaigwe**



Across Africa – and in Botswana in particular, reliable, affordable and clean energy remains central to unlocking industrialisation, quality jobs and a just response to the climate crisis.

In 2024/25, CERC translated this mandate into concrete projects that speak directly to Botswana's priority needs. Through the SOLTRAIN+ initiative, we are piloting large-scale solar thermal demonstration systems and building specialist skills among engineers, technicians and entrepreneurs, supporting energy security for institutions while reducing dependence on fossil-based heating and cooling. Our role in the United Nations Environment Programme's Global Environment Outlook (GEO-7) positions Botswana within global debates on energy transitions, while feeding back cutting-edge insights into national planning.

Emerging work on e-mobility, including the feasibility of converting internal combustion vehicles to fully electric, and the planned accreditation of a biodiesel laboratory, align with Botswana's industrialisation and green-growth agenda by opening pathways for new value chains and local manufacturing capacity. Taken together, these initiatives show CERC as a bridge between global knowledge and local solutions, enabling UB to support government, industry and communities in moving decisively towards a low-carbon, climate-resilient future.

External Grants and Flagship Projects (April 2024 – March 2025)
During the reporting period, CERC implemented or contributed to the following key projects:

- **Southern African Renewable Heating & Cooling Training & Demonstration Initiative (SOLTRAIN+)**
  - **PI:** Prof Kevin N. Nwaigwe
  - **Funder:** Austrian Development Agency (ADA)
  - **Amount:** EUR 159,637.02 (UB share)
  - **Duration:** Jan 2023 – Dec 2026
- **Global Environment Outlook, Seventh Edition (GEO-7) – United Nations Environment Programme (UNEP)**
  - **PI:** Prof Kevin N. Nwaigwe
  - **Support:** In-kind consultancy; all incidental expenses covered by UNEP
  - **Duration:** Jan 2023 – Dec 2025
- **Retrofitting a Hilux Internal Combustion Vehicle to Fully Electric (e-mobility demonstration)**
  - **PI:** Dr T.T. Akano
  - **Status:** Feasibility study report submitted to Botswana Power Corporation (BPC) for funding consideration
  - **Duration (feasibility phase):** Feb 2024 – Oct 2025
- **Accreditation of Biodiesel Laboratory**
  - **PI:** Prof J. Gandure
  - **Amount:** BWP 1.0 million
  - **Duration:** Oct 2025 – Jun 2026 (approved project that will further strengthen UB's biodiesel testing capacity beyond the current reporting period)

INNOVATION & ENGAGEMENT ACTIVITIES

- One Master's student from BIUST is registered under the SOLTRAIN+ project, contributing to regional capacity building in renewable heating and cooling technologies.

INTERNATIONALISATION

CERC's work in 2024/25 was strongly outward-facing, with staff contributing to regional and global platforms on sustainable energy:

- Hosted the 8th **SOLTRAIN+ Conference** at UB (24–28 February 2025), attracting **over 400 participants** from SADC and Europe and showcasing regional progress in decarbonising the energy sector.
- **Presented research outputs at major international conferences, including:**
  - **10th Thermal and Fluids Engineering Conference (TFEC 2025)** at George Washington University, Washington DC, USA (one oral presentation).
  - **International Sustainable Energy Conference (ISEC 2024)** in Graz, Austria (three outputs: one oral, two posters).
  - **EuroSun 2024 – ISES & IEA SHC International Conference on Sustainable and Solar Energy for Buildings and Industry** in Limassol, Cyprus (two outputs: one oral, one poster).
  - **5th International Conference on Solar Technologies and Hybrid Mini-Grids to Improve Energy Access** in Palma de Mallorca, Spain (two outputs: one oral, one poster).
- Contributed to the **UNEP GEO-7** process through active participation in the authors' meeting in Nairobi, Kenya, where a CERC researcher served as **Coordinating Lead Author** for the Energy Transformation pathway chapter.

