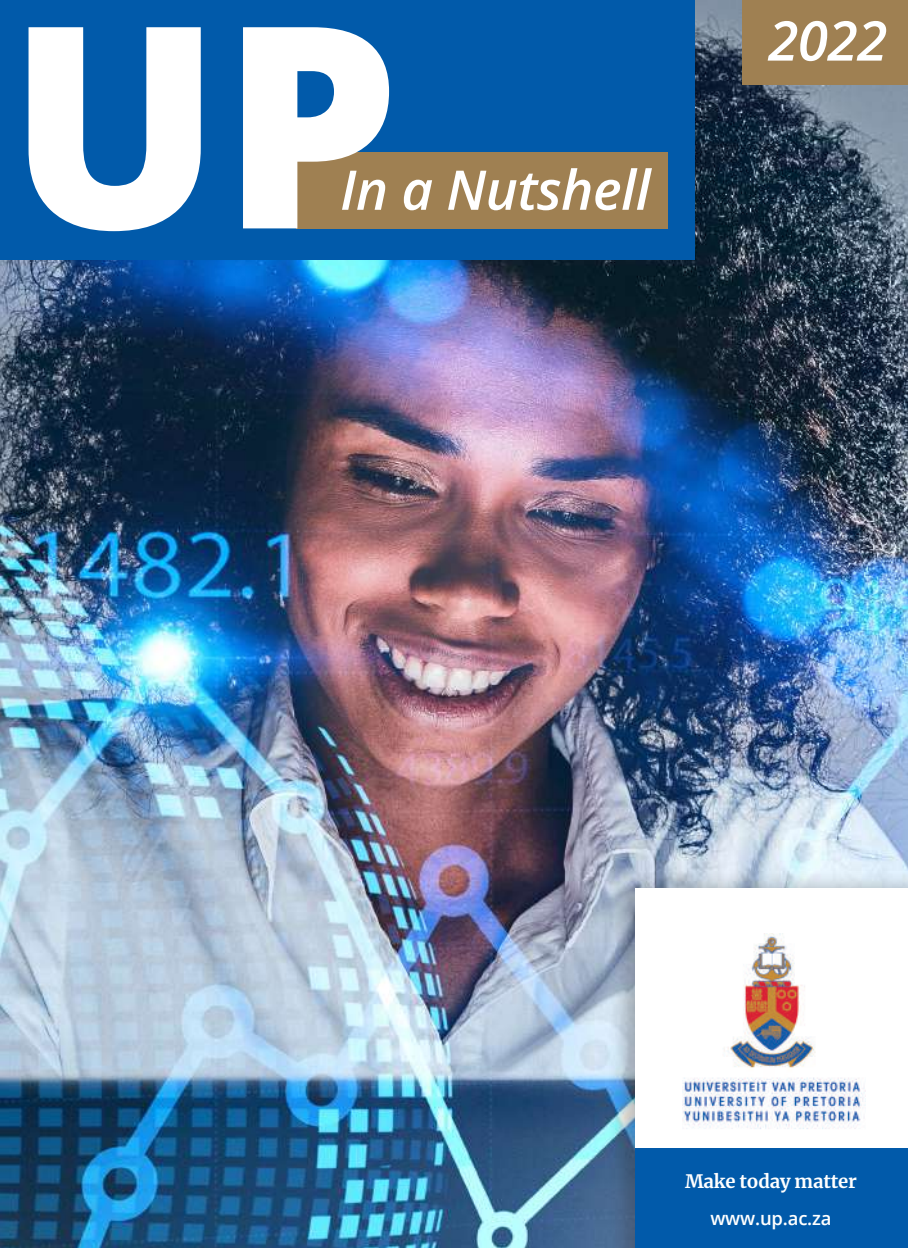


# UP

*In a Nutshell*

2022



UNIVERSITEIT VAN PRETORIA  
UNIVERSITY OF PRETORIA  
YUNIBESITHI YA PRETORIA

Make today matter

[www.up.ac.za](http://www.up.ac.za)

# OUR VISION IS TO BE

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.

# OUR GOALS ARE TO

- Enhance access and successful student learning
- Strengthen the University's research and international profile
- Foster and sustain a transformed, inclusive, and equitable University community
- Optimise resources and enhance institutional sustainability
- Strengthen the University's social responsiveness and impact in society.

