



**The Future  
Reimagined**

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University of Johannesburg 2020 Stakeholder Report // uj.ac.za



**20  
20**  
**STAKEHOLDER  
REPORT**



**The Future  
Reimagined**

Overview

**48 529**

Total headcount enrolment

**89,2%**

Undergraduate success rate

**2 276,40**

DHET-accredited research  
publication units (2nd among  
South African universities)

**249**

NRF-rated researchers

**R514,6 million**

Third-stream income

**> 320**

Publications on 4IR in Scopus

**> 17 400**

Annual citations in Scopus



LinkedIn



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## Our vision

To be an **international University of choice**, anchored in Africa, **dynamically shaping the future**.

## Our mission

**Inspiring our community to transform and serve humanity** through innovation and the **collaborative pursuit of knowledge**.



## Our values

### Imagination

By harnessing imagination we

**Think** independently

**Exhibit** ambition and drive

**Adopt** entrepreneurial approaches

**Develop** a cosmopolitan identity

**Shape** the future

### Conversation

In conversation we

**Engage** meaningfully with one another

**Learn** together from our diversity

**Display** mutual respect

**Make** wise decisions collectively

**Lead** consultatively

### Regeneration

By regenerating we

**Develop** sustainably through creative contribution

**Look inwardly** for renewal

**Innovate** for the common good

**Make** positive change

**Take advantage** of overlooked opportunities

### Ethical foundation

In our ethical approach we

**Treasure** academic freedom

**Seek balance** in the pursuit of knowledge

**Face challenges** with courage and earn trust in others

**Act responsibly** by being fair, consistent and transparent

**Participate** in and help the community by practicing ubuntu\*

\* **Ubuntu** – **humanness** in the Nguni languages of southern Africa – means achieving excellence through sharing a way of life with others and caring for their quality of life.



# Our six strategic objectives

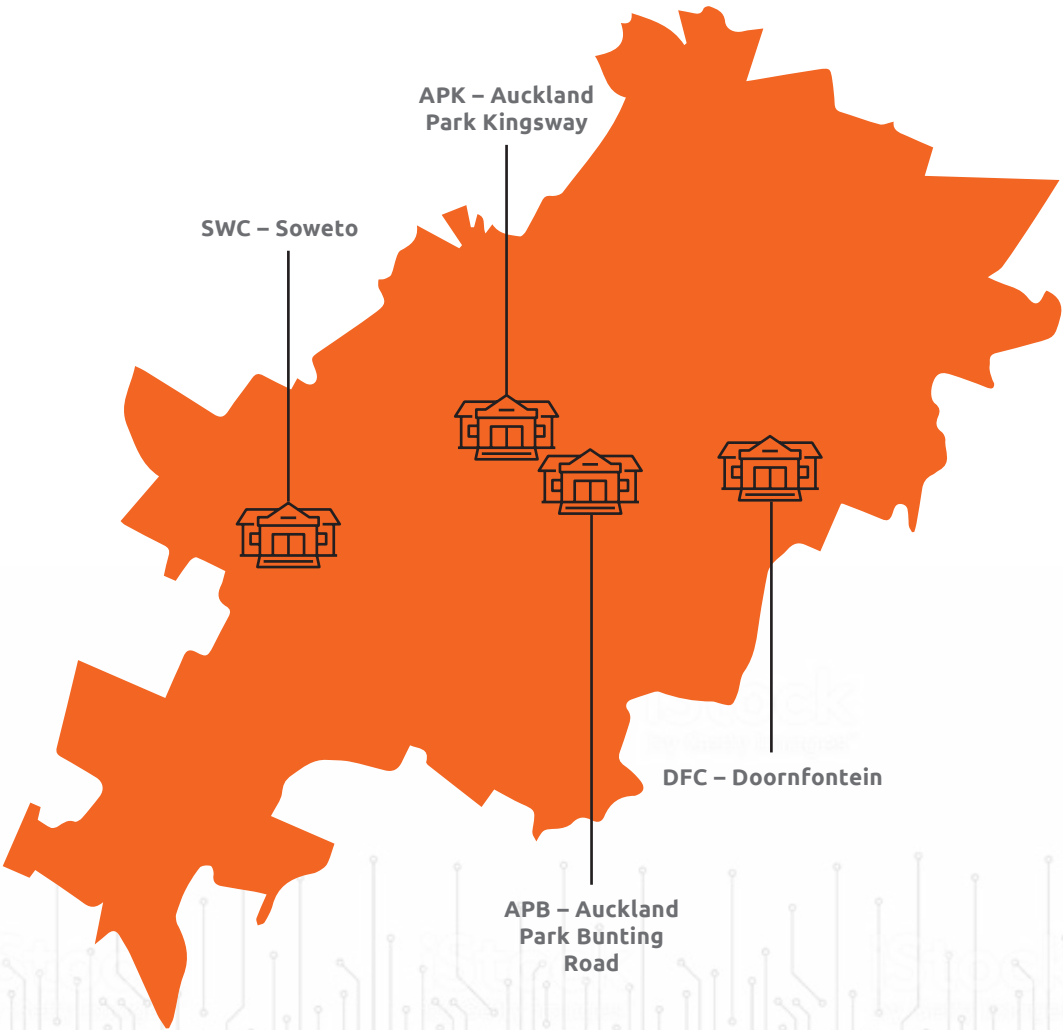
- S01** Excellence in research and innovation.
- S02** Excellence in teaching and learning.
- S03** An international profile for global excellence and stature.
- S04** Enriching student-friendly learning and living experience.
- S05** Active national and global reputation management.
- S06** Fitness for Global Excellence and Stature (GES).