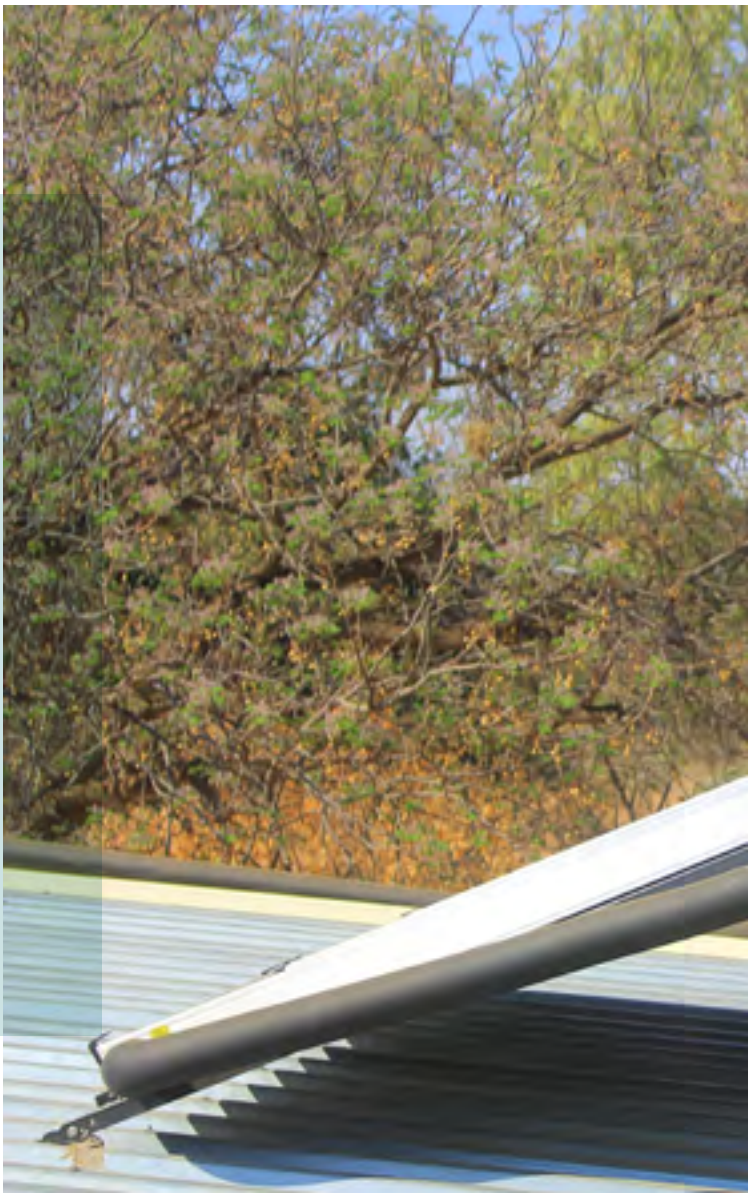
These activities significantly enhanced UB's visibility in global clean energy networks and strengthened Botswana's voice in international climate and energy policy discussions.

RESEARCH AND INNOVATION INSTITUTES AND CENTRES (CONTINUED)

NOTABLE RESEARCH OUTPUTS, DEMONSTRATION PROJECTS AND IMPACT

Through SOLTRAIN+, CERC advanced tangible, measurable impacts in Botswana's energy landscape:

- **Demonstration Systems:**
  - Installed eight solar thermal systems at the UB (total collector area 256 m², total storage 20,000 litres) and four systems at Pudulogong Rehabilitation Centre in Mochudi (collector area 45.9 m², storage 3,600 litres). These systems are helping beneficiary institutions reduce energy costs while showcasing the viability of solar thermal technology at institutional scale.
- **Capacity Building:**
  - Delivered specialised training workshops on the design, installation and maintenance of solar thermal systems to young engineers, technicians, plumbers and entrepreneurs, including tailored workshops with Botswana Ash (Botash), Morupule Coal Mine, and UNDP Botswana's SDP project.
  - Hosted an all-female training for women practitioners and enthusiasts in the energy sector, contributing to gender inclusion in clean-energy value chains.
  - In total, over 150 participants were trained in 2025 alone across these activities.
- **Policy Support**
  - Continued implementation of the Botswana Solar Thermal Roadmaps and Implementation Plan (BSTTR) and development of associated bankable proposals, providing government and industry with a clear pathway to scale up renewable heating and cooling systems.



