

UNIVERSITY OF PRETORIA
ANNUAL REVIEW
2021



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

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University of Pretoria Annual Review 2021

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THE WORK WE DO SERVES TO POSITION
THE UNIVERSITY OF PRETORIA, EXPAND
OUR FOOTPRINT OF COLLABORATION AND
INFLUENCE, AND HAVE TANGIBLE IMPACTS TO
MEET **SOCIETY'S CHANGING NEEDS.**

Prof Wiseman Lumkile Nkuhlu
Chancellor: University of Pretoria

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INTRODUCTION

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CREATING A
FUTURE-FIT
AFRICA
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Future-proofing UP

– Destination 2026 and beyond

The University of Pretoria (UP) has Africa at its heart and aspires to become an African Global University that is locally responsive, but continental in scope and globally engaged in making a significant contribution to transforming the world. Two years of living through a pandemic has strengthened this resolve and emphasised key considerations on how we move forward.

In what has been considered an exceptional year for the University, one of the highlights in 2021 was the development of our 2022–2026 strategic plan, 'Destination 2026 and beyond'.

The plan is the third and final phase of implementing our 15-year vision: UP 2025. It comes at a time when the fundamental societal challenges faced when UP 2025 was first developed persist, while new challenges and opportunities that could not have been envisaged have subsequently arisen.

In this volatile and disrupted space, the new plan is a synthesis of conversations, experiences, ideas, and creativity from the University community. It describes a re-imagined UP with pathways to its realisation.

Strong foundation on which to build

UP has a strong foundation that serves as a springboard to managing the dilemma of surviving and thriving in adversity and complexity, while contributing meaningfully to the public good. Student numbers have grown significantly and access by previously excluded groups has improved progressively. Similarly, we have seen enrolments in Science, Engineering and Technology (SET) study fields for black students increasing, while overall pass rates for full-time undergraduates continue to improve and now stand at 86.3%. Finally, the proportion of academic staff with PhDs has increased by 15% over the past decade to the current level of 70.4%.

By building on our existing strengths and areas of excellence, and identifying new opportunities, we strengthen our contribution toward securing the future of our country, our continent and indeed the world.

Continued transformation of our University community, with enhanced sustainability, enables expression of purpose through our core functions of teaching, learning, research and engagement. The work we do serves to position UP, expand our footprint of collaboration and influence, and have tangible impacts to meet society's changing needs.

A future-ready institution

A re-imagined UP will be a resilient and future-ready institution, adept at navigating uncertainty, turning threats into opportunities, and introducing innovations and disruptive ideas or technologies that will benefit the University and society at large.

The process of re-imagining is, by its very nature, creative and exciting as we envision our role and contribution to a future that we all believe in.

At the same time, we are mindful of the hard work required to achieve the desired transformation. It represents a radical change effort. In this transformation journey, we are charting

new territory. Our ultimate success will be determined by our ability to learn and share knowledge with each other, collectively seeking an iterative and ongoing cycle of renewal and resilience.

The key levers underpinning the implementation of UP's 2022-2026 strategic plan are:

- Strengthening an integrated approach
- Relentlessly driving a transdisciplinary agenda, and
- Establishing a culture of innovation and entrepreneurship across all University functions.

Leveraging these areas – and breaking down the silos that inhibit our progress – enables us to address the diverse dimensions of institutional transformation better, moving us closer to our aspiration of sustainable outcomes and impacts.

This Annual Review presents the University's important achievements in 2021. It demonstrates our excellence in teaching and learning and research, our contribution to society, and our role nationally and internationally.

Prof Wiseman Lumkile Nkuhlu



Council congratulates

UP's Vice-Chancellor and Principal, Prof Tawana Kupe, who was awarded an honorary doctorate by the University of Montpellier, France, for his work in building academic partnerships across the African continent, as well as for his leadership in transforming higher education at a global level.

“UP has a strong foundation that serves as a springboard to managing the dilemma of surviving and thriving in adversity and complexity, while contributing meaningfully to the public good.”

Embracing change and becoming a future-focused institution

If the Covid-19 pandemic has taught us anything it is that no country is an island nor are solutions to complicated problems embedded in silos. Real-life problems require us to think, teach, learn and create knowledge across geographic and disciplinary boundaries. It is the approach that best assures humanity and the environment a better, more sustainable future.

International collaboration enables universities to make significant research and innovation leaps by sharing and building on each other's areas of expertise. It also elevates all of our teaching and learning, and research facilities to a new level.

In 2021, UP continued to develop partnerships with prominent institutions and networks across the world, thanks in part to a robust IT infrastructure and fast-tracked digital expertise that enabled us to teach and collaborate across the continents with the use of online platforms and video calling in real-time. This was imperative as the University collaborates with over 3 000 institutions across the globe and has some 230 international institution-wide partnerships across 70 countries and six continents.

Building capacity, connection, reputation

This affirms our leadership and commitment to build capacity in Africa and to accelerate and scale impact for achieving the African Union's Agenda 2063, as well as the Sustainable Development Goals (SDGs) of the United Nations. These relationships will be further expanded with the appointment of a Senate Committee for Internationalisation and Global Engagement Strategy to guide and support future collaborations.

Building on its reputation as a future-focused university, UP has, for example, partnered with information technology company Advance.io to develop an information hub – a cloud-based national scientific repository with associated tools and models – to support the digitalisation of the agriculture and forestry industry.

The platform connects research and practitioner communities across South Africa, and eventually further in Africa. It will enable the harnessing of the power that lies at the intersection of biotech, sensor tech and big data analytics, and includes database warehousing, biosecurity management and surveillance systems, predictive tools, photo imagery analysis, and machine learning.

The University remains a preferred partner for many prominent global organisations. We are often the first or only South African, or African, institution to be invited to collaborate on or spearhead projects. Some examples include UP being the only African University in the University Social Responsibility Network and hosting Africa's first Nobel Prize Dialogue.

We are particularly proud that the University's Department of Speech-Language Pathology and Audiology has been formally designated as a WHO Collaborating Centre for the prevention of deafness and hearing loss. This is the first WHO Collaborating Centre in Africa, and a big step towards improving hearing healthcare on the continent.

UP was also invited to join the prestigious Worldwide Universities Network, a global higher education network of 22 leading research universities that stretches across six continents. This honour makes UP one of only two member-universities from South Africa (the other being the University of Cape Town) and only the fourth on the African continent, with the University of Ghana (Legon) and Makerere University (Uganda), which happen to be among UP's research partners and collaborators.

UP's strong partnerships with local industry and government are reflected in the number of Research Chairs at UP, underscoring the emphasis placed on the impact and relevance of research programmes at the University.

Top right:

UP Council members (from left) are: Seated: Prof Carolina Koornhof, Prof Tawana Kupe, Mr Kuseni Dlamini (Chairperson), Mr Ben Kruger (Deputy Chairperson), Ms Lerato Ndlovu, 1st Row: Ms Tryphosa Ramano, Mr Mandla Madi, Ms Rameeza Abdool-Sattar, Dr Hinner Köster, Mr Siyabulela Tsengiwe, Mr Francois Swart, Dr Robert van Eyden, Mr Sandile Mthiyane, Ms Carol Read, Prof Alex Antonites, Ms Vuyelwa Qinga. On stairs: Adv. Adila Chowan, Prof Caroline Nicholson, Prof Innocent Pikiyayi, Prof Themba Mosia, Prof Norman Duncan, Ms Neo Lesela, Prof Vasu Reddy, Mr Duan Fourie, Prof Sunil Maharaj, Mr Allen Swiegers.



Contributing towards a sustainable world

With state funding under continued pressure, the University remains deeply appreciative of all donor funding. We were able to exceed our own 2021 fundraising target by R44 million to raise a total of R174 million, and we produce high-quality results with the funds.

In addition to funding secured by means of formal research activities and fundraising efforts, Enterprises University of Pretoria (Pty) Limited (Enterprises UP) played a significant role in generating alternative sources of funding. The company develops, implements, and manages the business activities of the University, such as continuing education, consulting and contract research.

Driven by the motto "Shifting knowledge to insight", the company successfully expanded its footprint in South Africa and globally, resulting in a total turnover of R232,4 million in 2021.

The Council extends its gratitude to the Vice-Chancellor and Principal and his leadership team who kept a firm hand on the tiller in steering the University through another turbulent year. Amid great disruption and accelerated change, the University could demonstrate definite progress in pursuit of its strategic goals.

As boundaries dissolve and our planet's needs grow, we have to make today matter to co-create impactful, transformative knowledge for a better, more inclusive and sustainable world. In 2021, the University's action-orientated culture and advanced technological capability have seen us embrace new possibilities, speed up change, and reaffirm our societal relevance.

Kuseni Dlamini



Driving change in South Africa and the world

UP has evolved progressively over the 113 years of its existence: from starting out as the Pretoria branch of the Transvaal University College in 1908 to becoming a global African university by the end of 2021. The past year in particular, has seen the University dive into a future no one could have envisioned just two years ago.

In 2021, we embarked on the last phase of our five-year strategic plan that will lead us to 2026 and beyond, and we have collectively redoubled our efforts to achieve these strategic goals. Over the coming years, we have committed to focusing on:

- Enhancing access and successful student learning
- Strengthening the University's research, international profile, and global engagement
- Fostering and sustaining a transformed, inclusive, and equitable University community
- Enhancing institutional sustainability
- Strengthening the University's social responsiveness and impact in society.

That we have not just survived over the past year, but thrived, is testimony to the anchoring role played by our overarching vision, UP 2025, and its five strategic goals.

In many ways, the Covid-19 pandemic forced us to re-imagine UP at a more rapid pace. It has enabled us to become leaders in hybrid teaching and learning that innovatively combines contact and online modes.

As a result of ongoing lockdown restrictions, UP had to continue with remote teaching and learning at the beginning of the 2021 academic year. A later easing of the restrictions allowed for a phased return of staff and students, with strict health protocols in place.

Although students and staff returned to campus, we continued to harness the latest technology to support teaching and learning and to develop flexible and interactive learning environments. These were supported by a digital student success strategy based on an integrated data collection and analysis plan.

We are already one of the leaders globally in leveraging digital technologies for teaching, learning and research, as well as for greater societal impact, and we are now well on our way to becoming masters of the digital space.

Doing research that matters

In 2021, UP researchers made some noteworthy discoveries in the areas of black holes (with two papers published in the *International Journal of Astronomy and Astrophysics*), as well as in reverse zoonotic transmission of Covid-19 – as researched by a team who published the only such study from Africa. Significantly, the conversion of plant waste to supercapacitors (a component of high-powered devices), was achieved by an international team.

The headway we have made has been consistent with our vision of becoming a leading research-intensive university in Africa, recognised internationally for its quality, relevance and impact, and also for developing people, creating knowledge and making a difference locally and globally.

The various breakthroughs mentioned, and many more, demonstrate the quality of our research and the calibre of our academics, but also proves that we produce research that matters and is able to transform lives and communities.

While these advances are a reward in and of themselves, we are pleased that they have also contributed towards strengthening the University's position in the world rankings. The 2022 Times Higher Education (THE) Impact Rankings placed UP among the top 150 institutions in the world, and first in South Africa for SDG 8 and SDG 15. It is UP's best performance thus far in this ranking system. A further notable accomplishment is UP's Mineral and Mining Engineering ranking in the Quacquarelli Symonds World University Rankings by Subject, in which it was ranked at position 33 worldwide.

The University continued to enlarge its research footprint and is now rated among the top 1% of universities globally in 13 of the 22 ESI knowledge fields (up from 10 in 2020).

Supporting these achievements are the qualification levels of UP academic staff, with 70.4% now holding doctoral degrees.

This academic strength is also reflected in UP's increasing numbers of NRF-rated researchers, which grew to 592 in 2021. Of these, 17 were A-rated researchers and 106 were B-rated researchers. We not only benefit from the gravitas of our internationally recognised A-rated researchers, but are pleased that our pipeline of talent is constantly replenished by our P-rated researchers (under 35 years) and Y-rated researchers (under 40 years).

Innovation and commercialisation remain an important part of research outcomes and 2021 saw 16 new inventions disclosed (2020: 10) and 24 international patents filed (2020: 21). UP had the highest number of patents recognised in its 2020 submission to the Department of Higher Education and Training (DHET), proving that our research can make a meaningful contribution to South Africa, Africa and the world.

Increasing numbers, diversity and resilience

The University's reputation continues to attract increasing numbers of students and 2021 saw the trend continue. At 50 160 enrolments, we welcomed almost 2 000 more students than in 2020 (48 304). We also made steady progress towards our goal of diversification. Black staff account for 68.6% of faculty members (2020: 67.8%), while the percentage of black contact undergraduate students increased to 61.5% (2020: 60.58%). Black postgraduate students made up 71.2%.

We have also strengthened our links with industry through, among others, industry-funded research chairs. In 2021, we added a new chair – the Exxaro Chair in Extended Reality. In addition, we have grown our network of international partners and collaborators by signing 29 agreements with partners globally, bringing our number of active formal partnerships to 223.

Our fundraising efforts bore excellent fruit as we far exceeded our target, a trend we hope will be bolstered further by the University's Charitable Trust in the United Kingdom, which was approved in 2021.