# Academic architecture

The **University of Johannesburg (UJ)** is one of the largest residential universities in South Africa, with seven faculties and one college, operating on four campuses spread across the Johannesburg metropolitan area:

-  Faculty of **Art, Design and Architecture**
-  Faculty of **Education**
-  Faculty of **Engineering and the Built Environment**
-  Faculty of **Health Sciences**
-  Faculty of **Humanities**
-  Faculty of **Law**
-  Faculty of **Science**
-  College of **Business and Economics**

# Campuses





*“Despite the challenges that the pandemic presented, the academic year at UJ was successfully completed; indeed, not only did UJ complete the academic year on time, but it was the first university to do so in 2020.”*

During 2020, the world swiftly adapted to COVID-19 and the complications derived from this global pandemic. Despite the challenges that the pandemic presented, the academic year at UJ was successfully completed; indeed, not only did UJ complete the academic year on time, but it was the first university to do so in 2020. This can be attributed to the University's strong leadership, the deep commitment of our academic staff, sterling work undertaken by the support divisions, the willpower and attitude of our students and broadly, the cooperation of the University's community and stakeholders. Sadly, two UJ staff members passed away as a result of COVID-19 complications, and we extend our condolences to the families of Mr Bongani Moloi and Mr Patrick Leqola, both from Protection Services.

### A stable and responsive leadership

The leadership of UJ was called upon to expeditiously deliver at this critical time. I commend the excellent performance and commitment of the University Council and its committees during this very demanding year, where all critical meetings were conducted online, including our strategy workshop.

In fact, the implementation of online meetings from March 2020 improved the Council attendance rate to 91% (2019: 82%), with attendance at committee meetings varying between 83% and 100%. The year-end performance review of Council and its committees yielded the usual high scores, confirming that governance was well maintained.

The higher education sector continues to face severe challenges, exacerbated by the pandemic. I believe that the Minister of Higher

Education, Science and Innovation, Dr Blade Nzimande, should be meeting with the chairpersons of all 26 university councils at least twice a year to understand the challenges at each university, to share best practices, and to develop some form of alignment as we all work towards developing a well-educated nation.

### Adapting to the new normal

During the past year, UJ took stringent measures to ensure that learning was not disrupted. We assisted our students with hardware and data to attend their classes online in addition to several other teaching and learning initiatives aimed at ensuring student success.

The Independent Institute of Education surveyed a demographically representative sample of students from 22 institutions – eight private and 14 public universities across South Africa – about their learning experiences during the lockdown. The expectation was that the survey would find access to data or hardware as the primary struggle for students; however, more than 40% of the respondents identified missing their peers and adjusting to online learning as their most negative and demoralising experiences, often resulting in a loss of motivation.




MR. MIKE TEKE

### Deep robust debate

Our education system must find a solution to the issues related to the funding of students in higher education. For a number of years, it has become the norm to start every academic year with disputes regarding students who cannot register because they cannot afford the fees; students who have to deal with the National Student Financial Aid Scheme (NSFAS) and delays in the funding process; and students who cannot access their academic results to begin their careers due to fees owed to universities.