Through SOLTRAIN+, CERC advanced tangible, measurable impacts in Botswana's energy landscape:

CHALLENGES AND FUTURE PRIORITIES

CERC's growth and impact are constrained by limited core resourcing. The Centre currently operates without dedicated administrative support or full-time research staff, and the Director's role is not supported by a responsibility allowance, all of which affects day-to-day operations and the ability to fully leverage external partnerships and funding opportunities.

Going forward, key priorities include:

- Securing seconded administrative staff and establishing post-doctoral/doctoral research posts dedicated to CERC.
- Strengthening the biodiesel laboratory accreditation project to position UB as a national reference lab for biofuels quality testing.
- Advancing e-mobility research and demonstrations (e.g. the Hilux EV conversion) in alignment with national decarbonisation and industrialisation agendas.
- Expanding the portfolio of solar thermal and other clean-energy demonstration projects with government, industry and social institutions across Botswana and the wider SADC region.

With these enhancements, CERC can significantly scale up its contribution to research excellence, innovation, and the just energy transition in Botswana.

SAN RESEARCH CENTRE

Director, Prof Maitseo Bolaane

The San Research Centre exists to advance rigorous, community-grounded scholarship on San languages, culture, livelihoods and rights, while opening pathways for San and other marginalised students to participate fully in higher education. In 2024/25, we deepened this dual mandate of research excellence and inclusion by consolidating our role as a national and regional hub for indigenous studies.

During the reporting period, the Centre helped to finalise and submit the National Action Plan on the Preservation of San Languages, Culture and Knowledge in Botswana, building on the Palms for Life Fund partnership, and continued as a technical partner on the Tsee xg'ae (Work Together): Engage for Change project in Ghanzi District. We strengthened the postgraduate pipeline through the Mølmann Øvernes Graduate Scholarship and the Erasmus+ Global Mobility Indigenous Studies Scholarship, supporting students whose dissertations directly address San conservation agriculture, groundwater, language and social justice. We further enhanced our international profile by hosting postdoctoral and affiliated researchers from Europe and North America, and by expanding our hybrid seminar series that brings together scholars, citizen researchers and San community partners. Looking ahead, our priority is to secure sustainable funding that will enable us to scale community-driven research and policy engagement in partnership with San organisations, government and global allies.

GRANTS AND FLAGSHIP PROJECTS

During the 2024/25 reporting period, the San Research Centre continued to attract focused external funding that advances its mandate on San languages, culture, livelihoods and rights, while strengthening the capacity of civil society actors working with San communities. Key grants and flagship projects included:

- **National Action Plan on the Preservation of San Languages, Culture and Knowledge in Botswana (2024–2026)** – Funded by Palms For Life Fund Botswana (BWP 207,350), this project supported a national forum and subsequent stakeholder meeting, culminating in a National Action Plan now in the public domain. The Plan provides a structured roadmap for government and partners to safeguard San languages, cultural practices and knowledge systems.

- **Tsee xg'ae (Work Together): Engage for Change –** Implemented by Stepping Stones International with the San Research Centre as a technical partner, this initiative strengthens the capacity of civil society organisations in Ghanzi District to better serve marginalised and indigenous communities. The project focuses on the rights and well-being of San women and children, combining research, training and advocacy to support more inclusive local development.
- **Erasmus+ Global Mobility Programme – Indigenous Studies Scholarship –** Through the University of Tromsø (UiT), the Centre secured a fully funded mobility award for a UB graduate student to undertake coursework and research in Indigenous Studies in Norway. The scholarship deepens the Centre's international collaborations and enriches comparative research on indigenous languages, resistance and social justice.