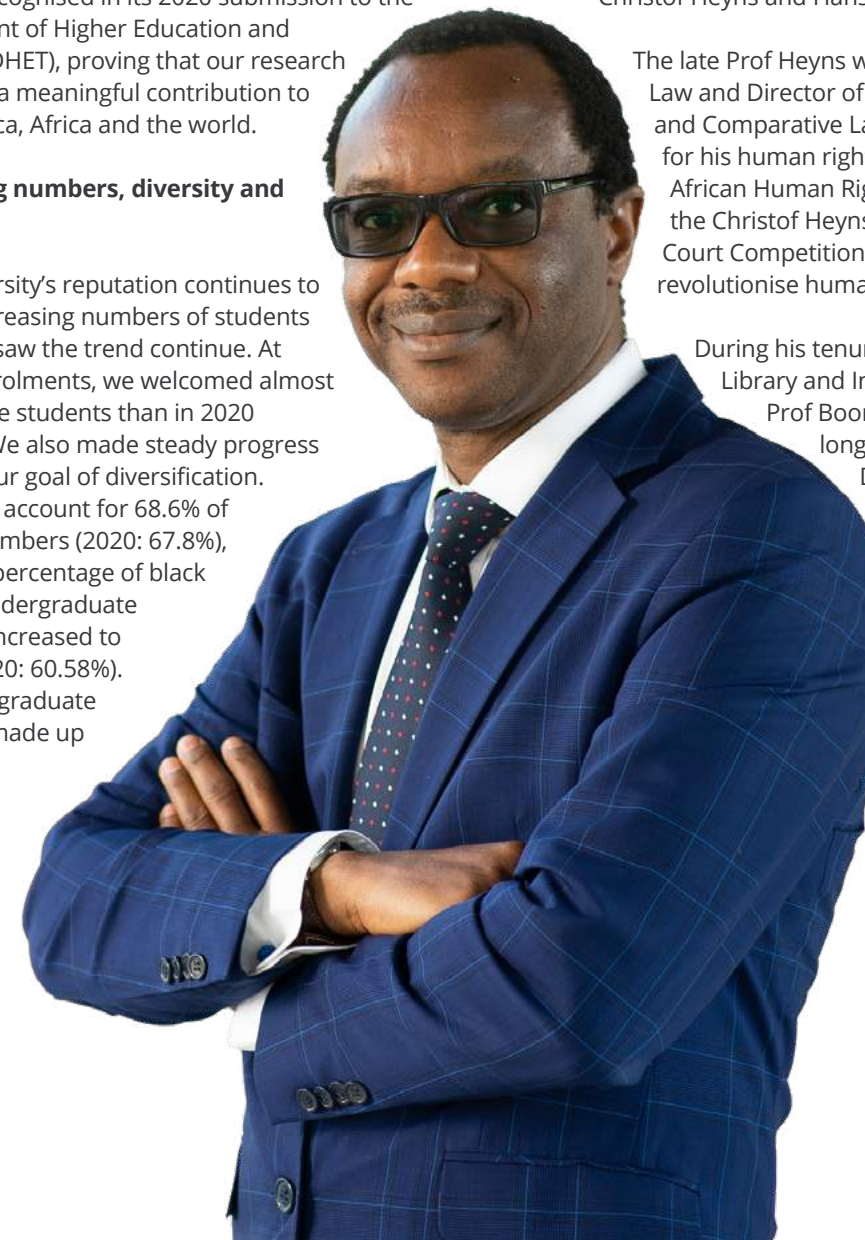
Mourning fallen giants

While there was much to celebrate during 2021, we also mourned the loss of two UP academic giants: Profs Christof Heyns and Hans Boon.

The late Prof Heyns was a professor of Human Rights Law and Director of UP's Institute for International and Comparative Law. He was world-renowned for his human rights initiatives and founded The African Human Rights Moot Court – since renamed the Christof Heyns African Human Rights Moot Court Competition in his honour – with a vision to revolutionise human rights education in Africa.

During his tenure as Head of the Department of Library and Information Science at UP, the late Prof Boon played a key role in developing long-term strategies to position the Department as a leader in the modern university sector. He also served as Registrar and as Chairperson of the Advisory Board for the then newly established University Archives.

The contributions both Profs Heyns and Boon made were significant for moving UP toward its goal of becoming a leading university.



Welcoming new Council members

We also extend appreciation to the outgoing Chairperson of Council, Ms Futhi Mtoba, who stepped down in 2021 after serving four consecutive terms as a member. Her steady hand has guided the University through some of its most challenging years.

Ms Mtoba, ably supported by every Council member, has helped us build a world-class African university while navigating the uncertainties of a new world, especially for tertiary education. We welcome Mr Kuseni Dlamini as the new Chairperson and Mr Ben Kruger as Deputy Chairperson.

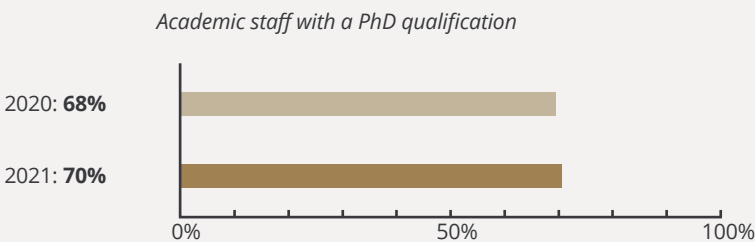
It is clear that we have seen much change in the past year. The developments in 2021 prove that UP has all the right fundamentals to become the leading university on the African continent, and among the top institutions globally. The achievements of 2021 will go a long way towards realising the University's vision and strategic goals.

UP endeavours to be a resilient institution, adept at navigating uncertainty and at introducing disruptive ideas or technologies that will benefit the University and society at large. As we emerge from this pandemic experience, we know we are an even stronger university – able to drive change in South Africa, Africa and the world.

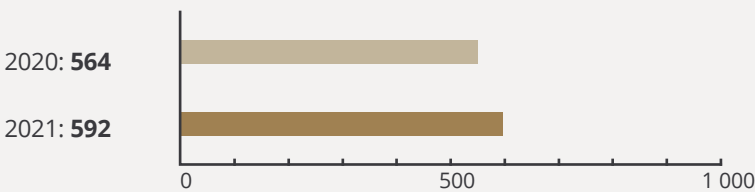
Prof Tawana Kupe

STRENGTH TO MEET THE FUTURE

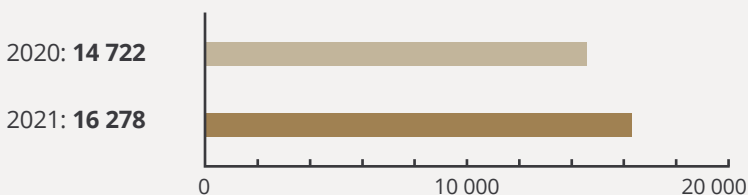
Staff qualifications improve



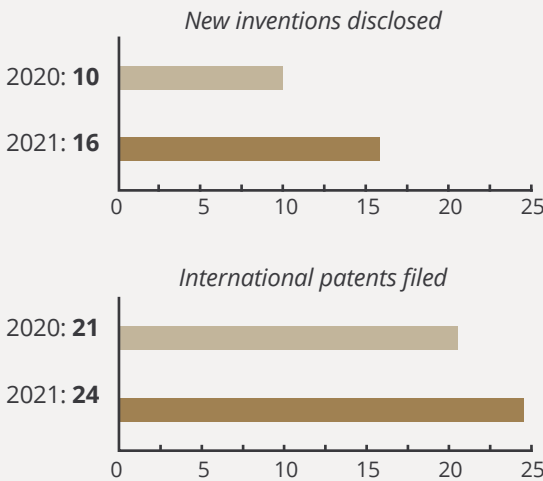
NRF-rated researchers increase



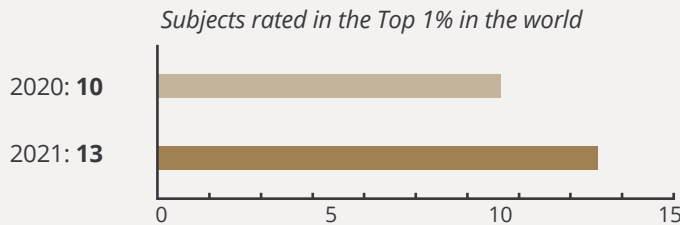
Postgraduate numbers improve



Innovation on the rise



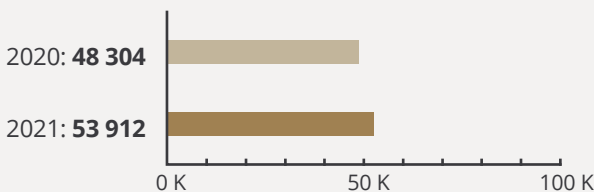
International recognition expands



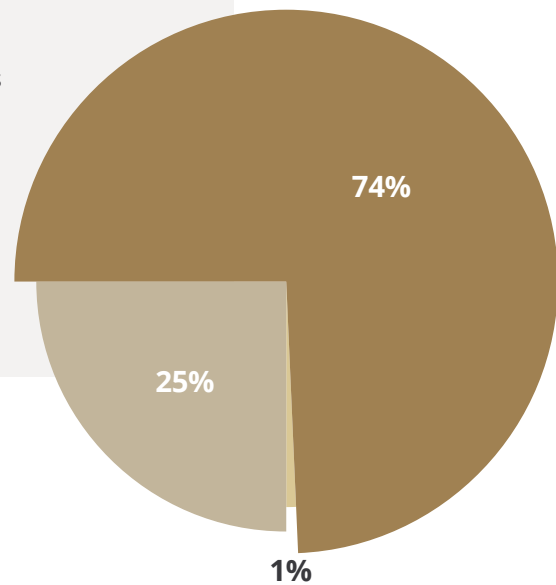
Ranked among Top 100 universities in the world

- Mineral and Mining Engineering (#33)
- GIBS (#43)
- SDG 15 (Life on Land - #30)
- SDG 8 (Decent Work and Economic Growth - #44)
- SDG 9 (Industry, Innovation and Infrastructure - #88)
- SDG 17 (Partnership for the Goals - #86)

Student body grows



- 37 233 undergraduate students
- 16 278 postgraduate students
- 401 occasional students



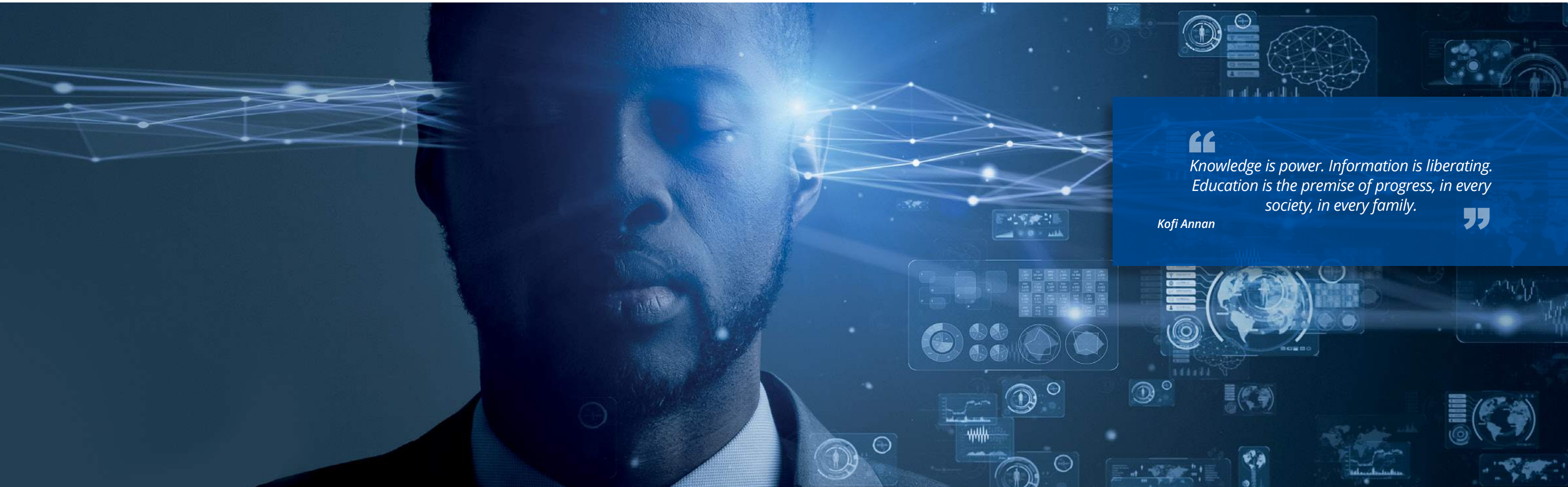


TEACHING AND LEARNING

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EMPLOYING
KNOWLEDGE
TO **STRENGTHEN**
OUR WORLD



“

*Knowledge is power. Information is liberating.
Education is the premise of progress, in every
society, in every family.*

Kofi Annan

”

Despite the many challenges faced by both students and institutions of learning over the course of the Covid-19 pandemic, UP has remained a top choice for high-achieving students and staff.

We are a resilient institution that is able to navigate unpredictable times and provide support to those who #ChooseUP. As such, we offer a broad range of opportunities to undergraduate and postgraduate students, in an environment that is conducive to the successful completion of their studies.

Understanding that a well-rounded university experience is not based solely on academic success, we also strive to provide access to facilities and activities that enable students to nurture their talents outside the classroom environment. This holistic

approach helps our students develop into engaged and productive members of society.

Students #ChooseUP

Although 2020 was not a typical year for most high school learners, the Covid-19 pandemic did not negatively impact applications to UP for the 2021 academic year. More than 10 000 participants attended the annual #ChooseUP information event, which was held virtually for prospective students to engage with the University.

We received 40 169 applications for 2021, which was 2 650 more than we received for the 2020 intake. Similarly, the admission cycle for the 2021 intake was highly successful, with a total of 19 386 admissions – almost 2 000 more students than the previous year.

Significantly higher admissions were noted to the faculties of Natural and Agricultural Sciences (800) and Engineering, Built Environment and Information Technology (730). Special arrangements were made for registrations to take place online, and the Welcome Day as well as orientation took place virtually.

Applications and admissions for the extended programmes continued the positive trend of recent times, and increased further for 2021 – reflecting an amplified interest in these programmes from prospective students.

Targeted recruitment strategies saw admissions from Cambridge, independent schools, and international students increase.

Admissions by Cambridge International Examinations learners grew to 622 (2020: 337), while the intake from independent schools increased by 490 students, and international student admissions increased by 340.