I want to initiate a process I refer to as the *deep robust debate*, which should take place towards the end of each academic year to prepare for the next year. It must involve Council representatives, Vice-Chancellors, Student Representative Councils, the Department of Higher Education and Training (DHET), and NSFAS. The agenda should focus on finding a lasting solution to the funding of students. The ultimate plan is to begin every academic year with registration and tuition rather than with the now commonly expected violent disputes about student financing and funding.



## Financial stability

The University continues to drive financial prudence in the management of its financial affairs. At the Council workshop that took place in November 2020, we agreed to schedule a further workshop in January 2021 to discuss the following critical issues:

» **A robust investment strategy** to ensure that the funds deployed for investment growth are closely monitored, and that those assigned to identify these investment opportunities are given competitive and measurable targets, while minimising the risks associated with high returns.

» **Commercialisation** is an area we can expand on to benefit the University through viable commercial ventures which should be autonomous, sustainable, and able to reward the University with decent dividend streams. Through ownership and control of intellectual property, we can benefit society.

» **Fundraising** is core to institutions like UJ. While we drive financial prudence and discipline, we continue to seek ideas that assist us to raise funds through a delicate balance between a cap-in-hand approach and a robust partnership. Donors should be able to deploy their funds to the University with the understanding that a mutually beneficial relationship will evolve.

## Health, safety and wellness

In every organisation I am associated with, I seek opportunities and initiatives to improve the health, safety and wellness of all. At UJ, I yearn for students to strive for healthy lifestyles in what they eat and how they look after themselves. They should also take responsibility for their wellness, and I

encourage all students to exercise and embrace good habits like sleeping, work(study)-life balance, and relaxation.

It breaks my heart when I receive news that one of our students, *one of us*, has been involved in a safety incident and, worse, when a life is lost. I urge all our students to stay safe as the University continues to improve safety initiatives. Sadly, 12 of our students passed away off-campus during 2020. May their souls rest in peace.

## In conclusion

2020 was a different year for everyone worldwide!

2020 introduced us to the new normal – and to new opportunities!

2020 nearly became a wasted year, and the temptation was to abandon it and consider

starting afresh in 2021. However, humanity resisted and kept the engine of the world running, as did UJ, by delivering a full academic year on time, enabling students to progress to the next year of their academic studies.

I am indebted to all at UJ for their relentless efforts to make the University a better place. You are all great human beings.

Together, let us make UJ great!

*“While COVID-19 has presented us with a massive series of challenges, the pandemic has also offered considerable scope for further innovation and renewal, and for imagining the university of the future in a world recreated by 4IR, which encompasses artificial intelligence (AI), the Internet of Things and other technological advances.”*

This report is being written in the context of a nation, and a world, ravaged by the COVID-19 pandemic. Implementing responses to the pandemic over the past 12 months has required higher education institutions worldwide to reflect on the long-term effects on our traditional ways of facilitating learning. Within the South African context, our higher education institutions responded creatively and with enormous commitment and determination to save the 2020 academic year.

**Fourth Industrial Revolution**

As a university that is firmly anchored in the community it serves, linked to its standing

as an international leader in Fourth Industrial Revolution (4IR) catalytic initiatives, UJ’s response to local and global needs was immediate and panoptic. Indeed, it was precisely through our years of experience with 4IR that UJ was equipped to respond so comprehensively and with agility to the pandemic. While COVID-19 has presented us with a massive series of challenges, the pandemic has also offered considerable scope for further innovation and renewal, and for imagining the university of the future in a world recreated by 4IR, which encompasses artificial intelligence (AI), the Internet of Things and other technological advances

transforming the way we live and learn and disrupting all aspects of our business.

In 2015, UJ’s Global Excellence and Stature Strategy (GES 1.0) initiated a developmental trajectory, establishing the University’s global academic standing. With my appointment as Vice-Chancellor (VC) in 2018, this strategy was reconceptualised as GES 4.0 to further advance UJ’s strategic intent of attaining global excellence and stature in the context of 4IR, and to support Africa in embracing 4IR.

With the sudden advent of the global pandemic, it was immediately apparent that our commitment to 4IR had prepared the University to respond with agility to the unanticipated demands. The development of new technologies was already shaping how we interact with others and with our natural environment, and continuously altering our workspaces; COVID 19 undoubtedly accelerated some of these changes. UJ was the first South African university to complete the academic calendar in 2020, after adapting virtually overnight to an exclusively [online academic programme](#).