Collectively, these grants demonstrate the Centre's ability to leverage targeted funding into policy-relevant outputs, strengthened civil society capacity and expanded international partnerships.

POSTGRADUATE RESEARCH AND GRADUATE SCHOLARSHIPS

The San Research Centre plays a pivotal role in building a new generation of scholars whose work is directly relevant to San communities and other marginalised groups. The Mølmann Øvernes San Research Centre Graduate Scholarship supports three graduate students whose research spans environmental science, geophysics and linguistics. Their work addresses climate-resilient agriculture for San livelihoods, groundwater access and quality in marginalised communities, and the documentation of an under-described San language.

In addition, an Erasmus+ Indigenous Studies mobility scholarship supported a UB PhD student to spend a semester at UiT, focusing on language, resistance and national language planning from an Indigenous Studies perspective. Together, these scholarships and mobility opportunities strengthen the postgraduate pipeline, anchor advanced research in the realities of San communities, and deepen UB's role in global indigenous studies.

INTERNATIONALISATION, AFFILIATIONS AND RESEARCH NETWORKS

In 2024/25, the San Research Centre strengthened its international profile through an Erasmus+ Indigenous Studies mobility placement at UiT and active collaborations with four international research affiliates and three citizen researchers, working on San languages, cultural dispossession, environmental change, nutrition, lifelong learning and indigenous rights.

COMMUNITY ENGAGEMENT AND LOCAL PARTNERSHIPS

In 2024/25, the San Research Centre deepened local engagement by co-hosting a National Forum and follow-up stakeholder meeting with Palms For Life Fund Botswana, resulting in a National Action Plan (2024–2026) on the preservation of San languages, culture and knowledge. The Centre also joined a multi-partner workshop in Maun with CIBIO, TwinLab and ORI to explore collaboration on a molecular laboratory, Okavango Basin migration research and aquaculture skills development for //Anikhwe youth in Xakawe, strengthening links between research, communities and implementation partners.

UNIVERSITY INNOVATION Pod [UniPod]

Director, **Prof Richie Moalosi**

Botswana stands at a pivotal moment. As we transition towards Vision 2036's knowledge-driven economy, we face real constraints: youth unemployment, a skills–industry mismatch, climate and resource pressures, and a thin early-stage innovation pipeline.

Universities must therefore do more than teach, they must convert ideas into ventures, prototypes into products, and research into livelihoods.

As the founding Director of the UniPod, launched on 16 December 2024 at UB, I am deeply grateful for the opportunity to lead this response. Built in partnership with UNDP, the Ministry of Higher Education and the Botswana International University of Science and Technology, and powered by USD 1.4 million from UNDP's Pan-African Timbuktoo initiative, UniPod provides a national "maker-to-market" platform. Our state-of-the-art prototyping facilities (including 3D printers and laser cutters), venture-building programmes, and industry linkages are closing the gap between academia and the marketplace.

In 2024/25, UniPod helped catalyse 12 start-ups through the Sustainable Technology & Indigenous Knowledge Makeathon and the Unleash Hackathon. Notable ventures include Xaxaba Pharma, advancing indigenous gout treatments, and Kudza Organiks, producing sustainable organic products. These teams show how Botswana's science, design talent and heritage knowledge can create jobs and climate-smart solutions. Looking ahead, UniPod will scale renewable-energy prototyping (including solar projects), expand inclusive incubation (with MIT partners), and deepen commercialisation support so more founders can move from proof-of-concept to first customers, here and across the region. I remain humbled by the trust placed in us by our partners, colleagues, students and entrepreneurs. Together, we will build a vibrant, inclusive innovation engine for Botswana and the wider SADC region.