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Future Africa Institute

Unless indicated to the contrary, all statistics are provided by the University of Pretoria's Department of Institutional Planning and are valid as at August 2022.





# OVERVIEW

*UP has evolved progressively over more than a century of its existence: from starting out as the Pretoria branch of the Transvaal University College in 1908 to becoming a future-focused global African university today.*

## How an African giant was born



**1908**

The University of Pretoria (UP) comes into existence as the Pretoria branch of the Transvaal University College (TUC).

The College becomes a fully-fledged university in 1930 and the colloquial name Tuks, or Tukkies, was derived from the acronym TUC.

**1930**



**1949**

UP becomes the first South African university to establish a business school, the Institute for Management and Administration (a precursor to GIBS).

An independent Department of Business Science is established and a full-time MBA programme approved. This was the first of its kind outside of the USA.

**1972**





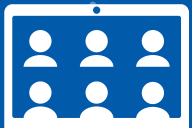


**2000**

UP establishes the Gordon Institute of Business Science (GIBS), which is globally recognised for the quality of its management education.

**2019**

UP adds to its transdisciplinary research platforms: Engineering 4.0, Future Africa Institute, Innovation Africa@UP, the Javett-UP Art Centre.



**2020**

UP leads the way in leveraging digital technologies during Covid-19 for teaching, learning, research and greater societal impact.



**2021**

UP develops its 2022–2026 strategic plan, 'Destination 2026 and beyond', that sees it strengthening an integrated approach, driving a transdisciplinary agenda, and establishing a culture of innovation and entrepreneurship across all University functions.

# UP AT A GLANCE

*We are a key contributor to South Africa's economic growth and social development, exerting influence through three major pathways: teaching, research, and service to society.*

## Academic offering



**9**  
Faculties



**1**  
Business School



**4**  
Centres of Excellence



**51**  
Research Chairs



**82**  
Research Institutes and Centres



**1 175**  
Study programmes



**120**  
Academic departments



**237**  
Degrees, certificates and diplomas

## International profile



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



Agricultural Sciences



Biology and Biochemistry



Molecular Biology and Genetics



Pharmacology and Toxicology



Chemistry



Clinical Medicine



Economics and Business



Engineering



Environment/Ecology



Immunology



Microbiology



Plant and Animal Sciences

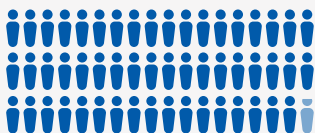


Social Sciences<sup>1</sup>

## 2022 THE Impact Rankings

According to the 2022 Times Higher Education Impact Rankings, released in May 2022, UP was named South Africa's second-best (joint second) and Africa's third-best (joint third) university.

## Student profile



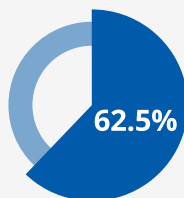
**53 912**

Total number of students enrolled (contact, distance and online)

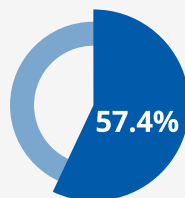


**16 278**

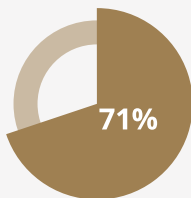
Number of postgraduate students



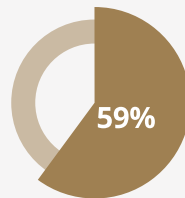
Black students  
in 2021



Women students  
in 2021



Black postgraduate  
students in 2021



Female postgraduate  
students in 2021

## Staff profile

**70%**

Academic staff with PhDs, the highest ratio of all SA universities

**613**

NRF-rated researchers, the highest number of all SA universities

**17**

A-rated researchers

## Campus profile

**7 x 884 x 110**

The University is spread over seven campuses in 884 buildings on 110 properties

**33%**

More than a third of UP's buildings are classified as heritage buildings

# QUALITY ABOVE ALL ELSE

*UP has evolved progressively over more than a century of its existence: from starting out as the Pretoria branch of the Transvaal University College in 1908 to becoming a future-focussed global African university today.*

In many ways, the Covid-19 pandemic of 2020-2021 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.

UP's hybrid flipped-learning model, Teach and Learn: THE UP WAY,

resonates well with remote teaching and learning. The model requires extensive non-classroom-based activities by both lecturers and students. 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).





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.

We are already the traditional university with the largest number of contact students and our future-fit approach – which prepares graduates for the new world of work – sees these numbers growing each year.