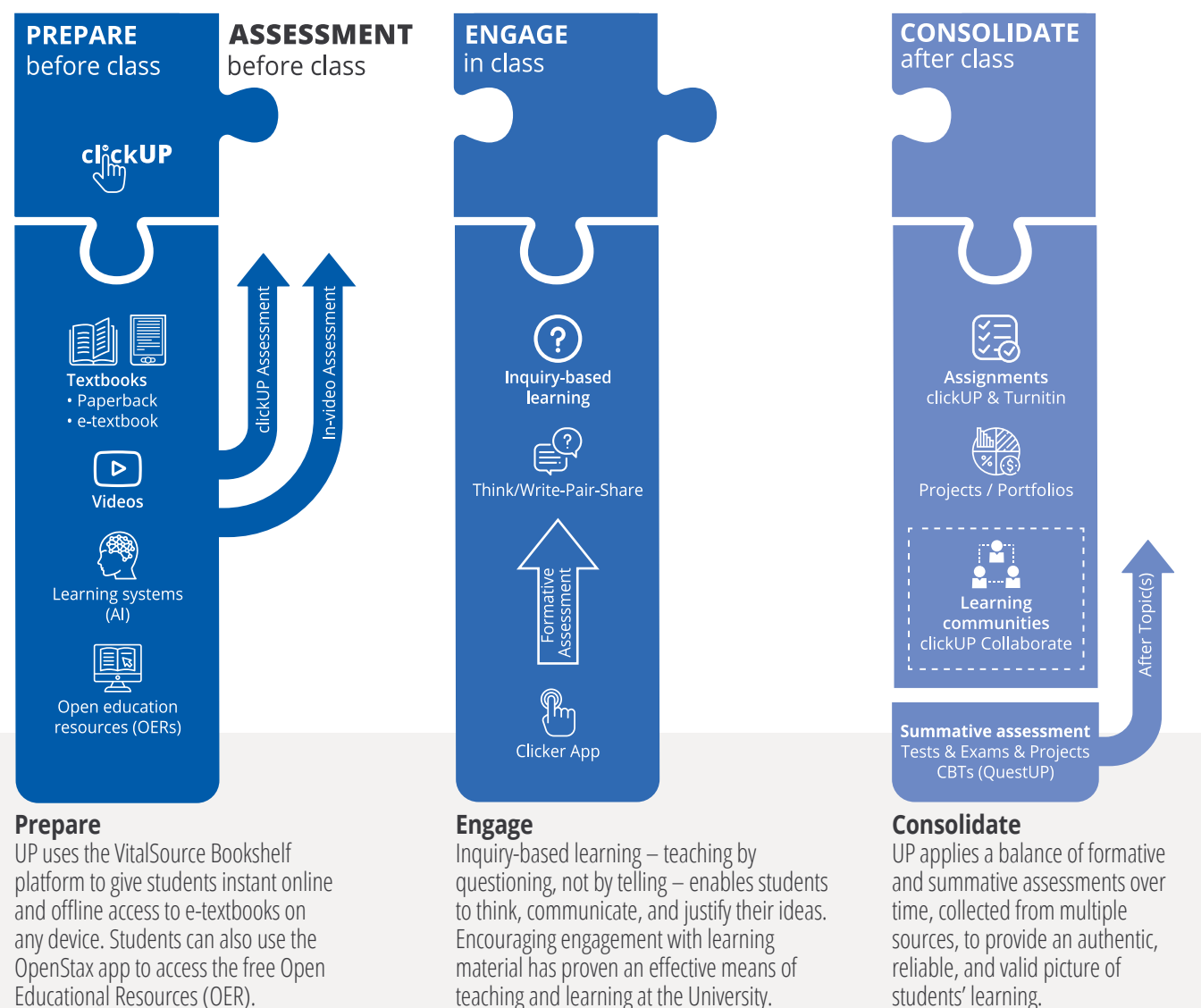
Postgraduate programmes are central to achieving the University's strategic goals, especially those focused on enhancing access to higher education, research activities, societal impact, and UP's international profile. The past five years (2017 to 2021) have shown a steady increase in the total annual number of master's and doctoral students enrolled. Postgraduate enrolments grew to 16 278 in 2021 (2020: 14 722).

Innovating hybrid

Remote teaching and learning continued for the duration of the 2021 academic year.

UP opted to retain the key elements of its hybrid flipped-learning model, Teach and Learn: The UP Way, as the model has proven to resonate well with remote teaching and learning. The model requires extensive non-classroom-based activities by both lecturers and students.

The UP Way of teaching and learning



Flipped-learning methods ensure that students arrive prepared, complete pre-class assessments, engage in class, and consolidate their knowledge after class (and into their future).

Through Watermark Course Evaluations and Surveys (CES) students are able to provide feedback on the quality of teaching using a single sign-on from any device, including smartphones. In 2021, 106 288 students responded to a study of 1 913 modules.

The average scores from student feedback indicate that, in general, students are satisfied with the quality of teaching at UP. No ratings returned scores below 4 (out of 5), with the highest scores being assigned to areas of lecturer preparation and student communication.

Hybrid learning models were also used to enhance teaching and learning for postgraduates. The importance of hands-on, experiential learning led to innovations such as virtual field trips and virtual laboratories. What's more, educators were given the rare opportunity to consider new strategies for their lesson plans.

The hybrid teaching and learning model offers students the best of both worlds – online and contact. UP incorporates the latest technology to support its teaching and learning methods, and in developing active, and interactive, learning environments.

We purchased 200 cameras and tripods for lecturers wishing to live-stream their classes. This enables lecturers to use Blackboard Collaborate (a real-time video conferencing distance learning tool) to stream and record the lecture, providing students with the option to attend classes face-to-face or virtually.

Equipping students to excel

The University recognises that student success requires holistic and integrated support, as they progress through their studies and continue to employment, entrepreneurial activity, or postgraduate study.

Even before students choose UP, the undergraduate recruitment strategy emphasises the importance of responsible study and career choices – particularly for employability – through a variety of events.

In 2021, these events included fewer physical activities at feeder schools due to Covid-19, but more virtual information sessions and career exhibitions, with chat functionalities.

Within the student lifecycle approach, student well-being and the academic experience are critical. This includes appropriate curricula, the quality of teaching that students experience, interventions for at-risk students, and the quality of campus life. The approach also emphasises students taking responsibility for their academic work, social life, and career development.

First-year orientation

Each year, the Academic Orientation Programme starts off the FLY@UP campaign and focuses on sensitising incoming students to the importance of completing their studies in the minimum time.

In 2021, the Academic Orientation Programme consisted of a pre-orientation online module, an online faculty-based Academic Orientation Week, and an eight-week online extended faculty-based orientation course that includes academic and soft skills that Faculty Student Advisors (FSAs) monitor.

FLY@UP

The FLY@UP programme is a comprehensive institution-wide student success programme.

The intention is to make students aware that completing their degrees in the minimum period has significant advantages, including minimum tuition fees, as well as starting their postgraduate studies or earning a salary earlier.

FLY@UP initiatives continued in 2021 to enhance student success and were conducted virtually to accommodate the pandemic restrictions.

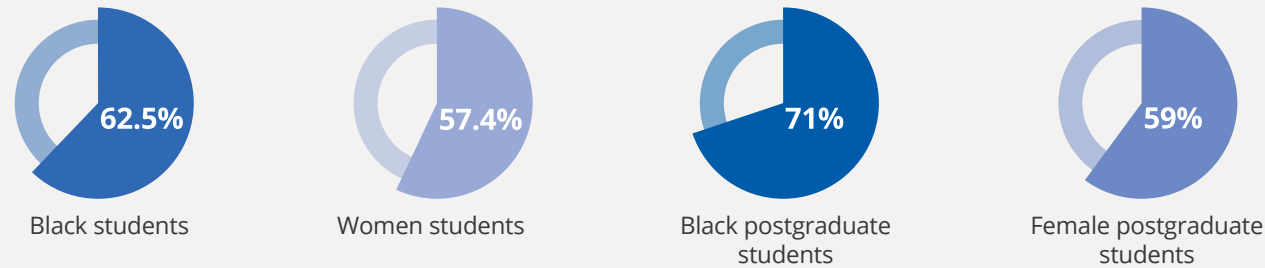
FlyHigher@UP

The FlyHigher@UP programme is part of institutional efforts to enhance recruitment of postgraduate students, shorten postgraduate degree completion periods, increase throughput rates, ensure an enjoyable student experience at UP, and enhance the quality of graduates produced by the University.

The FlyHigher@UP programme provides holistic support for postgraduate students throughout their postgraduate lifecycle including academic, administrative, and financial support.

In 2021, a total of 871 postgraduate students underwent training to enhance their research skills. Of these, 526 were master's and 345 were doctoral students.

Diverse students #ChooseUP



Future-focused academic support

New technologies and Artificial Intelligence (AI) have created many opportunities to monitor and enhance student success. The University uses the early alerts from predictive analytics to prevent possible future difficulties, rather than acting after a problem has been identified.

The Covid-19 pandemic spotlighted the value of access to real-time data to support student success. The increased demand for data required the development of dashboards and reports, which started during the first quarter of 2021. Dashboard training was presented to more than 120 Heads of Department to improve their use of the developed reports and dashboards.

In 2021, the Student Success Data Analytics Task Team (Tshebi) focused on the HIMs project, including graduation rates, progression, student readiness, academic advising, and student feedback on teaching. A business intelligence and data-analytics software solution, Pyramid Analytics, was scaled to provide data to the deans, deputy deans, departmental heads, education consultants and FSAs. Such software and related solutions support the University's forward-looking approach.

Financial aid

Two years of living with the Covid-19 pandemic has exacerbated the financial challenges faced by UP, its students, and their families.

Many students who could previously afford to pay tuition and accommodation fees are no longer able to do so. In addition, the health crisis has affected the economy, forcing the government to reprioritise national funding. This had a direct impact on the national budget for higher education.

Despite this, UP expanded its financial aid during 2021, allocating over R2 billion to students in the form of bursaries and loans.

Qualifying National Student Financial Aid Scheme (NSFAS) students were not required to make first payments when registering for the 2021 academic year. Similarly, NSFAS students who had met the necessary academic requirements, but had debt carried over from prior years, were permitted to register after signing an Acknowledgement of Debt (AoD).

The University recognises the importance of postgraduate education in contributing to high-level skills development and specialised knowledge nationally, as well as to replenishing the much-needed human capital in the country. Students who have been admitted to postgraduate programmes and who have attained the necessary academic achievement are eligible to be nominated for UP Postgraduate Bursaries.

Postgraduate students were supported with applications for bursaries from external bodies (such as the National Research Foundation - NRF). UP also helped coordinate the allocation of NRF block-grants. This ensured that all available funds were allocated in a timely manner.



Tools for success

The FLY@UP initiative uses various tools and tactics to help students graduate in minimum time.

The **Academic Orientation Programme** provides comprehensive support to encourage the academic development and success of first-year students.

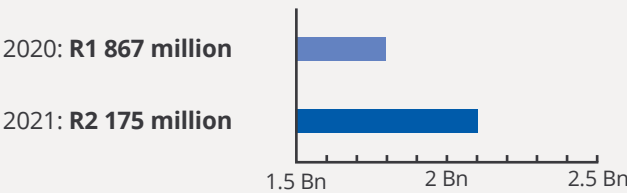
Faculty Student Advisors (FSAs) provide a safety net service, advising and referring students for the support or intervention they may require.

Online learning platforms ensure that students can attend a tutorial from wherever they may be, or log in to work through the recorded tutorial.

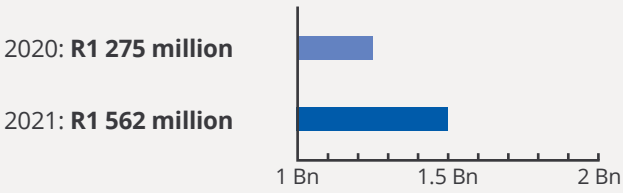
The **High Impact Modules** (HIMs) project seeks to improve the module success rate of modules that indicate a pass rate of below 75%, by providing targeted interventions.

Peer advisors work closely with FSAs to answer common questions around administrative processes such as degree planning, registration of modules, and others.

Financial aid to students increases



Funding from third parties increases 22.5%



8 000
Number of students funded



R191 million
Bursaries paid from UP's own funds



R18 million
Mastercard is the largest organisational donor for student bursaries and support



An honourable donation

One of the largest individual donors in 2021 was the former Deputy Chief Justice (DCJ), Judge Dikgang Moseneke, who donated R800 000 towards bursaries for law students. He also donated his personal collection of books and journals to the OR Tambo Law Library.



Scooby's listening

A significant development for the Student Counselling Unit (CSU) was a chatbot acquired with funds from the Michael and Susan Dell Foundation. Launched in March 2021, SCU-B ("Scooby") is an AI tool that stimulates conversations through voice commands and text chats for counselling purposes. This was one of the new, alternative ways that the CSU devised to provide professional psychological support, and ensure student mental health and well-being during lockdown.



Student hunger and nutrition

UP continued to support students in need through the Student Nutrition and Progress Programme. Meal credits, food parcels, or supermarket vouchers for basic food and toiletries, to the value of R860 000, were disbursed in 2021. The impact of the programme is measured in the improvement of grades, which are monitored throughout the year.

A number of faculties started food pantries to support students in need, while some University residences initiated food gardens. During October 2021, Tiger Brands committed to support the nutritional needs of 500 UP students for the 2022 academic year.

Student health and wellness

The Student Health Services Unit provides basic health services to students on all campuses.

Accessible student clinics are staffed by a team of professional nurses, medical doctors, dieticians, optometrists, and HIV testing staff, all of whom provide a wide range of services free of charge.

Monthly health and wellness awareness campaigns on topics such as TB, flu and communicable diseases, substance abuse, cancer, mental health, nutrition, sexual health, as well as violence and abuse continued via the UP Web and various social media platforms.

The University received a further grant from Higher Health for the period April 2021 to 2023 to support institutionally-based health, wellness, and development programmes. These include recruiting and training peer educators, and linking at-risk students to services, care, treatment, and psychological support.

Stepping UP to help our students

When Covid-19 lockdowns prevented students from attending campus, placing pressure on both their health and finances, UP ensured that it stepped up to help.



COVID-19 quarantine facilities



R860 000 in meal credits, food parcels and supermarket vouchers



Faculty food pantries for students in need



Online student development programmes to create a sense of pride and belonging



Student conferences to re-imagine the future of UP



Accessible clinics



Digital health and wellness awareness campaigns



Stop-the-Spread COVID-19 activities



Free telehealth services



Student Counselling Unit chatbot (SCU-B)

Real-world readiness

Graduate employability and entrepreneurship are critical priorities for UP, especially given the rising levels of youth unemployment and the evolving world of work.

To this end, UP intensified efforts to make its graduates work-ready and encourage more students to take up entrepreneurship as their career path after completing their studies.

- The UP-Career Mentorship Programme gives final-year students an idea of the realities of the working environment for a period of six months.
- An internship programme, resulting from a collaboration between the Career Office and the Department of Education Innovation, offers internships in various sectors.
- UP's Ready-for-Work programme provides UP students with key employability skills. These online soft-skills training courses are accessible via clickUP and focus on career planning, job preparation, workplace skills, and personal development. After assessment, students receive certificates that they may use to enhance their Curricula Vitae.