FUNDING OF UniPod

UniPod was established with start-up capital from UNDP, which invested approximately USD 1.4 million through its Pan-African Timbuktoo initiative. This funding financed the refurbishment and fit-out of UniPod's facilities and the acquisition of core equipment and machinery for the labs (including advanced prototyping tools such as 3D printers and laser cutters).

Following the capital phase, UB has assumed responsibility for UniPod's ongoing funding, covering operations, staffing, maintenance and future upgrades, thereby embedding UniPod within the University's institutional budget and ensuring its long-term sustainability.

INNOVATION & ENGAGEMENT ACTIVITIES

Within a period of a year, UniPod has rapidly become Botswana's "Concept-to-creation" engine — an open, hands-on space, where learners, researchers, founders and industry co-create practical solutions. Sitting at UB, the Pod blends prototyping facilities with venture-building support to translate ideas into minimum demonstrable products and, ultimately, sustainable ventures. Its programmes prioritise youth empowerment, digital and green skills, and the responsible use of indigenous knowledge—directly addressing national challenges such as unemployment, skills gaps and climate resilience while advancing Vision 2036's knowledge-driven growth. Through inclusive challenges, hackathons and skills sprints, UniPod is stitching together a vibrant local innovation ecosystem and linking it to regional and global networks.

Highlights:

1. Launched the Falling Walls Lab Gaborone in June 2025: UniPod joined the global Berlin based network of innovators in June 2025 and successfully hosted the global breakthrough-ideas platform, positioning Botswana's young innovators on the international stage on 26 September 2025.
2. SMME Digital Upskilling (June 2025): Partnered with BCS Digital Skills Academy and the Local Enterprise Authority (LEA) to equip SMMEs with practical digital capabilities for productivity and market access.
3. Botswana Robotics and Automation Skills Transfer (BRAST) Competitions (5 & 9 May 2025): Convened secondary-school teams to build foundational STEM, robotics and teamwork skills.
4. Community Engagement & Visibility: Active support for digital learning and entrepreneurship, with ongoing updates and opportunities shared via Facebook, LinkedIn and Instagram.
5. Youth Empowerment: Continued focus on job creation and problem-solving pathways for young innovators across Botswana.

In 2024/25, UniPod helped catalyse 12 start-ups through the Sustainable Technology & Indigenous Knowledge Makeathon and the Unleash Hackathon.

RESEARCH AND INNOVATION INSTITUTES AND CENTRES (CONTINUED)

FEATURED PROJECTS

1 SUSTAINABLE TECHNOLOGY AND INDIGENOUS KNOWLEDGE MAKEATHON 2024

In 2024, UniPod hosted the Sustainable Technology and Indigenous Knowledge Makeathon, drawing innovators with minimum viable products as well as those at the ideation stage to collaborate in multidisciplinary teams. Using an open-innovation framework, UniPod convened key ecosystem actors, industry partners, innovators and university departments, to pool resources and accelerate the translation of ideas into Minimum Demonstrable Products (MDPs).

OBJECTIVES:

- Develop minimum-demonstrable green-technology products.
- Advance products inspired by indigenous knowledge.
- Stimulate new intellectual property registrations, particularly in indigenous knowledge and green-tech domains.

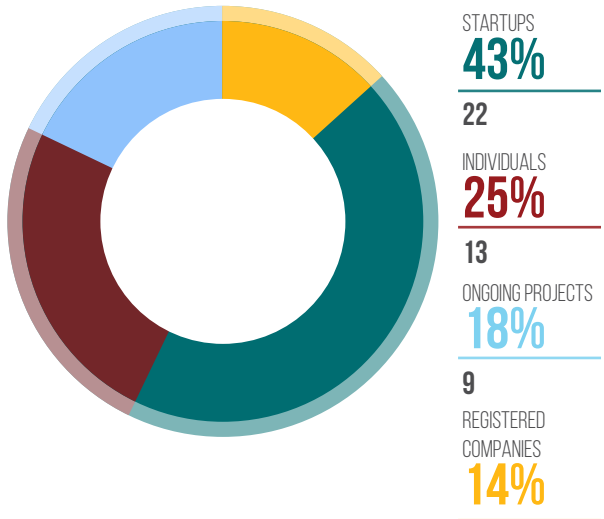
WHO BENEFITS?:

- Sustainable Technology
- Food or agri-tech solutions
- Smart and sustainable mining solutions
- Smart mobility (components and accessories)
- Waste-to-value and energy solutions
- Renewable energy
- Indigenous Knowledge
- Alternative-medicine solutions
- Skin and body-care solutions

PARTICIPATION AND TEAMING

A total of 51 innovators responded: 7 from registered companies (~14%), 22 from startups (~43%), 13 individuals (~25%), and 9 from ongoing projects (~18%). The distribution is illustrated in Figure 1. To overcome siloed working, applicants were encouraged to form challenge-based teams. Most proposals entered at TRL 1–2, underscoring UniPod's role in early-stage product development and capability building.

Output mix



START-UPS GENERATED

Within a period a year, six potential start-ups emerged from the Makeathon, all of which have entered incubation at UniPod:

- Xaxaba Pharma: alternative-medicine therapies for arthritis.
- Eco-Step: solar tiles for building-integrated and off-grid power.
- Fertex / Forchem: bio-fertiliser produced from organic waste streams.
- Wethemba: an indigenous-knowledge management system (capture, curation, access, IP).
- Novus Generation: treatment development for Foot-and-Mouth Disease.
- Kudza Organiks: organic animal feeds using locally sourced inputs.

Status: All six ventures are currently being incubated at UniPod.

RESEARCH AND INNOVATION INSTITUTES AND CENTRES (CONTINUED)

UNLEASH HACKATHON 2025

Botswana's public-health system faces persistent constraints, limited tools and infrastructure, data gaps, logistics challenges and affordability barriers, that affect providers and patients alike. UNLEASH Hack Botswana convened developers, designers, healthcare professionals and entrepreneurs to interrogate these bottlenecks and co-create workable solutions for public hospitals and communities. The hackathon was delivered with the UNDP Regional Office, Sir Ketumile Masire Teaching Hospital (SKMTH), UB Clinic, BDIH, CIPA and other partners. Teams explored themes spanning healthcare access, monitoring, data systems, medical devices and materials.

OBJECTIVES

- Create a conducive environment for home-grown public-health solutions with commercial potential.
- Bridge innovators, industry and public healthcare to develop relevant solutions for local and international markets.

PARTICIPATION & OUTCOMES

Thirty-four participants took part. Six start-ups emerged:

- Primer: disease and disaster surveillance system
- Beats: medical treatment inventory management system
- Motho: medical HR management system
- Kgolagano: vital-signs monitoring machine
- Bophelo AI: centralised medical data warehouse
- Medisol: queue-management system

In addition, Design Initiates produced a public-hospital medical bed prototype.

All teams are refining solutions with SKMTH and the UB Clinic as mentors and pilot sites and are now incubated at UniPod.

UniPod FEATURE COMPANIES

MORUA JUNCTION T/A FREEME STORE

FREEME STORE
GROCERIES MADE SIMPLE

Founders: Ofentse Maokaneng and Tinotenda Rusere (UB alumni): An on-demand online grocery sourcing and delivery service launched March 2025; purchases are made post-order from supermarkets/wholesalers.

KEY MILESTONES

- 60+ orders in the first three months
- Revenue > P10,000 to date
- Early social traction (e.g., 1,000 TikTok followers in one week)
- Serving households and small food businesses facing transport constraints

NEXT STEPS

- Customer growth: targeted campaigns on Facebook, Instagram and TikTok; discounts and loyalty programmes
- Operations: add drivers and a second vehicle to streamline delivery
- Technology: build a mobile app with payments and live tracking; use analytics for personalised offers
- Scale & funding: pursue seed funding/grants; expand beyond Gaborone as capacity grows

KUDZA ORGANIKS

Founders: Abisha Nowa, Marshall Marimbe, Kutlo Omondi, Baganetsi Mmolawa, Aobakwe Letus (Aobakwe is a UB alumnus).