## Supporting successful students

We are resolute in our intended outcome of producing quality graduates who can contribute to South Africa's knowledge economy. Our integrated approach covers the full student life cycle and supports students physically, mentally and emotionally from the second they step onto the campus. This has, we believe, contributed to our ongoing high examination pass rate. In 2021, 93% of full-time undergraduates passed their exams.

**#ChooseUP** Day is held annually in September to introduce UP, its staff, campuses and student services to grade 12 learners who have received conditional admission offers to their matric/school-leaving results.

**FLY@UP** provides students with support and actionable options to succeed in their studies and graduate in minimum time. FLY stands for the Finish Line is Yours.

**FLYHigher@UP** supports the throughput of postgraduate students and helps them complete their studies in the minimum time.

**Social learning spaces** mimic real-world work and social environments, which encourage interaction and cross-disciplinary problem-solving. This enhances accessibility and promotes successful student learning, which is one of our critical goals.

**Connected campuses** – Wi-Fi coverage extends to around 400 lecture venues across all campuses. When not on campus, students can access academic content without incurring any data costs through UP Connect, a unique portal developed by UP.

Our reputation for producing quality graduates gains traction through our over 300 000 alumni, many of whom are luminaries in the business, social, political, sporting and cultural arenas, making a positive difference worldwide. We keep in contact with them via UP's Alumni App, which has been ranked as the fastest-growing alumni platform in the world. The LeadUP webinars and podcast series brings leading UP alumni, academics and experts into national, African and global conversations.

## Alumni game-changers



**Tatjana Schoenmaker,**  
**Olympic gold medalist, 2021**  
Bachelor of Commerce,  
Financial Sciences (2020)



**Ndavi Nokeri,**  
**Miss South Africa 2022**  
Bachelor of Commerce, Investment  
Management (2022)



**Clement Manyathela,**  
**Radio 702 DJ**  
Bachelor of Arts (2013)



**Yvonne Dausab,**  
**Minister of Justice, Namibia**  
Master of Laws, Human Rights  
and African Democratisation (2001)



**Ronald Lamola,**  
**Minister of Justice and  
Correctional Services,  
South Africa**  
Master of Laws, Corporate Law (2015)  
Master of Laws, Extractive Industry Law  
in Africa (2018)



**Nicol Verheem,**  
**Oscar Award-winner 2021**  
Bachelor of Engineering,  
Electronic Engineering (1996)

## Supported by quality staff

The visibility of our lead researchers is demonstrated in the Essential Science Indicators (ESI) database, where UP is rated among the top 1% globally in 13 of the 22 fields.

The 2022 Quacquarelli Symonds (QS) World University Rankings by Subject further rates UP as the best university in South Africa to study Veterinary Science, Accounting and Finance, Economics and Econometrics, Mechanical, Aeronautical and Manufacturing Engineering, Electrical and Electronic Engineering. A significant achievement is being ranked Number 33 in the world for Mineral and Mining Engineering.



# 97%

of currently employed graduates found work within six months of completing their studies.<sup>1</sup>



# 93%

Full-time undergraduates who passed their exams



# 312 827

Number of UP alumni in 118 countries



## First university in South Africa

To use Bb Ally software to make digital courses more accessible to all students

## Rated highly by employers\*

190th in the world for Employer Reputation

## Top 100 in the world and first in SA for:\*\*

Zoology (#32)

Veterinary Science (#65)

Economics (#82)

## Top 200 in the world for:\*\*

Infectious diseases (#131)

Agriculture (#134)

Language, Communication and Culture (#154)

Law and Legal Studies (#199)



## Among the Top 50 universities in the world for

The subject of Mineral and

Mining Engineering (#33)<sup>3</sup>

Business Schools (Gordon Institute of Business #43)<sup>4</sup>

**SDG 15:** Life on Land (#30)<sup>5</sup>

**SDG 8:** Decent Work and Economic Growth (#44)<sup>5</sup>



## THE UP WAY of teaching and learning

### Prepare

UP uses the VitalSource Bookshelf platform to give students instant online and offline access to e-textbooks on any device. Students can also use the OpenStax app to access the free Open Educational Resources (OER).

### Engage

Inquiry-based learning – teaching by questioning, not by telling – enables students to think, communicate, and justify their ideas. Encouraging engagement with learning material has proven an effective means of teaching and learning at the University.