UP's Ready-for-Work programme was recognised by the South African Graduate Employers Association (SAGEA) as the Best Work Readiness Programme 2021.

FIRST YEAR?

Start planning your career.

Register for the free
Ready for Work
Programme on clickUP.



Ready to work

The online TuksCareers platform lets UP students and alumni interact with potential employers and provides access to work readiness skills development.

Students and alumni can view and follow potential employers who are registered on the TuksCareers database, receive notifications of upcoming events hosted by Career Services and potential employers, and can search for and view job opportunities.

For unemployed graduates, UP offers assistance with CV writing, LinkedIn profile creation, job searches, interview preparation, and career development webinars. Over the course of 2021, more than 500 opportunities were offered by various companies and departments to unemployed graduates.

As a future-focused institution, UP will offer gamification as a way to enhance students' employability through game play in 2022. Gamification is the application of game-design elements and game principles in non-gaming contexts. During 2021, the Career Services Office completed the first phase of the project that is to be rolled out in February 2022.



889
Number of graduates registered
on the TuksCareers database



500
Opportunities offered to UP
unemployed graduates in 2021

“
*UP's Ready-for-Work programme
seeks to build workplace readiness
among UP students by providing them
with key employability skills.*
”

Business smarts

There are numerous opportunities at UP to develop as an entrepreneur, from formal degrees to informal online courses and projects.

Formal degrees include the BCom (Business Management), MPhil Entrepreneurship, MBA in Entrepreneurship, and PhD in Entrepreneurship. Short courses in entrepreneurship and business management are offered via UP and/or GIBS' Development Academy, while TuksNovation is a high-tech business incubator available to all UP students.

Entrepreneurs outside of the UP ecosystem are also supported. The Mamelodi Business Clinic (on the UP Mamelodi Campus) serves as a support hub for township entrepreneurs in the informal sector, and as an interdisciplinary participation hub towards world-class research.

In 2019, the University established the Centre for Entrepreneurship to provide a platform for economic growth and employment creation. Its National SMME Support Portal was designed to help entrepreneurs in distress during Covid-19 via the alumni system. All services were offered for free and around 18 000 alumni engaged with the portal.

The Centre also presents grant-funded programmes to support existing entrepreneurs through the GIBS Entrepreneurship Development Academy, as well as an online youth entrepreneurship development programme with PwC and UNICEF as partners.



Bianca Payne and Isa Lambrechts

started a natural skincare product business named Blyde Botanics with UP's TuksNovation business incubator's assistance and using natural ingredients licensed to UP. Both are completing their PhD degrees under the supervision of Prof Namrita Lall from the Department of Plant and Soil Sciences.



Education at work

Two final-year students, one completing a Bachelor of Commerce degree (Marco Booyse) and one completing a Bachelor of Town and Regional Planning degree (Jacques Fourie), walked away with the R20 000 Innovative Business Idea Award at the Entrepreneurship Development in Higher Education (EDHE) Intersity.

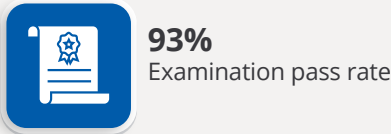
The students were also awarded R10 000 to market their business idea, a unique insurance scheme, Stu-D-sure, that allows students to insure their study modules. If they do not pass, the tuition fees or a portion of the tuition fees for the module will be paid by the insurer.

Outstanding outcomes

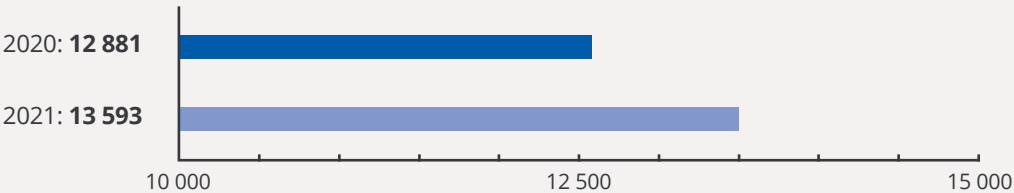
Ensuring successful graduates, growing the pipeline of next-generation academics and researchers, and creating an enabling environment for students to succeed, remains a central priority at UP.

Harnessing hybrid teaching and learning, focusing on multi-faceted student development, and striving to create global impact with the University's research outputs, are proof that UP is on the right track to achieve its goal of becoming a resilient and future-ready institution.

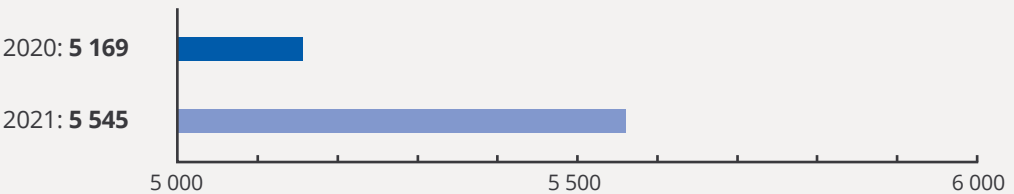
Future-fit students



More certificates, diplomas and degrees awarded



More graduates with scarce skills



Sustained success

Between 2017 and 2021, the overall module pass rate for UP has increased from 81.6% to 86.3%, with a peak recorded at 88.1% in 2020. Over the same period, the examination pass rate has increased from 90.6% to 93% and module pass rates have risen to 86.3%.

The drop-out percentage has been on a general decline since 2017, with only one increase recorded over the period (5.7% in 2021).



312 827
Number of UP alumni spread across 118 countries

Graduation results

UP awarded 13 593 certificates, diplomas and degrees in 2021 (2020: 12 881). The total number of master's graduates increased to 2 046 (2020: 1 801), while doctoral graduates showed a slight decline to 367 (2020: 374). Distance education graduates also increased to 615 in 2021 (2020: 409).

Graduates in undergraduate contact programmes increased to 7 588 in 2021 (2020: 7 291), while the total number of graduates in postgraduate programmes increased to 6 005 (2020: 5 590).

The increase in the number of graduates in the scarce skills category to 5 545 in 2021 is notable (2020: 5 169). This is largely attributable to the above target first-year enrolments in 2018.



THE Impact Rankings 2021

UP featured in the 201–300 band in the THE Impact Rankings for 2021, the only ranking system that assesses promotion of the United Nations Social Development Goals (SDGs). We were ranked in the 101–200 band in five SDGs and ranked in the 201–300 band for a further four.

The 2022 THE Impact Rankings is UP's best performance thus far in this ranking system and placed UP among the top 150 institutions around the world.



Ranked among Top 50 universities in the world

SDG 15: Life on Land (#30)

SDG 8: Decent Work and Economic Growth (#44)



Ranked among Top 100 universities in the world

SDG 17: Partnership for the Goals (#86)

SDG 9: Industry, Innovation, and Infrastructure (#88)



Ranked among Top 50 business schools in the world

At #43, GIBS is among just 15% of an estimated 300 leading business schools globally that vie for a top-50 position



Stepping UP in world rankings

UP's vision of becoming a global research player was cemented when it was ranked among the world's top universities for the study of 20 subjects (up from 18) in the 2022 Quacquarelli Symonds (QS) World University Rankings by Subject.

According to these rankings, UP is the best place in South Africa to study:

- Veterinary Science (ranked in the 51–60 band)
- Accounting and Finance (101–150)
- Economics and Econometrics (201–250)
- Mechanical, Aeronautical and Manufacturing Engineering (251–300)
- Electrical and Electronic Engineering (301–350).

A notable accomplishment is UP's Mineral and Mining Engineering, which was ranked at position 33 worldwide.

Our School of Engineering was ranked first in South Africa and Africa by the US News and World Report Rankings (2020) on the Best Global Universities for Engineering.

UP was also ranked top in South Africa for Computer Science, Engineering, Veterinary Science, and Finance by the Shanghai Global Ranking by Subject.

The Times Higher Education (THE) Subject Rankings for 2021 ranked UP in 11 subject fields, with its Law faculty placed in the top 101–125 globally. The University was placed second in SA in Accounting and Finance, and Biological Science. These rankings also rated UP as the best South African institution at which to study Computer Science.

For the 13th year in a row, GIBS was recognised as Africa's top-ranked business school for executive education in the prestigious UK *Financial Times* (FT) executive education rankings. Having moved up the rankings to 43rd overall, GIBS is among just 15% of an estimated 300 leading business schools globally that vie for a top-50 position.

Based on the 2020 Loeries Awards results, the Information Design division at UP's School of Arts was ranked the best design education institution in Africa and the Middle East in 2021. UP students won six medals in the Loeries, tying with the University of Stellenbosch for the most wins.





Innovation in Teaching and Learning

Prof Karen Leigh Harris won the UP Chancellor’s Award: Teaching & Learning in 2021. She is the Head of the Department of Historical and Heritage Studies and the Director of the University Archives.

Her innovative teaching strategies in the Heritage and Cultural Tourism undergraduate degree resulted in the National Department of Tourism awarding graduates in this degree accreditation as Gauteng tourist guides. This means that the students graduate with an academic degree as well as a professional qualification. UP is the only university in the country with this accreditation.



Student accolades

Despite ongoing limitations on movement and contact presented by the Covid-19 pandemic, UP students demonstrated their resilience and academic excellence with a number of awards.

Dr Michael Barnes graduated with a doctorate after his master’s thesis was converted into a PhD qualification. His thesis analysed the properties of weather systems that extend all the way to the surface compared to those that do not. Dr Barnes had published papers in renowned journals by the time he submitted his dissertation.

Dr Hossein Masoumi Karakani, a PhD (Mathematical Statistics) graduate, won a silver medal in a Kaggle competition. Kaggle is the world’s largest data science community and the most well-known competition platform for predictive modelling and data analytics. Google took over this platform in 2017.

A UP team, and their co-team from the Makerere University in Uganda, won the 29th Africa Human Rights Moot Court Competition. The team was also placed second in the Best Written Memorial category.



Mail & Guardian 200 Young South Africans

Every year, the *Mail & Guardian* features promising young professionals under the age of 35 on its 200 Young South Africans list. The University was proud to host some of the 22 individuals associated with UP who featured on the list in 2021 (up from 18 in 2020).



Times Higher Education ranks UP
#1 in South Africa for industry, innovation, and infrastructure.

QS World University Rankings rate UP #1 in South Africa for

- Veterinary Science
- Accounting and Finance
- Economics and Econometrics
- Mechanical, Aeronautical and Manufacturing Engineering
- Electrical and Electronic Engineering

#33 in the world for
Mineral and Mining Engineering

UK Financial Times (FT) ranks GIBS
#43 in the world

Beyond the classroom

The extramural student life programme at UP is aimed at supporting the holistic development of students. The Arts remain a cornerstone of such activities and UP has long been considered Africa’s sporting powerhouse, nurturing some of Africa’s greatest athletes through the Tuks High Performance Centre.

Tokyo Olympic Games

TuksSport had a strong presence at the Tokyo Olympic Games, with 38 students, alumni, coaches, and referees representing South Africa.

UP’s swimming sensation, Tatjana Schoenmaker, made world headlines with her record-breaking 200m breaststroke swim to win gold. Her teammate, Kaylene Corbett, joined her in the finals of the 200m event, coming in fifth and swimming a personal best. At 17 years of age, Pieter Coetzee (100m backstroke) was the youngest male swimmer on the team.

UP’s track and field athletes enjoyed personal success, with Akani Simbine (100m) missing out on medalling by just 0.04 seconds, and Kyle Blignaut (shot put) finishing in sixth position. Kyle is only the second South African shot-putter to compete in an Olympic final.

Wenda Nel (400m hurdles) made it through to the semi-finals as did the rowing team, while the men’s hockey team narrowly missed out on qualifying for the quarter-finals.

Tokyo Paralympic Games

Ntando Mahlangu excelled in both his events. He set a world record in the long jump (7.17m) to win gold, and he also won the 200m event in 23.59 seconds.

He was joined by fellow Tuks athletes at the Paralympic Games: Shaun Anderson and Philip Coates-Palgrave (archery); Kgothatso Montjane, Mariska Venter and Eliphaz Maripa (wheelchair tennis); Daniel du Plessis (athletics); Hendrik van der Merwe (swimming); and Barbara Manning (archery coach).

University Sports South Africa (USSA) and Varsity Tournaments

Swimming: Tuks’s swimming team dominated the USSA Gala held at Tuks. They won the men’s and women’s competitions and were also named the overall winners. It may be the first time that one university managed to be victorious in every relay. Double Olympic medallist and world record holder Tatjana Schoenmaker won all three-breaststroke events (50m, 100m and 200m). It led to her being the best female swimmer at the gala, scoring 124 points.

Rowing: The only thing that has kept changing since 2009 during the USSA Boat Race in Port Alfred, is the seating of Tuks men’s A-crews in the boat. The results remain the same: Tuks wins. Their winning streak of 12 consecutive victories is possibly one of the longest in any South African sporting code. Tuks’s women dominated the USSA women’s A-race, beating UCT by more than a minute in one of the most significant winning margins. Both the men and women B-crews finished second in their respective finals.

Basketball: Tuks women’s basketball team surprised many by qualifying for the USSA final, after being placed fourteenth the previous year.

Squash: Helena Coetzee is the USSA women’s squash champion.

Hockey: To win any title in any sport is considered an outstanding achievement; to win twice on the same day in the same sport is beyond impressive. Tuks hockey teams were impressive during the USSA Tournament held at Wits. Possibly, for the first time, the Tuks men and women teams were crowned USSA champions on the same day.

Netball: Tuks finished third in the Varsity Tournament held in Stellenbosch, beating North-West University 62–48. They went on to beat Kovsies (University of the Free State) 37–35 in the USSA Tournament final.

Football: The statistics of the Varsity Football Tournament will show that the Tuks women’s team lost to the University of the Western Cape (UWC) in the 2021 final, but statistics are not always a true reflection of what happened on the field. Both teams fought to the very last minute. UWC finally won 4–3 in a penalty shootout.

Tuks are the Varsity Cup winners

TuksSport hosted the FNB Varsity Cup and FNB Varsity Shield Tournaments in a secure bio-bubble with all teams being accommodated in the FNB Varsity Cup Village. In the Varsity Cup final at Tuks Stadium, Tuks survived a second-half fightback from Ikeys (University of Cape Town) to claim a 34–27 victory. It is Tuks’s fourth title, having previously won the competition in 2012, 2013 and 2017.