An agritech start-up converting organic food waste via insect-based processing into chitin, organic animal feed, insect-based oil and organic fertiliser—advancing circular-economy agriculture.

KEY MILESTONES

- Four product streams produced (chitin, feed, oil, fertiliser)
- First product samples passed accredited lab tests (South Africa); commercialisation-ready
- Early interest from VCs and angel investors

NEXT STEPS

- Raise funding for commercialisation
- Secure a production site

XAXABA PHARMA (PTY) LTD

Founders: Thomo Mashawe, Dr Kelebogile Mfundisi, Murphy Tladi (ORI, Maun).

Developing a gout arthritis therapy from an indigenous plant containing an FDA-approved active compound.

KEY MILESTONES

- Successful hand-pollination of wild plants to increase seed yields
- Initial extractions completed; ready for active-compound validation

NEXT STEPS

- Validate the compound at an accredited lab
- Use established protocols to isolate the active and commercialise via:
- Pure compound sales
- New patented formulations
- Ready-to-use pills (with approved excipients)
- Leverage validation to attract investors/partners
- Obtain required permits and certifications; apply to BoMRA; sell pills as supplements

KEY MILESTONES

With UNDP funding of US$100,000, UniPod will implement:

- Finalisation of the six health-system hack solutions with SKMTH and UB Clinic
- A financial-literacy programme for innovators with Stanbic Bank
- A community solar power project in Ghanzi with Solar Power and Brigade students
- Digital manufacturing upskilling with Orange Digital Centre
- Robotics in remote rural schools with Brainstream
- Market-readiness programming with Start-up Labs
- Hosting Falling Walls Lab Gaborone with the Alliance for African Partnership
- MIT collaboration to incubate 20 student-led businesses for six months


A-D

LIBRARY SERVICES

LIBRARY SERVICES

Acting Director, **Ms Molebelli Botlhole**

The Department of Library Services continues to provide comprehensive research support through its core service areas, including faculty services, research support, and digital and knowledge management. In pursuit of strengthening institutional capacity in these domains, the Library established a strategic collaboration with Northwestern University (USA), culminating in a successful application for funding under the Institute for Global Health (IGH) capacity building grant.