This report details our considerable achievements in 2020, and how the pandemic challenged UJ to draw on its 4IR-related knowledge and expertise in developing not only the new normal workplace but indeed, the institution.

Vice-Chancellor and Principal’s report to Council



*Tshilidzi Marwala*

PROF. TSHILIDZI MARWALA

**Response to COVID-19**

The Executive Management team led UJ’s swift and flexible response to COVID-19 with constant recalibration of the response as government moved South Africa from a complete lockdown to a series of less restrictive alert levels. The immediate shift to online teaching and learning was planned and coordinated by the academic leadership team led by the Deputy VC: Academic, with the involvement of the executive deans, executive directors, senior directors, and support domains. As the year with unprecedented challenges unfolded, UJ worked with focused attention to ensure that “no student was left behind”. By the end of the 1st semester, the University commenced with planning for the rest of the year, and developed a UJ Hybrid Teaching and Learning Strategy that incorporated the inputs from all faculties and the College. This ensured that the University was prepared for any eventuality and was able to adjust and adapt to the vagaries of the pandemic.

A widely representative COVID-19 Coordinating Committee (CCC) was established to manage arrangements necessitated by COVID-19, including the protocols for safe campus reintegration. The CCC also ensured the availability of essential learning support for our students in terms of the rollout of devices and data, regulated and monitored access to the residences, and overall safety, security and wellness of our staff and students.





The Centre for Academic Staff Development (CASD), the Centre for Academic Technologies (CAT), and the Centre for Psychological Services and Career Development (PsyCaD) supported staff and students during the lockdown, ensuring their wellness under these stressful circumstances. Additional support for the transition to emergency remote teaching was provided to both staff and students.

Through our Strategic Communications Unit, within the University Relations Division, regular communication lines were established, utilising a wide range of platforms, and a VC's weekly newsletter briefed staff and students. These included reminders of the applicable COVID-19 health protocols and preventive measures, and the contact details of the National Hotline and of UJ staff members to be contacted if staff or students experienced COVID-19 symptoms. A UJ coronavirus portal was set up to post all matters relating to COVID-19, including valuable resources for both staff and students. A COVID-19 discretionary fund was also

established to assist students with connectivity and devices as well as personal protective equipment (PPE). Finally, a research and innovation portal was launched to capture and coordinate the institution's wide-ranging responses to COVID-19.

Statutory committee meetings continued online, dedicating some of their scheduled time to discussing COVID-19 arrangements. Impressively, faculties and divisions achieved most of the targets that had been set prior to the pandemic. One unanticipated result of this shift to online engagement was the improved attendance and participation of staff in meetings and workshops – a learning that will undoubtedly be retained as we continue to reimagine our way of doing things.

The following report confirms that 2020 has been a year where the University has continued to perform exceptionally well against its Annual Performance Plan, and has made good progress in realising the goals of the UJ Strategic Plan 2025,

while at the same time minimising the devastating impact of COVID-19.

### An engaged institutional approach to developing 4IR catalytic initiatives

As indicated earlier, 4IR has become well embedded in the institution over the past six years; UJ is carving a trajectory as a leader and contributor to 4IR developments. The GES 4.0 strategy covers teaching and learning, research and innovation, communication, and infrastructure. In the various chapters of this report, regular reference will be made to the achievements of the GES 4.0 project in response to COVID-19.

### COVID-19 providing new impetus in multiple ways

COVID-19 brought new impetus to most aspects of UJ, particularly to the multiple ways in which our researchers responded to emerging local and global needs. These responses included tangible support, such as the development of open-source ventilator prototypes that can be produced through 3D printing, and the 3D printing of face shields, thereby addressing urgent needs in the healthcare sector.

The Biomedical Engineering and Healthcare Technology Research Centre was established to drive basic, applied and strategic research in biomedical engineering, health innovation, healthcare technology, and mHealth (mobile health).

COVID-19 follows earlier pandemics, with numerous authors arguing that more devastating global disease outbreaks will follow. As such, it is imperative that we document our experiences and key research findings to prepare for inevitable future outbreaks. To this end, UJ staff (co-)authored approximately 80 publications in peer-reviewed outlets, with an average of 4.5 citations per publication. These included publications ranging from health aspects, biochemistry, zoonosis and virology, to economic, legal and political critiques of government's actions and responses.