Arts and culture success

South Africa Radio Awards

Tuks FM won Campus Station of the Year in the Radio Awards for the fifth consecutive year, along with the following awards: Multi Channel Promotion, Campus Night Time Show, Promotion Stunt Event – Campus Community Project – Campus, as well as the Business and Finance Show.

World Choir Council appointment

Dr Michael Barrett, conductor of the renowned UP Camerata Choir, was invited to serve on the World Choir Council. This international advisory board consists of 124 choir experts from 90 countries. They offer intercultural advice and discuss artistic, as well as other meaningful international and domestic issues in the choir world.



RESEARCH

03

- A top-tier institution
- Research that matters
- An international outlook
- Awards and recognition

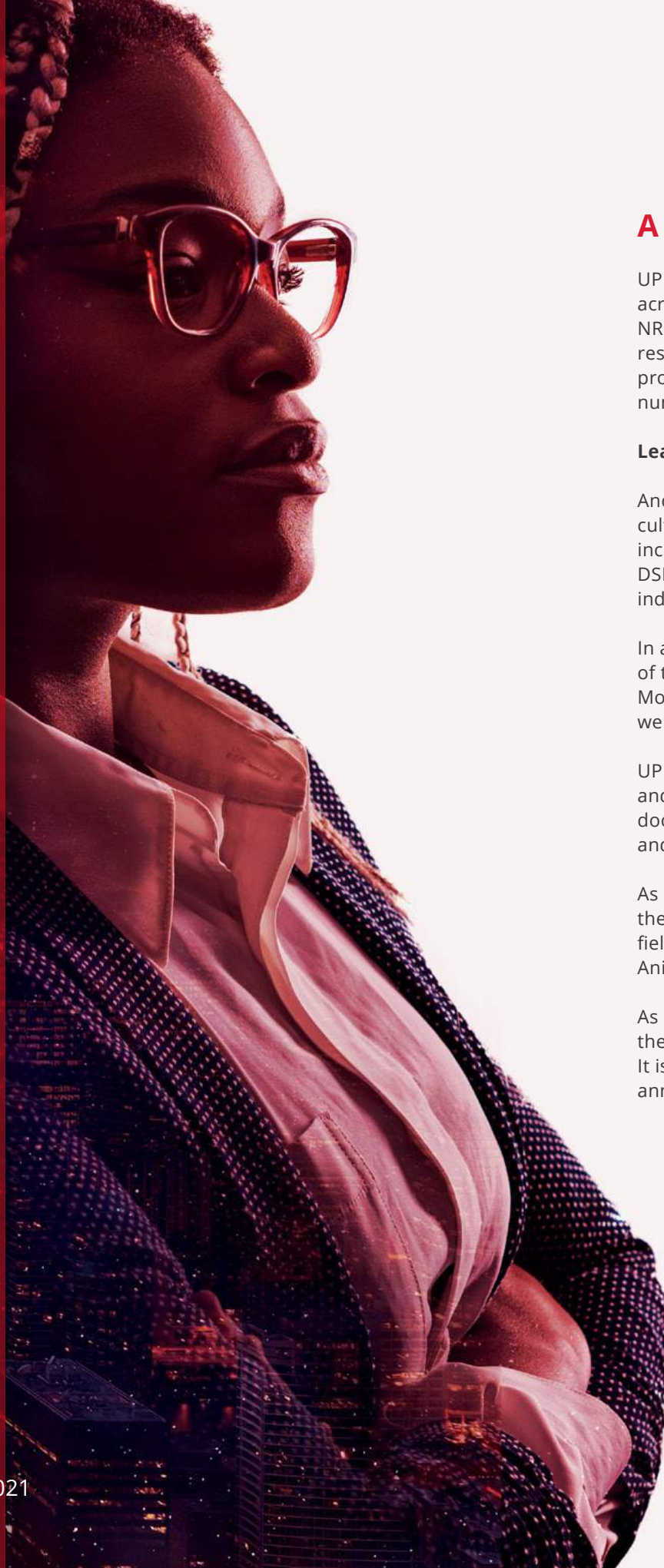
- 35
- 37
- 38
- 40

INFLUENCING THROUGH GLOBAL, COLLABORATIVE OUTPUTS

In contrast to the upheaval wrought by Covid-19, the pandemic presented universities with the opportunity to be uncharacteristically flexible and responsive. This included the rapid uptake of technology to support innovative ways of meeting, communicating, teaching, and learning.

While the blurring of the lines between traditional and distance education has been noted for many years, the pandemic quickly erased these boundaries, revealing the benefits of synchronous online conferencing systems. This allowed experts from around the world to join online lectures and record presentations, thereby opening up previously unexplored opportunities for transborder and transdisciplinary collaboration.

“UP is immensely proud of its academics who continue to take centre-stage in their endeavours, while attending to their teaching commitments.”



A top-tier institution

UP has the highest proportion of academic staff who hold doctorates, across all South African universities, as well as the highest number of NRF-rated researchers nationally. In 2021, these academic staff and researchers produced 2 374 research output units across journals, proceedings, books, and chapters. Additionally, UP had the highest number of patents recognised in its 2020 submission to DHET.

Leading researchers, impact, and visibility

Another strong indicator of the University’s research and innovation culture is the 51 research chairs it hosts across seven faculties. These include 19 chairs funded by the Department of Science and Innovation DSI-NRF South African Research Chairs Initiative (SARChI) and 32 industry-funded chairs.

In addition, the University is rated among the top 1% globally in 13 of the 22 Essential Science Indicator (ESI) fields. In 2021, Chemistry, Molecular Biology and Genetics, and Pharmacology and Toxicology were included in this elite list for the first time.

UP was the only university in South Africa to feature in Economics and Business. Furthermore, UP researchers produced the most documents within Economics and Business, Engineering, Microbiology and Plant and Animal Science within South Africa.

As of January 2021, a total of 230 UP-published papers were among these top papers world-wide, spread over 20 of the 22 ESI subject fields. UP continues to dominate the subject category of Plant and Animal Sciences with 77 top papers.

As a multi-faculty, research-intensive university, UP is placed among the top universities in South Africa for research output and impact. It is also one of the highest producers of graduates in South Africa annually.



Two researchers from UP
– **Prof Rangan Gupta**

in Economics and Business, and

Prof Mike J Wingfield

in Plant and Animal Sciences – are ranked

in the top 1% worldwide. Researchers are

selected for their exceptional influence

and performance in one or more of the 22

research fields or across several fields.

Source: Essential Science Indicators





Top 1% in the world

UP falls in the top 1% internationally in 13 fields:

- Agricultural Sciences
- Biology and Biochemistry
- Chemistry
- Molecular Biology and Genetics
- Pharmacology and Toxicology
- Clinical Medicine
- Economics and Business
- Engineering
- Environment/Ecology
- Immunology
- Microbiology
- Plant and Animal Sciences
- Social Sciences

Research relevance and impact



51
Number of research chairs

19
funded by the Department of Science and Innovation DSI-NRF South African Research Chairs Initiative (SARChI)

32
funded by industry

The university with the most

Academic staff with PhDs **(70%)**
NRF-rated researchers **(613)**



15 243
Papers produced by UP academics and researchers in 2021



201 515
Citations resulting from papers produced

Research that matters

In 2021, UP remained committed to pursuing “research that matters” to address complex societal challenges and, in particular, the challenges faced by developing regions in the world.

Our researchers produce excellent studies of impressive breadth and depth, as shown below by the small sample.

COVID-19 Delta variants transmitted from humans to animals

A team led by Prof Marietjie Venter, Head of the Zoonotic, Arbo- and Respiratory Virus Programme at the Department of Medical Virology, and Prof Katja Koepfel from the Centre for Veterinary Wildlife Research, published the only study from Africa that entailed investigations that reveal Delta variants of Covid-19 were transmitted from humans to animals.

They found that reverse zoonotic transmission from asymptomatic animal handlers at a private zoo in Gauteng posed a risk to big cats kept in captivity.

Radio Astronomy Research Group

The Radio Astronomy Research Group continues to engage in world-class international collaborations, with Dr Jack Radcliffe leading a team researching “eating habits” of black holes.

The team researched issues such as the types of galaxies that central black holes start eating, how this is manifested, and the best way to detect these eating phases in galaxies. The research was published in two papers in the *International Journal of Astronomy and Astrophysics*.

Gaining a better understanding of black holes

The Event Horizon Telescope team, which in 2019 revealed the first image of a black hole, has since revealed a new view of the massive object in the middle of the M87 galaxy as seen in polarised light. More than 300 researchers at institutions across the world, including some from UP, were involved. This exciting discovery revealed new evidence to help us understand how magnetic fields behave around black holes.

Biowaste turned into superior battery parts

An international team led by Prof Ncholu Manyala, the SARChI Chair in Carbon Technology and Materials, successfully turned plant waste into a component of high-powered devices called supercapacitors. During testing, it was found that the component, known as activated carbon, is superior to commercially-available alternatives.



Saving Africa’s ungulates

Dr Hendrik Swanepoel,

a master’s student in Veterinary Science, won the 2021 Prize for Global Research of the Province of Antwerp for his thesis on viral diseases in African ungulates. This prominent award recognises the best master’s dissertations across selected fields and the researcher’s contribution to global science for health worldwide.

An African first

UP’s Department of Speech-Language Pathology and Audiology has been designated as a WHO Collaborating Centre for the prevention of deafness and hearing loss. This is the first WHO Collaborating Centre in Africa, and a big step towards improving hearing healthcare on the continent. The Department is headed by Prof Daniël Christiaan de Wet Swanepoel.

A South African first

UP launched South Africa’s first exclusive Diabetes Research Centre at a public academic institution. Housed in the Faculty of Health Sciences, the Centre works across faculties to develop transdisciplinary research that aims to improve the lives of people living with diabetes.



Outstanding Onderstepoort

The University's Faculty of Veterinary Science at Onderstepoort once again demonstrated why it remains the best in the country and across the African continent, with a number of milestone procedures performed in 2021.

Such procedures included the first successful CT scan performed on a live adult rhino; groundbreaking surgery on a filly suffering from an upper-airway restriction; a partial knee replacement on a cat to save its right leg from being amputated, and specialised heart surgery on two dogs.



An international outlook

The focus on international cooperation and collaboration over the past five years has served to encourage a global perspective for research while also exposing students and researchers to international expertise and resources. Simultaneously, it has enabled South African and African issues to be highlighted on a global stage.

UP currently has 223 active formal partnerships globally. In 2021, it signed 29 agreements of which 19 are with European partners, five with African partners, two with Asia/Pacific partners, and three with North American partners.

Large international footprint



223
Formal partnerships globally



29
New agreements signed with global partners in 2021



9 471
Co-authored publications with 4 479 collaborating institutions (2015 to 2019)



3 230
International students registered at UP



Top collaborating institutions
Ghent University (Belgium)
Centre National de la Recherche Scientifique (France)
University of Western Australia (Australia)
University of Queensland (Australia)
University of Oxford (United Kingdom)

Strategic partnerships and programmes

In late 2020, UP launched the African Global University Project (AGUP), its internationalisation and global engagement initiative intended to ensure that partnerships and collaborations play their envisioned role in achieving UP's strategic goals.

The first phase of the AGUP initiative was implemented in 2021, with 13 global and six African partners being identified. Institutional agreements with these partners have already resulted in collaborative projects.

Also in 2021, UP was nominated to serve on the board of the Southern African-Nordic Centre (SANORD) for a second term. SANORD is a forum of 53 universities from southern Africa and the Nordic regions that fosters cooperation between academic institutions. The leadership of member institutions meets annually to plan activities for the forum.

In addition, UP is an active member, and the South African coordinator, of the South Africa-Sweden Universities Forum (SASUF). In 2021, UP worked with Uppsala University to request an extension of the final round of the SASUF grants to allow recipients impacted by the Covid-19 pandemic to complete their projects in 2022.

International students

During 2021, 3 230 international students (excluding permanent residents) were registered at UP, with about 87% of these coming from Africa.

The University concluded four student exchange agreements with Antwerp University (Belgium), University of Oslo (Norway), Tokyo University of Foreign Studies (Japan), and National University of Lesotho (Lesotho).

The joint doctoral degree agreements grew to 20 in 2021 as UP partnered with Hasselt University (Belgium) and the University of Turku (Finland). Ten students were registered for these degrees.

Collaboration and co-authorship

International collaboration remains a core strategic focus for UP. While Europe and North America remain the most active areas for collaboration, both in terms of the number of institutions collaborated with and the research output of those partnerships, UP continues to strengthen relationships with other parts of the world.



Future Africa hosts two presidents

French President Emmanuel Macron and South African President Cyril Ramaphosa attended a high-level dialogue on manufacturing vaccines in Africa at Future Africa. This event was broadcast online and focused on access to vaccines for poorer and emerging economies. Dr Blade Nzimande, Minister of Higher Education, Science and Innovation, was the programme director for the dialogue. This was President Macron's first state visit to South Africa.





Special capacity building in Africa

UP co-hosts a research project aimed at better understanding African food systems and identifying solutions to achieve zero hunger in Africa. The Food Systems Research Network for Africa (FSNet-Africa) fellowship officially began in 2021, and 20 early-career researchers from six African countries joined their mentors from the UK and Africa in the first week of activities.



Awards and recognition

Each year UP pays tribute to academic achievers for their excellence and contribution to the University's mission.

Exceptional Academic Achievers

These internal awards recognise senior academics who are highly regarded by their peers and have consistently excelled in under- and postgraduate teaching and learning, research, community service and administration.

The Exceptional Academic Achievers in 2021 were:

- Prof Vasu Reddy of the Office of the Dean, Faculty of Humanities
- Prof Alta van der Merwe of the Office of the Dean, EBIT
- Profs Christian Pirk and André Ganswindt, from the Department of Zoology and Entomology
- Profs Steve Cornelius and Ann Skelton from the Department of Private Law.

Exceptional Young Researchers

Another UP initiative, these awards go to young achievers in research who have achieved academic excellence, international competitiveness, and local relevance. The recipients in 2021 were:

- Prof Thulani Hlatshwayo (Department of Physics)
- Dr Nedine Moonsamy (Department of English)
- Prof Joel Modiri (Department of Jurisprudence)
- Prof Gustav Muller (Department of Private Law)
- Dr Edward Snelling (Department of Anatomy and Physiology).