### Consolidate

UP applies a balance of formative and summative assessments over time, collected from multiple sources, to provide an authentic, reliable, and valid picture of students' learning.

**Source:** 1. 2021 Graduate Destination Survey, Department of Institutional Planning. \*2023 QS World University Rankings. \*\*2022 URAP World University Rankings 3. 2022 Quacquarelli Symonds (QS) World University Rankings by Subject 4. UK Financial Times Executive Education rankings 5. Times Higher Education Impact Rankings for 2021

# RESEARCH THAT MATTERS



*We aspire 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.*

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.

## Achieving world recognition

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

While these advances are a reward in themselves, 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 9 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).

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.



## Building capacity, connection, reputation

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.

Despite restrictions of the Covid-19 pandemic, 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 223 international institution-wide partnerships across 70 countries and six continents.

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.



## Unique research strengths

- World's leading laboratory in DNA typing of rhinoceros
- Africa's lead laboratory in malaria control
- First WHO Collaborating Centre in Africa (for the prevention of deafness and hearing loss)
- Africa's first Virtual Reality Centre for mine design
- Africa's first independent transport reference and testing facility
- South Africa's first Diabetes Research Centre at a public academic institution

### Rhino CT Scan





## Digital focus on food

Building on its reputation as a future-focussed university, UP has 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 Africa. It enables 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.

## International presence



**16**  
New inventions



**24**  
International patents filed

### **3 000 x 223 x 70 x 6**

UP collaborates with over 3 000 institutions with 223 international partnerships across 70 countries and six continents



#### **1st in Africa**

- To sign an agreement with Cornell University
- To have a portable emissions measurement system to help set realistic carbon emission targets



#### **Only university in Africa**

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

## Remaining a partner of choice

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 24 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.

The University has consistently achieved research outcomes that place it among the top-performing research institutions in Africa. We intentionally focus on 'research that matters', and thematic areas that demonstrate the impact on society.

Our current research focus is on 21st Century-relevant areas, in particular Artificial Intelligence (AI), Food Security, Sustainable Environments and Societal Wellbeing. Four of our 51 research chairs specialise in AI, data science, machine learning and cybersecurity.

## Research focus areas

- Agriculture and sustainable food systems
- Climate change and the environment
- Economic development and sustainable futures
- Energy
- Heritage studies
- Inequalities, Social Justice and Human Rights
- One Health
- Smart infrastructure and innovation
- Water

## Gardens at the Future Africa Institute



# HAVING AN IMPACT; MAKING A DIFFERENCE

*We go beyond the classroom to ensure our students emerge as well-rounded citizens with a deep sense of civic responsibility and their place in the world.*

## Working for society, with society

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.

By linking the research and teaching skills of our staff and students to the specific needs of individual communities, we use knowledge to make a decisive difference to the lives of the people in our communities. In turn, student life and the attributes developed while at university are enriched through their service-learning and engagement.

UP was ranked among the top universities in the world in the Times Higher Education (THE) Impact Rankings for 2021, the only ranking system that assesses promotion of the United Nations Sustainable 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. This places us among the top 150 institutions in the world and re-affirms our commitment to making a positive impact on society.

## Preparing our students for the real world

We regard graduate employability and entrepreneurship as key outcomes of studying at UP, especially given the rising levels of youth unemployment and the evolving world of work. Our students' employability skills are developed through a broad range of programmes:

- **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.
- **The Entrepreneurship Training Programme** offers free support services and courses to potential and new entrepreneurs on campus, while TuksNovation is a high-tech business incubator for start-up companies.
- **The online TuksCareers platform** lets UP students and alumni interact with potential employers and provides access to work readiness skills development.
- **Through gamification**, UP enhances students' employability through gameplay. Gamification is the application of game-design elements and game principles in non-gaming contexts.
- UP is home to the first **Library MakerSpace** in South Africa, a creative laboratory where people with ideas can get together with people who have the technical ability to make these ideas become a reality.

## FIRST YEAR?

### Start planning your career.

Register for the free Ready for Work Programme on clickUP.



#FLY@UP

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

## Nurturing student wellbeing

We provide access to a wide range of services to help students develop to their fullest potential while at university.

### Financial aid

Two years of living with the Covid-19 pandemic has exacerbated the financial challenges faced by UP, its students, and their families. To ensure deserving students are not excluded from tertiary education, UP expanded its financial aid during 2021, allocating over R2 billion to students in the form of bursaries and loans.