### Research output and impact

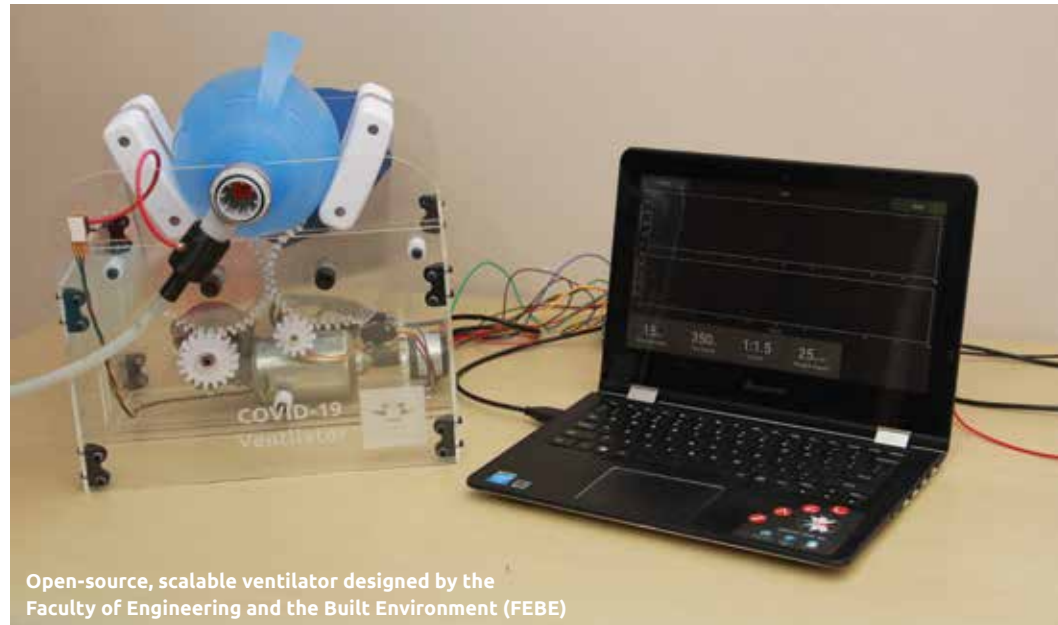
Over the past five years, UJ's accredited research output units have increased by a year-on-year average of 13,1%. Since the inception of the University, the growth in publication units has averaged 14,1%, equating to a compound annual growth rate (CAGR) of 13,5% between 2005 and 2018.

Both the quantity (number of DHET publication units) and the number of citations, signifying academic impact, of UJ's publications continue to increase. The number of UJ's Scopus-indexed publications has increased from 215 in 2005 to 3 361 in 2020, representing a CAGR of 20,1%. To place this in context, the South African higher education sector achieved a CAGR of 9,2% over the same period.

Another measure of research impact is the so-called Field-weighted Citation Impact (FwCI); this metric indicates how the number of citations received by a researcher's publications compares with the average number of citations received by all other similar publications. In 2005, UJ's publications received 13% fewer citations than the world average for similar publications. By 2020, UJ publications received 25% more citations than world averages.

### UJ researchers: Highly credentialled academic staff

Several scholars and professional staff at UJ were recognised and celebrated nationally and internationally for their expertise and achievements. The number of NRF-rated researchers at UJ increased to 249. UJ has seven researchers whom their peers



Open-source, scalable ventilator designed by the Faculty of Engineering and the Built Environment (FEBE)

recognise as global leaders (NRF A-rating), and a number of our younger researchers (NRF Y-rating) successfully established themselves by moving to an NRF C-rating.

Several new research centres and chairs were established or renewed during 2020. These included the Construction Industry Development Board (CIDB) Centre of Excellence, the City Power Research and Innovation Centre within the GES 4.0 Institute for Intelligent Systems (ISS), the Wholesale and Retail Sector Education and Training Authority Chair, while the NRF renewed six SARCHI chairs. An externally funded [Nedbank Chair](#) was established within the ISS to develop advanced Artificial Intelligence (AI) technologies.

### Postgraduate studies

The overall postgraduate student enrolment increased by 6,3% to more than 9 800 students in 2020, including 1 315 postgraduate diploma students (262 graduated) and 2 619 honours students (1 575 graduated). The average time to completion for honours students improved from 1.5 years to 1.3 years.