The National Research Foundation Awards

The NRF awards celebrate outstanding achievements of individuals and teams whose excellence has significantly advanced science for the benefit of society. Seven UP researchers and academics were honoured at the 2021 NRF Awards.

- Dr Steven Hussey was awarded a P-rating
- Profs James Ogude and Michael Bruford received their first A-rating
- Profs Brenda Wingfield and Yves van de Peer received their second A-ratings
- Profs Johannes van Oort and Charles van Onselen received their third and fourth A-ratings, respectively.

Academy of Sciences of South Africa

Forty-three of the country's leading scholars and scientists were inaugurated as members of the Academy of Science of South Africa (ASSAf) in 2021. Four of them are from UP: Profs Christian Chimimba, James Maina, Daniël Christiaan de Wet Swanepoel and Marietjie Venter.

National accolades

It was another exceptional year for UP researchers with academic staff being honoured by a wide range of organisations. A select few are mentioned below.

Prof Reghard Brits from the Department of Mercantile Law was appointed as the 2020/21 holder of the Journal for Private Law Exchange Chair at Radboud University in Nijmegen, Netherlands.

Prof Clifford Mutero, from the University's Institute of Sustainable Malaria Control, received an award for the best publication for an article published in *Malaria Journal*.

Prof Elsabe Kearsley of EBIT was appointed as President of the South African Academy of Engineering.

In addition to the above accolades, the following organisations honoured UP researchers.

The Academy of Science of South Africa (ASSAf) awarded **Prof Charles van Onselen** the Humanities Book Prize for his highly acclaimed book, *The Night Trains: Moving Mozambican Miners to and from South Africa, circa 1902-1955*.

The South African Veterinary Association (SAVA) Research Award was bestowed on **Prof Emma Hooijberg**. The award is presented to veterinarians for best scientific article, or series of articles, recently published in scientific journals.

The TB Osborne Medal awarded by the Cereal and Grains Association went to **Prof John Taylor**. His team has made significant innovations in using kafirin as a bioplastic polymer and as a functional replacement for gluten in non-wheat types of bread.

At the National Science and Technology Forum (NSTF)-South 32 Awards, **Prof Stephanie Burton** won the Management Award. These awards are informally recognised as South Africa's Science Oscars.

The World Building Congress (WBC) named **Dr Karen Botes** the winner of the abstract-writing competition.

The Knowledge Tree Awards of the Water Research Commission's Empowering Communities award was won by **Dr Marco van Dijk**.

The Association of American Medical Colleges (AAVMC) bestowed its 2021 Excellence in Research Award upon **Dr Juergen A Richt**.



Exceptional researcher

Prof Charles Manga Fombad has won the UP Chancellor's Award: Research. He is a Professor of Law and the Director of the Institute for International and Comparative Law in Africa (ICLA), in the Faculty of Law. His research focuses on comparative constitutionalism in Africa.

Prof Fombad has published 94 articles in accredited journals, 62 book chapters, and 16 books (authored, co-authored, edited, or co-edited). He is a B1 NRF-rated researcher.



The European Foundation for Management Development (EFMD) presented **Prof Caren Scheepers** and **Dr Tracey Toefy**, with the Best African Business Case award.

The Wikimedia Foundation, in its inaugural event, jointly presented the Research Award of the Year to UP's **Dr Vukosi Marivate**, as part of a research team for the Masakhane Natural Language Processing (NLP) research project.

04 ENGAGEMENT

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HELPING PEOPLE
AND PARTNERS THROUGH
INCLUSIVE ACTION

Despite the constraints imposed by the Covid-19 pandemic in 2021, stakeholder engagement continued at both community and international levels.

Community engagement focused on outreach and supporting national responses to the pandemic. For example, the UP Community-Orientated Primary Care (COPC) Research Unit in the Department of Family Medicine conducted various outreach initiatives, including Covid-19 screening in rural communities.

Additionally, the Faculty of Health Sciences undertook to support homeless people in the Tshwane area, including both screening and testing for Covid-19.

While lockdown regulations continued into 2021 and resulted in the suspension of many planned face-to-face activities, the University used online platforms to host debates, high-level conferences, webinars, and to sign institutional agreements arising from interactions in prior years.

Acting local

Engagement with society and communities links the research and teaching skills of our staff and students to the specific needs of individual communities, thus impacting communities positively. In turn, student life and the attributes developed while at university are enriched through their service-learning and engagement.

A major part of community engagement at UP is curricular – that is, students earn credits towards their degrees while applying their knowledge in the service of the community.

In 2021, 355 modules had a community engagement component. The University engaged with the Talloires Network and USRN (the University Social Responsibility Network) and the South African Higher Education Community Engagement Forum to share ideas on good practices in community engagement.

Community engagement is a major contributor to curriculum transformation. Students apply their knowledge and skills to solve problems in partnership with local communities that have identified a problem in their environments. Student learning is therefore highly contextualised and, as such, develops social responsibility. Students learn how to work with underserved communities, to help them solve immediate problems, and to transfer and develop skills in order for them to independently solve problems in future.



Partnering with industry

UP has a track record of successful collaboration with industry across various domains, among them, research chairs, industrial placement opportunities for students, infrastructure development, and continuing professional development.

In 2021, UP partnered with Exxaro Resources to create the Exxaro Chair in Extended Reality (XR) Technology.

The chair will offer a framework on how the XR technology can be used to address mining industry challenges and on identifying the best available technologies for the solutions. It is part of a concerted effort at UP to focus on 4IR technologies and data integration to proactively solve current and future problems.

In addition, ABSA committed to continue supporting chairs in data science, actuarial science, and banking law to the value of R5.2 million, as well as funding bursaries for agricultural students to the value of R720 000.



Prof Tawana Kupe, UP Vice-Chancellor, and Mxolisi Mgojo, outgoing CEO of Exxaro Resources, at the launch of the Exxaro Chair in Extended Reality.

Thinking global

Collaboration with over 3 000 institutions across the globe help to realise the University's potential to meaningfully impact on the lives of members of the local, regional, and global community. Around 44% of the research conducted by UP is done with international collaborators.

Institutional agreements

The University relentlessly pursued global engagements and used online platforms to sign Memoranda of Understanding (MoUs) and Memoranda of Agreement (MoAs) resulting from the in-person visits conducted during previous years.

This focus has resulted in UP emerging from a pandemic-disrupted period having grown in local and international partnerships. The following Institutional Agreements were signed in 2021.

• **Cornell University:** UP is proud to be the first university in Africa to sign an institutional-level agreement with Cornell University. The universities agreed to collaborate on research with a focus on sustainability, including the food-energy-water nexus, environment, and global One Health.

The cornerstone of this relationship is the unique status that UP and Cornell share: UP has the only Faculty of Veterinary Science in South Africa and the highest-ranked programme on the continent, while Cornell is the only Ivy League university in the US that has a College of Veterinary Medicine and a College of Agricultural and Life Sciences.

• **Murdoch University:** UP and Murdoch University, which has been a long-term collaborator on many research projects, signed an MoU to strengthen collaboration on health, food, and the environment. This will be linked to global initiatives such as One Health.

• **University of Leeds:** UP formalised a growing partnership with the University of Leeds in 2021. One collaboration revolves around the Food Systems Research Network of Africa (FSNet-Africa) Sustainable Food Systems Initiative and collaborations already established in the Faculties of Humanities, and of EBIT. Another is the ARUA Centre of Excellence research project worth £2 million.

• **New York University:** UP agreed to cooperate with New York University in the areas of transformational leadership, academic staff exchange, renewal, and transformation of curricula, as well as student leadership capacity development. As part of this partnership, an executive education programme will be developed, which will focus on inclusive innovation for individuals and institutions across various sectors.



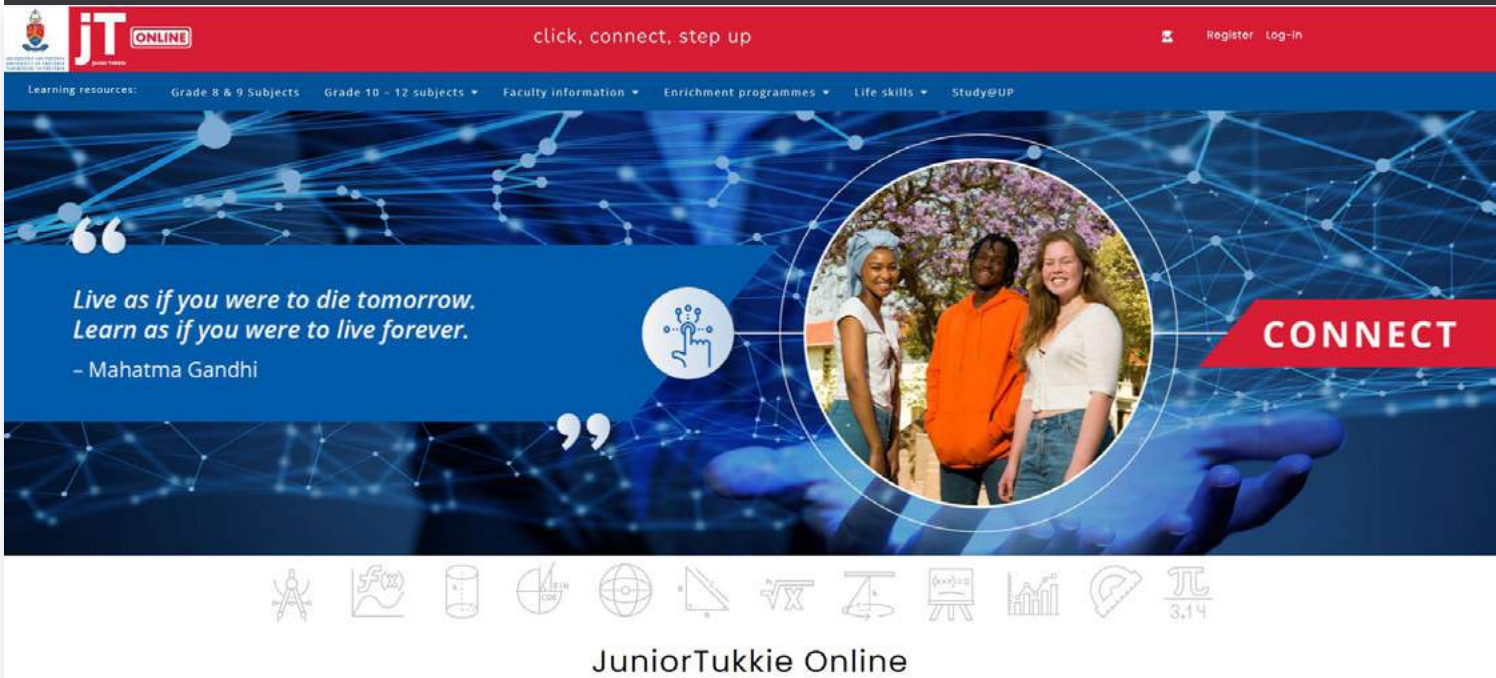
355
UP modules that include a community engagement component

Making a positive impact online

The Department of Enrolment and Student Administration (DESA) engages with learners at over 700 schools nationally, as well as with some selected SADC schools, to recruit students to the University.

These relationships are strengthened through partnerships with various companies through their corporate social investment programmes.

In 2021, one such partnership led to the development of the JuniorTukkie Online platform in collaboration with UNICEF. This platform has already been accessed by over 60 000 learners, to help them improve their academic and life skills at school level. Through the JuniorTukkie APP, the University regularly engages with over 5 000 prospective students.







3 000
Number of institutions worldwide with which UP collaborates



44%
Research conducted by UP together with international collaborators



1st in Africa
To sign an agreement with Cornell University



Only university in Africa
To belong to the University Social Responsibility Network, which has 16 members from across the world

• **Afrobarometer:** UP and research network Afrobarometer signed an MoU to boost research and analysis skills among young African researchers. Afrobarometer is a non-partisan, pan-African research network and the world's go-to source for reliable data on African citizens' experiences and evaluations of democracy, governance, and quality of life.

• **NRCA:** With a partnership dating back to 1917 as the basis, UP and the Netherdutch Reformed Church of Africa (NRCA) signed a cooperation agreement to educate and train theological students at UP.

• **British University in Egypt:** The Centre for Human Rights in the Faculty of Law, and the British University in Egypt's Faculty of Law signed an MoU to organise the 31st African Human Rights Moot Court Competition. The Centre for Human Rights co-organises this competition annually together with a faculty of law at an African university.

Using tech to connect

Many of the University's face-to-face activities and interactions could not take place due to lockdown restrictions on large gatherings. However, thanks to an expanded IT infrastructure, UP could maintain – and even grow – connections with its communities.

Nobel Prize Dialogue in Africa

In collaboration with Nobel Prize Outreach, UP hosted the first Nobel Prize Dialogue in Africa.

Five Nobel laureates from across the world participated in the meeting with the theme 'The future of work'. Other topics discussed included the working skills people will need in the future and what can be done to inspire hope in the younger generation, given current technological developments.

This event received wide publicity and global exposure, with over 6 000 connections from 115 countries.

As a legacy project, the University has established the Centre for the Future of Work in the Faculty of Economic and Management Sciences, which is attracting global interest to collaborate and form partnerships.

African Genius Awards

This partnership between academia and the business world was launched to honour exceptional Africans who promote the values needed to take Africa forward.

Due to the rising number of Covid-19 infections in the country, the awards ceremony, which was to be held at Future Africa, was held online. Nominees and guests from South Africa, Ethiopia, Sierra Leone, and the USA participated in the event.

Anti-apartheid activist Steve Biko, Nigerian billionaire business magnate Aliko Mohamed Dangote, and 'father of African literature' Chinua Achebe, also from Nigeria, were announced as winners of the inaugural African Genius Awards.

UP and USRN-hosted international summit

Together with the University Social Responsibility Network (USRN), UP hosted an international online summit with the theme 'University social responsibility: Priorities for the next decade'. The USRN has 16 members from across the world, and UP is the only African university in the network.

Times Higher Education Impact Forum

UP co-hosted the first virtual Times Higher Education Southern Africa Impact Forum, where more than 20 academics from across the world acted as panellists and speakers in the field of higher education. The theme was 'Reimagining universities for transdisciplinary knowledge co-creation'.

The African Research University Alliance (ARUA) 2021 Biennial International Conference

The Third Biennial ARUA International Conference took place at UP's Future Africa Institute. It was jointly hosted by UP and Wits under the theme 'Global public health challenges: Facing them in Africa'.