### Student hunger and nutrition

UP supports 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.

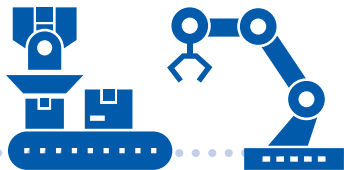
The impact of the programme is measured in the improvement of grades, which are monitored throughout the year.

This aid is supplemented by faculty food pantries, while some University residences have started food gardens.

### 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.



## Giving students a sporting chance

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 High Performance Centre.

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



**Tatjana Schoenmaker**

the rowing team, while the men's hockey team narrowly missed out on qualifying for the quarter-finals.

At the Tokyo Paralympic Games, Ntando Mahlangu set a world record in the long jump (7.17m) to win gold, and he also won the 200m event in 23.59 seconds.

TuksSport also produces winners in numerous intervarsity competitions, having won the USSA Boat Race for 12 consecutive years, considered one of the longest winning streaks in any South African sporting code. The Tuks men and women hockey teams were crowned USSA champions, and Helena Coetzee is the USSA women's squash champion. The Tuks rugby team won the Varsity Cup final.



## Scooby's listening

The Student Counselling Unit (CSU) acquired a chatbot ('Scooby') to stimulate 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 the Covid-19 lockdown periods.



**312 827**

Number of UP alumni in 118 countries



**R2 175**  
million

Financial aid to students



**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 (2021)



**30 000**

Students involved in community projects



### Only one in Africa

UP is the only representative from Africa in the University Social Responsibility Network, an international group of 16 top universities in the world selected for their responsiveness to their local context



### 2020 Olympic stars

Tatjana Schoenmaker, Gold  
Ntando Mahlangu, Gold



Varsity Cup Winners



# CREATING NEW KNOWLEDGE



*Real-life problems require us to think, teach, learn and create knowledge across geographic and disciplinary boundaries, and in new ways. It is the approach that best assures humanity and the environment a better, more sustainable future.*

Relentlessly driving a transdisciplinary agenda and strengthening an integrated approach to teaching, learning and research are the key levers underpinning UP's 2022-2026 strategic plan.

We are therefore particularly proud of the four major transdisciplinary platforms UP has developed to support the work being done by UP's established institutes and centres: Future Africa Institute and Campus, the Javett-UP Art Centre, Engineering 4.0 and Innovation Africa @UP. They

foster a transdisciplinary culture across the university community and help create a critical mass of academics for new knowledge creation and capability building to address the current and future challenges.

Our aim is to create graduates who are future-focused and can facilitate research that solves social problems.

UP remains one of the largest producers of graduates in a wide range of fields that include identified scarce skills such as engineering, financial sciences and health sciences. We produce all of the country's

## Javett-UP Art Centre

veterinarians, almost a third of all engineers (28%) and just under 15% of all doctors.

About 44% of the research we conduct is done with international collaborators, and we place great value on the inclusion of international students, postgraduates and academics. During 2021, 3 230 international students (excluding permanent residents) were registered at UP, with about 87% of these coming from Africa.

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.

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.

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.

## Worldwide Collaboration

UP was invited to join the prestigious Worldwide Universities Network, a global higher education network of 24 leading research universities that stretches across six continents.



# 44%

of UP research involves  
international collaboration

### Transdisciplinary research strength

Home to collaborative platforms that co-create new solutions. Recent additions include:



**Engineering 4.0** – a collaborative hub for Smart Cities and Smart Transport



**Innovation Africa @UP** – integrating natural and agricultural sciences, technology and innovation



**Future Africa Institute** – a dedicated campus for transformative research relevant to Africa's development



**Javett-UP Art Centre** – focusing on the importance of Africa and its art.

Future Africa Institute

RIMS test track

## Collaborative partnerships for new knowledge



**African Global University Project** – develops young intellectual leaders with a global outlook



**InnoFoodAfrica Project** – focuses on enhancing food and nutrition security in Africa



**Alliance for African Partnership** – develops entrepreneurs and business initiatives (with Michigan State University)



**United States-South Africa Higher Education Network Project** – promotes exchanges and collaborative research between UP, Rutgers University-Newark and the University of Venda



**United Nations Children's Emergency Fund** – supports the JuniorTukkie programme, which helps learners make a successful transition to higher education through digital learning.