More than 4 300 students enrolled at master's level, including 2 604 coursework masters (594 graduated) and 1 759 research masters (405 graduated). The time to completion for all master's qualifications improved from



3.2 to 3.1 years, on average. The doctoral headcount increased by 12,1% to 1 571 in 2020, while the average time to completion improved to 4,7 years, on average. The number of South African black doctoral graduates grew to 85 out of 223 doctoral graduates at UJ for the 2020 academic year.

### Postgraduate funding

As a result of UJ's continued investment through the GES initiatives and the University Research Committee (URC), the amount allocated to

postgraduates and postdoctoral research fellows (PDRFs) increased by 17,7% year-on-year to just shy of R180 million in 2020. The number of PDRFs supported increased from 126 in 2012 to 344 in 2020.

### Student success strategy

The Academic Development Centre (ADC) continued to engage with lecturers in 90 modules across the faculties, in the context of the Integrated Student Success Initiative (ISSI).

Engagement with students also continued, mainly via email. In addition, extensive support was provided to students including innovative approaches to teaching and learning using a variety of technological tools. The undergraduate success rate in 2020 was 89,2%, the highest since 2011.

### Growing leadership of UJ in the HE sector

In 2020, the DHET selected UJ as the lead implementer of the prestigious national Future Professors Programme (FPP) (Phase 2) to prepare promising early-career academics to become the next cohort of South African professors across disciplines. The programme aims to contribute to achieving a much-needed critical mass of academic excellence and leadership in South African Higher Education institutions, and complements initiatives funded by the DHET, DSI (through the NRF) and individual universities aimed at developing a pipeline of mid-career academics. Funding of R70,2 million has been allocated for the implementation of Phase 2. UJ is also represented on the FPP Phase 1 National Advisory Board.

Staff from the Division for Academic Planning, Quality Promotion and Academic Staff Development continue to represent UJ on the Council on Higher Education's (CHE) Quality Assurance Framework Working Group and on the National Coordinating Committee of the National Framework for the Enhancement of Academics as Teachers. The prestigious national Teaching Advancement at Universities (TAU) project is also located in this Division.

### Institutional staffing profile

The UJ staff complement in 2020 was more than 4 300, comprising 1 270 academic and research staff, approximately 3 000 support staff and 23 members on the Executive Leadership Group.

The black academic and research staff component increased to 48% in 2020, with female academic and research staff

at approximately 48%. Female associate professors and professors comprised more than 37%, with a total of 130 compared to the target of 123.

### Accelerating transformation of the academic staff profile

#### *The Accelerated Academic Mentorship Programme (AAMP)*

UJ has several targeted staff development initiatives that have proven to be successful in transforming the university's academic profile. The AAMP was established to effect institutional change in terms of race and gender within the senior academic staff profile with a focus on the professional and personal development of academics. It is hoped that, in the long term, the programme will enhance the capacity of participating staff to establish both national and international networks as well as develop their leadership capacities and research profiles.

There was a significant increase in the number of participants in 2020 with 165 at Level 1 (up from 133 in 2018), 184 in Level 2 (up from 97 in 2018) and 73 at Level 3 (up from 55 in 2018). A positive element about the growing numbers of participants was the noticeably high number of female participants across the three levels, which increased from 58% in 2018 to 67% in 2020. The University has made it a priority to strengthen the mentoring aspect of the programme in 2021. Success in terms of AAMP is defined in terms of successful promotion applications and improvement of qualifications.

#### *New Generation Academic Programme (nGAP)*

The nGAP is a DHET initiative that provides universities with opportunities to grow a new cohort of academics, emphasising transformation (both race and gender). Each nGAP scholar is allocated a mentor and their teaching workload is reduced to allow them to focus on their doctoral research. UJ has 29 nGAP posts hosted by different faculties; 24 have been filled while five are still in progress.



### ***Nurturing Emerging Scholars Programme (NESP)***

The University participates in the NESP, funded by the DHET. The NESP recruits Honours graduates who demonstrate academic ability, who express an early interest in the possibility of an academic career and who might be lost to the system without structured, attractive prospects and opportunities for recruitment into academic positions. UJ has been awarded five scholarships in Phase 1 of the programme in the following fields: Podiatry, Zoology, Biochemistry, Civil Engineering and Mechanical Engineering.