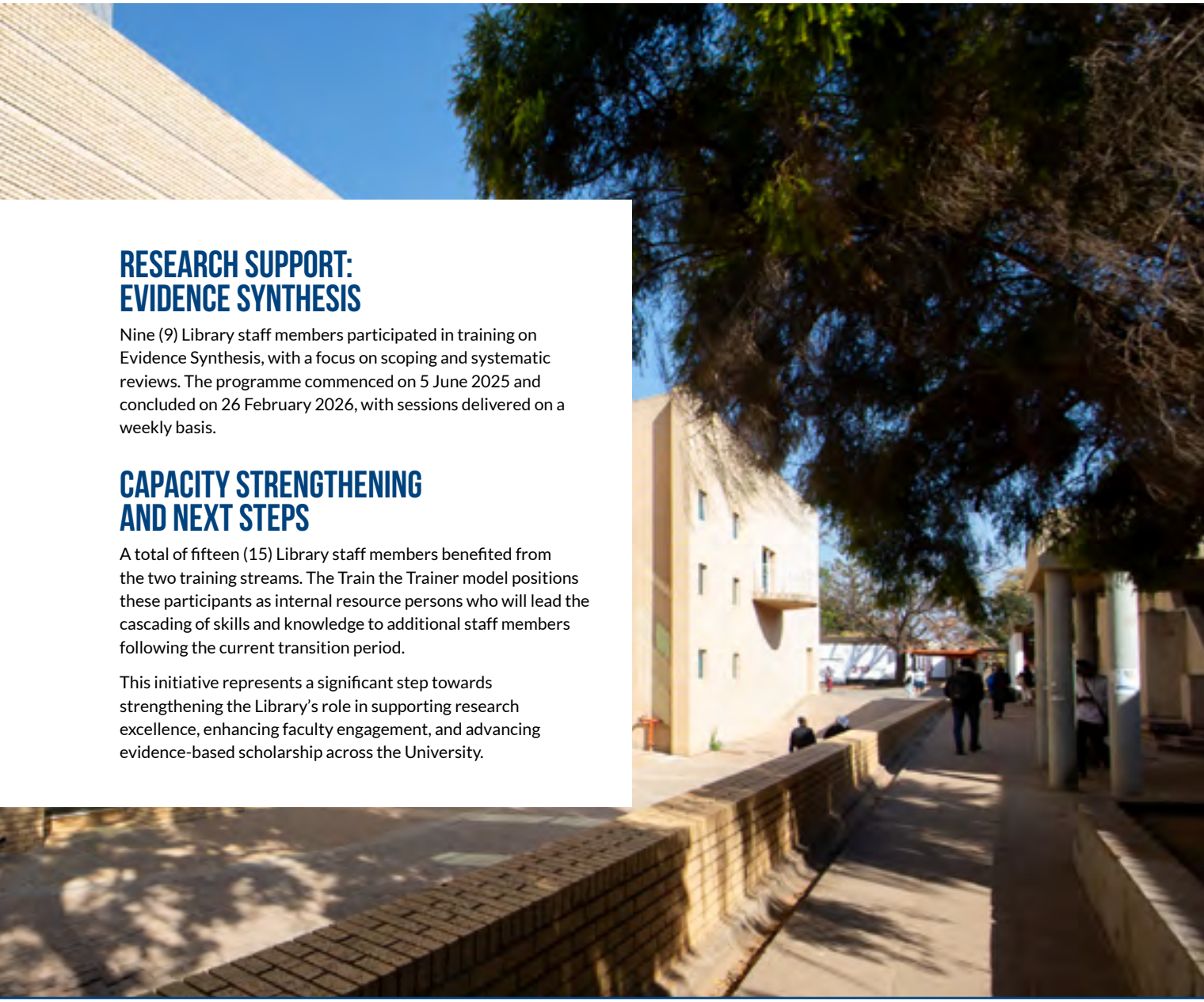
This partnership enabled the implementation of a structured Train the Trainer programme, designed to enhance internal expertise and facilitate sustainable knowledge transfer across Library staff. The programme was delivered in two thematic streams:

FACULTY SERVICES: INFORMATION LITERACY

Six (6) Library staff members participated in the Information Literacy training programme, conducted from 27 February to 8 May 2025.

Following completion of the training, participants undertook a comprehensive revision of UB's Information Literacy modules, integrating insights and methodologies acquired during the programme. The revised modules have been submitted to Northwestern University for assessment.

Upon approval, the trained staff will cascade the updated content and skills to other Library personnel, thereby broadening institutional capacity in information literacy delivery.



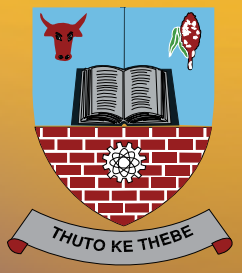
RESEARCH SUPPORT: EVIDENCE SYNTHESIS

Nine (9) Library staff members participated in training on Evidence Synthesis, with a focus on scoping and systematic reviews. The programme commenced on 5 June 2025 and concluded on 26 February 2026, with sessions delivered on a weekly basis.

CAPACITY STRENGTHENING AND NEXT STEPS

A total of fifteen (15) Library staff members benefited from the two training streams. The Train the Trainer model positions these participants as internal resource persons who will lead the cascading of skills and knowledge to additional staff members following the current transition period.

This initiative represents a significant step towards strengthening the Library's role in supporting research excellence, enhancing faculty engagement, and advancing evidence-based scholarship across the University.



UNIVERSITY of BOTSWANA