The hybrid event brought together experts from universities, research institutions, government, industry, civil society, and international organisations to discuss the different steps that African economies need to take in order to face global public health challenges.

GIBS Media Leadership Think Tank launch

The Media Leadership Think Tank is an independent platform for leaders and stakeholders in the media and audio-visual industries. It will generate research and innovative solutions for businesses, civil society and government policy and will draw on experts from across Africa and globally.

It is a precursor to the introduction of a transdisciplinary media education and training programme at UP. For the launch event, an international panel of media experts explored the power of social media platforms and claims of censorship, incitement, and de-platforming.

Alumni who raise our profile

UP's 300 000-plus alumni continue to be sterling ambassadors of the University, and their achievements in an array of disciplines show that at UP you leave with more than a degree. You also acquire the confidence and skills to take centre-stage in whatever you choose to do.

Their prominence on the national and international stage positively positions UP as a global institution and helps create fertile ground in which relationships can be cultivated.

Olympic gold medallist

Tatjana Schoenmaker (see image right) put South Africa on the map and on the medal table at the 2020 Tokyo Olympic Games when she set a world record for the 200m breaststroke, to win gold. She also finished the 100m breaststroke in second place, earning a silver medal.

Director-General appointment

Advocate Doctor Mashabane has been appointed as the Director-General of the Department of Justice and Constitutional Development. He holds a Master's of Law (International Human Rights Law) degree from UP.

Scientific and Engineering Award

Nicholaas Verheem received the prestigious Scientific and Engineering Award from the Academy of Motion Picture Arts and Sciences for the development of Teradek's Bolt, a wireless video solution.

2021 Trailblazer

Roger Wyllie won the South African Institute of Chartered Accountants (SAICA) 2021 Trainee Trailblazer competition. He graduated from UP with a BCom (Accounting Sciences) degree with distinction and did the Postgraduate Diploma in Accounting in 2019.

Southern African Rhodes Scholarship

Dr Reantha Pillay is one of the Rhodes Scholarship awardees for 2021. She graduated *cum laude* with a MBChB in 2017 and is enrolled for an MSc in International Health and Tropical Medicine at the University of Oxford.

In August 2021, the Alumni Relations Office launched the LeadUP Podcast series. This is a spin-off of the University's successful LeadUP webinar series launched in 2020 to connect with alumni across the world, as well as to raise and maintain UP's profile during the initial stages of the Covid-19 pandemic.

The LeadUP Podcast is a platform for alumni, staff, and students to engage, while also inspiring listeners to be a force for positive change.



TRANSFORMATION

05

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DESIGNING A SUPPORTIVE
ENVIRONMENT WHERE
PEOPLE THRIVE

The University of Pretoria is committed to making the institution a welcoming space for students and staff from diverse socio-economic and cultural backgrounds.

In realising this objective, UP proactively implements steps to ensure that transformation permeates every aspect of UP, turning the University into an intellectual home for student and staff bodies that represent South Africa's rich diversity.

A diverse student life

There was an encouraging increase in the diversity of students enrolled for both undergraduate and postgraduate degrees in 2021.

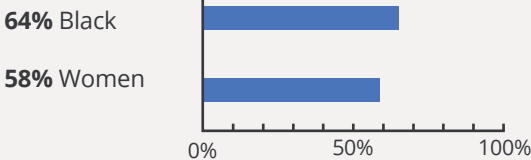
Black students account for 64.43% of the total student body, with the majority (58.41%) being women. Of the 37 233 undergraduate students, 21 665 (58.19%) are female. A similar proportion of men to women is seen in the postgraduate student body, with just over half (59%) being female.

The distance education programmes saw impressive growth during 2021. Enrolments increased by 49.82% from 2020, with a total of 3 353 students participating in these courses. The majority of distance learning students are female (66.8%) and almost all are black.

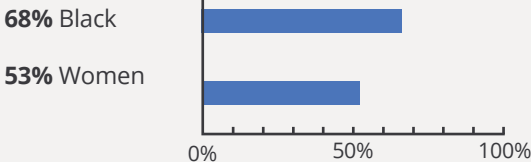
These levels of diversity were reflected in campus life, as 19 of the 29 house committee chairpersons for UP's residence accommodation and 14 of the 19 members of the SRC were black.

As is done each year, UP encouraged first-year students in 2021 to follow the values of promoting inclusivity and social cohesion, as well as a creating a sense of belonging, by introducing them to THE UP WAY.

UP student profile



UP staff profile



Women in Science Symposium

UP hosted its Third Annual Women in Science Symposium, which was in line with the 2021 United Nations International Women's Day theme, 'Women in leadership: Achieving an equal future in a Covid-19 world'.

The theme placed the spotlight on systemic gender inequalities and the fact that, to date, no single country has yet managed to achieve full gender equality that supports, nurtures, and grows the next generation of talented women leaders.

UP's future-ready students

Bianca Gevers, a PhD student in Chemical Engineering, was one of six women who received a grant from the L'Oréal-UNESCO for Women in Science South African National Young Talents programme. She also won the Young Persons' Lecture Competition in South Africa in the Young Persons' World Lecture Competition.



Bianca Gevers

LaToya Seoke, a PhD student in the Faculty of Veterinary Science's Department of Production Animal Studies, was one of only 20 women researchers to receive the Sub-Saharan Africa Young Talents Award for academic excellence under the auspices of L'Oréal-UNESCO for Women in Science.



LaToya Seoke

Lauren Senna Fouché, a student in the Faculty of Humanities, was jointly awarded the 2020 South African Translators' Institute (SATI) student prize. She founded her research on her experience as a high school English teacher where she realised that teachers and learners struggle with natural science because of language issues.



Lauren Senna Fouché

Agil Katumanyane, a PhD student in the Forestry and Agricultural Biotechnology Institute (FABI), received the Women in Science award for Sub-Saharan Africa Young Talents. Her work focuses on biological control of white grubs in South Africa, using a group of nematodes also known as roundworms that cause the death of insects.



Dr Agil Katumanyane

Ezette du Rand, a postdoctoral research fellow in the Department of Zoology and Entomology, won the Postdoctoral category in the L'Oréal-UNESCO Women in Science South African National Young Talents Programme 2021. Her research focuses on honeybees, more specifically on the tiny molecules in the male bee's seminal fluid.



Dr Ezette du Rand

Shilpa Ranchod, an MSc student in the Department of Physics, led a study in which a group of 20 galaxies were discovered using South Africa's MeerKAT telescope. This large galaxy group is likely the most neutral hydrogen gas-rich group ever discovered, and it is the first time this group has been identified, despite residing in a very well-studied area of the sky.



Shilpa Ranchod

Staff development

UP is foregrounding programmes in support of Early Career Academics and Researchers, with specific reference to black and female researchers. All are strongly underpinned by mentorship, which accelerates the timeframe from early career researcher to professor.

Future Professors Programme (FFP)

The DHET implemented the Future Professors Programme during 2021. This aims to develop academic excellence and leadership in university scholarship. A panel of A-rated scholars provides academic career development advice. Four UP senior lecturers, all of them black women, participated in the programme in 2021.

New Generation of Academics Programme (nGAP)

The University enrolled 31 nGAP candidates, which was an increase from 26 candidates in the previous year. By the end of 2021, 16 nGAP lecturers had completed their doctoral studies, marking an increase from 11 in 2020. All nGAP lecturers are from designated groups, with women making up two-thirds (67.7%).



Programme for Academic Leadership (PAL)

In keeping with the University's commitment to academic leadership development, 19 candidates in senior academic roles participated in PAL. Of the participants, three were deputy deans, five were heads of departments, 10 were professors and one was an associate professor.

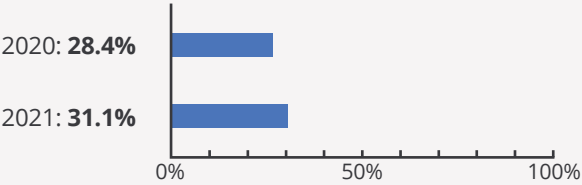
Executive Coaching Programme

The Programme offers coaching to all newly appointed deans and directors as well as to selected deputy deans to maximise leadership potential. One dean and a deputy dean participated in the programme in 2021.

Management Development Programme

This programme equips participants with the knowledge, personal qualities, and leadership skills needed to succeed in management. It also prepares participants for the transition from managing a department or business unit to a more generalised and senior managerial function. Twelve line-managers participated in the programme in 2021.

Black academic staff grows



4
Number of black women senior researchers who participated in the DHET's FFP



31
nGAP candidates, 67.7% of which are women

Doing away with discrimination

At UP, we fight the scourge of gender-based violence and other forms of discrimination through a combination of educational initiatives, dialogues, and disciplinary action.

In 2021, the Transformation Office worked tirelessly to ensure that our Anti-discrimination Policy and Operations Manual could be effectively applied to ensure the best outcomes for victims of gender-based violence and other discriminatory actions.

Due to constraints on physical activity because of Covid-19, UP found creative ways in which to continue with advocacy and awareness of anti-discrimination and social justice.

The campaigns took various forms, including institution-wide virtual sessions, infographics and short video clips, myth-busters in the form of digital posters, and closed workshops and focus groups led by the Transformation Office working with faculties, departments, and student societies. The campaigns also included anti-sexual harassment training sessions offered to staff and postgraduate students.

Supporting students and staff with disabilities

Several initiatives enhance the inclusion of students with disabilities, such as extended orientation for first-year students with disabilities, sourcing of funding for students with disabilities, and the DHET Disability Bursary. Additionally, the University provides and trains students with disabilities in the use of assistive technologies and devices.

The UP Disability Unit supports students with visual, hearing, physical, learning, psychological and chronic medical disabilities and ensures that they are integrated into the academic programmes and student social life. During 2021, a total of 630 students with declared disabilities received direct support from the Disability Unit.



A distinctive academic career

After an eight-year journey with the Disability Unit, Zak Classens, a blind student who had graduated with a BSc (Human Genetics) and an Honours in Bio-informatics, completed a master's degree in Bio-informatics during 2021. He obtained all his degrees *cum laude*.

This remarkable journey inspired a postdoctoral student in the Faculty of Natural and Agricultural Sciences to conduct the first local study of successful teaching and learning strategies for blind students in the natural sciences.

The study provides a guide that scholars, educators, university managers, and policymakers can use to ensure that mathematics and science subjects are accessible to blind students, and that teaching strategies allow them to perform to their full potential.

The study revealed that the availability and time commitment of tutors, a well-resourced and effective Disability Unit, and lecturers who ensure that blind students are accommodated, are indispensable factors for students with disabilities to succeed.





SUSTAINABILITY

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**SOLVING
TODAY'S CHALLENGES
WHILE FOCUSING ON
TOMORROW'S
SUCCESSSES**



The University's sustainability goal is underpinned by five outcomes:



Financial sustainability in terms of solvency, liquidity, and cash flow



An ecologically and economically sustainable infrastructure



A UP precinct that creates an enabling environment for staff and students to excel



A diverse and talented cohort of students, academic and professional staff



Integration of sustainability principles in all University operations.

During 2021, the Covid-19 pandemic continued to disrupt the world, the country and the University in a way that was a true test of resilience. Continued lockdowns and pandemic-related constraints, paired with ongoing economic pressures, presented significant challenges to UP's functioning and its long-term sustainability.

The entire University ecosystem of people, processes and infrastructure was impacted, and thus UP required a holistic and systems-thinking approach to designing appropriate interventions.

Funding for the future

Universities have been under pressure for many years due to ever-increasing costs and declining state funding. The onset of the pandemic exacerbated the sustainability challenges confronting universities, particularly due to the deteriorating macro-economic outlook.

With this in mind, strategic funding was a major focus for UP in 2021. Understanding the need for investment in key initiatives and a deliberate approach to the allocation of limited resources, the University undertook a variety of initiatives that promised to increase its long-term financial sustainability and further the Strategic Plan.

Government-related research funding saw a large drop and total external funding for research also declined. Enterprises UP played a significant role in securing funds by means other than formal research activities, resulting in R232,4 million turnover in 2021.

In addition to the funding secured through formal research activities and Enterprises UP, our donors, and alumni played an integral role in bolstering the University's financial sustainability. We are grateful to the Mastercard Foundation (R18 million), the Albert Wessels Trust (R2.6 million), the South African Reserve Bank (R2 million), HWSETA (R7.7 million), and BANKSETA (R4.2 million) for their contributions. Former Deputy Chief Justice (DCJ), Judge Dikgang Moseneke was the largest individual donor in 2021, donating R800 000 towards bursaries for law students.

Between 2019 and 2021, staff contributed over R1 million to various projects on campus. In addition, the first giving campaign aimed at attracting donations from UP's foreign charitable foundations in the United States and the United Kingdom, gained momentum in 2021.

The University was awarded sizeable international grants to help secure the future sustainability of the University, while realising its potential to positively impact the lives of people.

The initiatives that formed the basis for these grants are:

- *The InnoFoodAfrica project*, which focuses on enhancing food and nutrition security in South Africa, Ethiopia, Kenya and Uganda with a projected economic impact of €7.5 billion.

- Launching a \$500 000 (R8.3 million) *United States-South Africa Higher Education Network* (US-SA HEN) project to promote exchanges, collaborative research and other partnerships between UP, Rutgers University-Newark and the University of Venda.

- *An Alliance of African Partnership* (AAP) *Partnership for Innovative Research in Africa* (PIRA) grant along with Michigan State University for entrepreneurs and business initiatives.

- A R2.5 million grant from the *United Nations Children's Emergency Fund* (UNICEF) to support our JuniorTukkie programme, which helps learners make a successful transition from high school to higher education through digital learning.



R174 million
Donor funds in 2021



R232 million
Commercial business generated by Enterprises UP (Pty) Ltd

Two foreign charitable foundations encourage donations from alumni in the UK and USA for student support and strategic projects.



Buildings for tomorrow

The University has entered into a Power Purchase Agreement (PPA) to supplement its electricity supply by installing photovoltaic (PV) panels on existing and new buildings. In 2021, UP's PV panels generated 1 366 767 kilowatt hours of electricity. This, combined with energy-saving initiatives, has reduced UP's reliance on the electricity grid and supported both its financial and environmental sustainability goals.

The focus on energy- and water-efficient designs and upgrades has resulted in a 14.35% decline in electricity consumption from 2017 to 2021, as well as a 54.64% reduction in water consumption for the same period.

Waste generation was another major focus in 2021.

As a major generator of recyclable, food and garden waste, UP prioritised reducing the amount of waste taken to landfills. During 2021, a total of 87 358kg of waste was recycled and an amount of R102 235 was received in rebates.

By upgrading the compost and mulch production facility on the Hillcrest Campus, we substantially decreased the need for, and cost of, transporting garden refuse to landfill sites. In addition, the use of mulch in plant beds on the University campuses and properties reduces the need for irrigation and weed control, and creates healthier soils.

More than a third of UP's 730 buildings are classified as heritage buildings. The University's conservation management plan ensures that these buildings remain sustainable while conserving their heritage value.



14.35%
Reduction in electricity used on UP campuses since 2017



54.64%
Reduction in water used on UP campuses since 2017



87 358kg
Waste recycled in 2021



1 111m³
Mulch and compost produced in 2021

4IR-ready ICT infrastructure

UP's information and communication technology (ICT) infrastructure played a pivotal role in supporting both staff and students during the Covid-19 pandemic.

As a result, the IT infrastructure has been further strengthened to support remote work, as well as online teaching and learning. This included, among others, providing laptops and connectivity to students in need, as well as providing data allowances to enable staff to work from home.

UP became the first higher education institution in Africa to implement the Blackboard Ally (Bb Ally) software to make digital courses more accessible to all students. This software enables students with learning disabilities, as well as second-language students, to improve their academic performance, which fosters an inclusive learning environment.

The solution also integrates seamlessly into clickUP, making digital course content accessible to a greater variety of students.



Students for sustainability

Given the ever-increasing resource constraints, a priority for 2021 was to optimise available resources and increase income to support the University's academic project. In order to ensure sustainability, the focus fell on efficient strategies that would ensure a steady flow of talented, diverse students.

The annual #ChooseUP information event was attended by more than 10 000 conditionally admitted students and their parents.

The event provided an opportunity for prospective students, their parents, and guardians to engage with the Vice-Chancellor and Principal and deans, and attend information sessions on various programmes, academic and curriculum advising sessions, registration and orientation information sessions, as well as sessions provided by professional service departments.

In addition to ensuring that incoming students are both academically and financially prepared for higher education, UP intensified its efforts to enhance the workplace readiness of its graduates. The Ready-for-Work and Entrepreneurship programmes were designed to ensure workplace readiness and encourage more students to take up entrepreneurship as a career path.



FINANCE

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EMBRACING CHANGE AND BECOMING A FUTURE-FOCUSED INSTITUTION



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Make today matter

The University's total income increased by R461m to R7 751m during the reporting period. This was primarily due to the allowed tuition fee increase and a concerted effort to enhance third-stream income.

The main source of income remains the block grant received from government, together with earmarked grants in respect of veterinary sciences, clinical training, foundation year programmes and university capacity development initiatives. Subsidy income, including restricted earmarked grants, increased by only 1% when compared to 2020.

The second main source of income, tuition fees, increased by R195m, due to the over-enrolment of students at UP as well as improved performance at GIBS.

The Department of Higher Education and Training, together with the USAf Board, agreed to a 4.7% tuition fee increase for 2021. Similarly, a 6.7% increase was agreed for accommodation and meal fees. However, income in this category decreased by R16m due to low occupancy levels mainly due to Covid-19.

Income from contracts and services increased by 20% from 2020 to 2021, due to the gradual lifting of Covid-19 regulations and a resultant increase in research activities and other services.

Income from interest and dividends was better than expected due to market performance. The JSE reached an all-time high in December 2021.

Income from Donations and gifts decreased substantially due to the challenging economic climate arising from Covid-19.

Personnel costs increased by 4.0%, while operating expenses increased by 23.9%. The main reasons for this increase is the low baseline during 2020 as a result of the hard lockdown and an increase in expenditure due to the resumption of research and contract services during 2021.

The University continued to achieve savings on various operating expenses due to the lockdown, but this was limited and began increasing when the lockdown restrictions were eased.

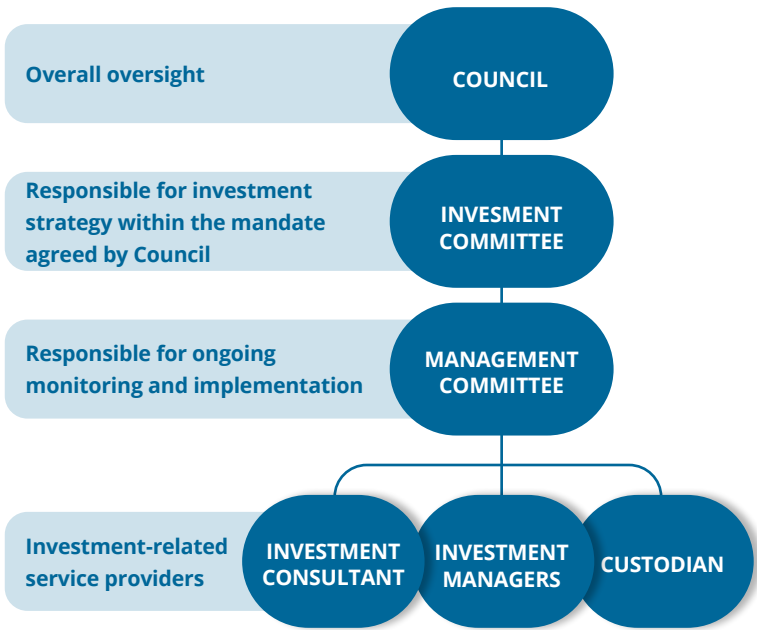
Total income of the University of Pretoria for 2021 and 2020

	2021 Rm	2020 Rm	Change Rm
ASSETS			
Government grants	3 142	3 110	32
Tuition fees	2 056	1 861	195
Income from contracts and services	1 502	1 251	251
Accommodation and meal fees	406	422	(16)
Interest/dividend income	342	321	21
Donations and gifts	152	201	(49)
Net fair value gains/(losses) on financial assets	93	71	22
Net interest income on defined-benefit plans	58	53	5
Total	7 751	7 290	461

Investment Portfolio

The University has a diversified investment portfolio that is governed by the Investment Committee of Council.

The figure below sets out the structure of the University in relation to investment matters:



The University's investment funds are designed to serve three purposes, namely:

- to meet part of the short-term requirements of the University – these liabilities have a maximum term of 24 months. The risk profile emphasises the need for capital protection over short periods and a high degree of liquidity;
- to meet the long-term liabilities (5 years and more) of the University – the main requirement here is a good investment return relative to inflation over the long term; and
- to meet the requirements of a special class of the long-term liabilities being the post-retirement medical aid benefits.

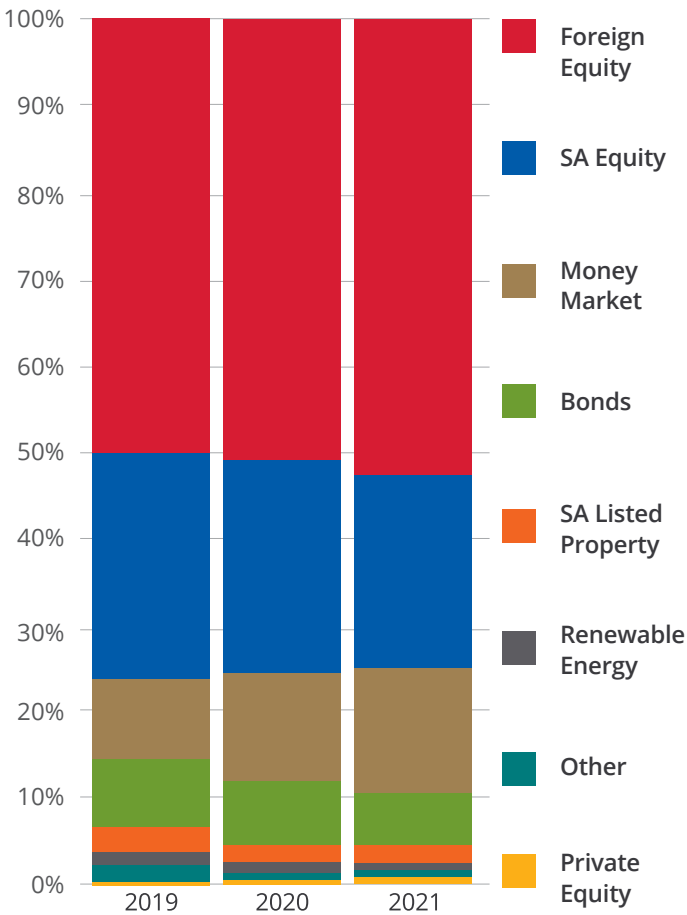
The University aligns its investment philosophy to the term of the liabilities and the risk profile. To this end, three investment portfolios have been established:

- Money Market Portfolio
- Long Term Capital Portfolio and
- Continuation Medical Aid Portfolio.

The University follows an investment strategy that rebalances between Long Term Capital and Money Market portfolios according to the cash flow requirements of the University, based on a rolling working capital budget, which accounts for the cash flows of major projects over a rolling 15-month period.

In Figure 1 alongside, an indication of the University's diversified investment portfolio over the past three years is provided. The significant proportion of foreign investments allowed for reasonable stability in the investment portfolio despite the volatile financial markets, by limiting the risk of price fluctuations through leveraging foreign exchange gains.

Figure 1: University's investment portfolio



Conclusion

The University has displayed satisfactory results for the financial year ended 31 December 2021 despite the continued impact of Covid-19 on the economy and the higher education sector.

The controls and measures that the University instituted at the onset of the pandemic, have ensured that the University continues to be financially sustainable. However, the economic decline, pressures on the national fiscus, the funding of NSFAS students and increasing inflation will require prudent spending measures, a prioritisation of funding toward key strategic goals and continued progress towards reducing the proportion of personnel cost to total expenses.



SUMMARISED CONSOLIDATED STATEMENT OF FINANCIAL POSITION

at 31 December 2021

	2021 Rm	2020 Rm
ASSETS		
Non-current assets	22 671	18 959
Property, plant and equipment	6 325	6 226
Right-of-use assets	1	3
Intangible assets	72	74
Investments at fair value through other comprehensive income	14 377	11 117
Investments at fair value through profit and loss	1 121	1 042
Investment in associate companies	1	2
Defined benefit pension plan	326	245
Defined benefit medical plan	424	224
Defined benefit/contribution provident plan	11	10
Loans and receivables	13	16
Current assets	4 006	3 203
Inventories	30	32
Investments at fair value through profit and loss	236	185
Investments at amortised cost	3	3
Receivables and prepayments	584	510
Cash and cash equivalents	3 153	2 473
Total assets	26 677	22 162
Equity and liabilities		
Total funds	22 201	18 127
Non-distributable reserves		
Fair value revaluation reserve funds	5 463	3 434
Reserve funds		
Restricted funds	6 085	5 794
Council designated funds	10 649	8 897
Unrestricted operating funds - education and general	4	2
Non-current liabilities	1 714	1 646
Lease liabilities	-	1
Deferred income	1 636	1 645
Group life assurance liability	78	-
Current liabilities	2 762	2 389
Lease liabilities	2	2
Trade payables, accruals and other liabilities	850	791
Deferred income	940	914
Contract liabilities	189	234
Student credits and deposits	403	352
Agency funds	378	96
Total funds and liabilities	26 677	22 162



SUMMARISED CONSOLIDATED INCOME STATEMENT

for the year ended 31 December 2021

	2021 Rm	2020 Rm
Operating revenue	7 258	6 844
Less operating expenses	6 833	6 267
Personnel costs	4 111	4 018
Other operating expenses	2 454	1 980
Depreciation and amortisation	268	269
Net surplus from operations	425	577
Interest, dividends and sale of investments	342	322
Net interest income on defined benefit/contribution plans	58	53
Net fair value gains	93	71
Other non-recurrent expenses	(1)	(1)
Loss/(profit) on disposal of property, plant and equipment	(2)	(5)
Surplus before tax	915	1 017
Surplus for the year attributed to:	915	1 017
University of Pretoria	915	1 017

SUMMARISED CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME FOR THE YEAR ENDED 31 DECEMBER 2021

Surplus for the year	915	1 017
Other comprehensive income / (loss) for the year	3 159	714
Remeasurements on defined benefit medical plan	184	(48)
Remeasurements on defined benefit pension plan	52	(39)
Remeasurements on defined benefit/contribution provident plan	(1)	11
Remeasurements on group life assurance plan	(34)	7
Past service cost on defined pension plan	-	(4)
Net fair value gains on financial assets	2 958	787
Total comprehensive income for the year	4 074	1 731
Total comprehensive income attributed to:	4 074	1 731
University of Pretoria	4 074	1 731

CONSOLIDATED STATEMENT OF CHANGES IN FUNDS

for the year ended 31 December 2021

	Unrestricted operating fund	Council designated and restricted funds – other	Council designated and restricted property, plant and equipment funds	Restricted student accommodation fund	Total Funds
	Rm	Rm	Rm	Rm	Rm
Balance at 31-12-2019: credit	1	10 834	5 560	1	16 396
Net (decrease) / increase in funds	1	1 345	387	(2)	1 731
Surplus for the year Restated	148	919	(80)	30	1 017
Other comprehensive income	-	714	-	-	714
Net transfers (to) / from other funds	(147)	(288)	467	(32)	-
Balance at 31-12-2020: credit	2	12 179	5 947	(1)	18 127
Non-distributable reserves	-	3 434	-	-	3 434
Council designated funds	2	7 559	1 337	-	8 898
Restricted - other funds	-	1 186	4 610	(1)	5 795
Net (decrease) / increase in funds	2	3 693	376	3	4 074
Surplus for the year	225	664	(72)	98	915
Other comprehensive income	-	3 159	-	-	3 159
Net transfers (to) / from \ other funds	(223)	(130)	448	(95)	-
Balance at 31-12-2021: credit	4	15 872	6 323	2	22 201
Non-distributable reserves	-	5 462	-	-	5 462
Council designated funds	4	9 042	1 608	-	10 654
Restricted - other funds	-	1 368	4 715	2	6 085

“

WE HAVE TO MAKE TODAY MATTER TO
CO-CREATE IMPACTFUL, TRANSFORMATIVE
KNOWLEDGE FOR A BETTER, MORE INCLUSIVE
AND SUSTAINABLE WORLD.

”

Kuseni Dlamini
Chair of UP Council

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