### **Leadership Development Programmes**

Since 2016, the Transformation Division has been implementing three programmes that address transformation imperatives in terms of leadership development. These include:

- » The third cohort of the UJ Young Leaders Development Programme; 51 young leaders were chosen to be part of the programme, largely from the faculties of Science, Engineering and the Built Environment, and the College of Business and Economics;
- » The Emerging Leaders Development Programme with 22 participants identified by their respective heads of departments as individuals who were consistently achieving high performance and who are earmarked for future leadership positions within UJ; and
- » The fourth cohort of the UJ Women's Leadership Development Programme who completed their final workshop at the end of January 2020. The fifth cohort was launched in October 2020 and will complete in 2021.

### **Maintaining an optimal work environment for staff**

#### ***Working from home***

All staff were appropriately equipped to work from home; this ensured that the required outputs were largely met while simultaneously ensuring that University operations continued. The stresses that resulted from remote working

and juggling family and work were continuously acknowledged. Tips for online working were provided regularly, and staff were reminded to contact PsyCaD or the Human Resources wellness team for further support.

#### ***Health and wellness***

A total of 110 staff members were trained on health and safety matters, and more than 300 on emergency procedures. The UJ Employee Wellness Programme focuses on promoting, improving, and optimising the health, wellbeing and high performance of employees. Interventions addressed feelings of uncertainty, fear and panic raised by the COVID-19 lockdown.

#### ***Campus reintegration processes and protocols***

Comprehensive COVID-19 health protocols were implemented for staff and students who returned to the campuses. These included an app with a daily health questionnaire for completion, screening at campus entrances, sanitising, social distancing, and PPE use. The Occupational Health and Safety team installed 1 927 signs and banners relating to COVID-19, 439 foot pedal operated sanitisers, and 169 waste boxes. The UJ safety file was immediately updated to include a multitude of COVID-19 related issues, and 74 contractors' safety files and 18 tenant safety files were approved. The effectiveness of these processes was reviewed continuously and adjusted to operational requirements and changing lockdown levels. The processes and procedures were also communicated regularly to the UJ community through the CCC.

All campus clinics were opened in August 2020 and staffed to manage emergencies and COVID-19 – related matters. In total, 122 staff contracted COVID-19, with two reported deaths linked directly to COVID-19 complications. Our campus clinics provided constant advice to staff and students, including close monitoring of COVID-19 cases.

### **Maintaining an optimal learning environment and student experience**

#### ***Enhancements in managing the student life cycle***

Given that the Central Academic Administration (CAA) is a national leader in the use of technology to support the student life cycle, the Division was able to draw on this strength and respond to regularly adjusted COVID-19 lockdown levels with agility. Even with remote working, student marketing, applications, registration, management of assessments, graduations and alumni support were uninterrupted.

Key adjustments were implemented, including:

- » Re-organisation of the academic calendar;
- » System adjustments to accommodate online assessments;
- » Virtual graduation ceremonies for approximately 14 000 graduates, which proved to be a great success, along with an online booking system for drive-through collection of graduation certificates; and
- » Elevated support for online enquiries during applications/registrations with a virtual assistant or chatbot, MoUJi, to assist students with their enquiries.

#### ***Student health and wellness***

The role of PsyCaD was invaluable in supporting students during the lockdown. Students could contact therapists via email, SMS, WhatsApp, Skype, or Zoom. PsyCaD had more than 16 000 consultations with students (compared to ~14 600 in 2019), of which 12 054 were during lockdown (i.e. 26 March to 15 December 2020).

During the lockdown, the 24-hour crisis line received 871 calls, significantly higher than the 563 received during 2019. Of these, 107 were suicide-related calls (notably up from the fewer than 50 calls during 2019), highlighting the intense challenges students faced.



When it was announced that UJ would move to online teaching and assessments, the Disability Unit immediately contacted students living with disabilities to ascertain what support they required. The team conducted more than 760 telephonic consultations with these students. Students with disabilities were supported through access to computers with assistive software, assistive devices, and support during assessments. In addition to the individual consultations, the Disability Unit also had to ensure that the study material and assessments were disability friendly and adapted the course material accordingly.

**Student funding**

Our fees increased by 5,3% for tuition, and by 7,3% for residences; these were in line with the recommendations by

the Minister of Higher Education and Training. DHET continued to provide gap grant funding for qualifying students in the year under review to reduce student debt.

UJ received an allocation of R2,2 billion in 2020 covering tuition fees, accommodation, meals, books, and other living allowances for just under 25 000 students, representing a 29% increase from the previous year.

The University realigned R20 million of its operating budget towards the SRC Trust Fund to cover the registration fees of 2 434 students. This amount was complemented with funds raised through institutional fundraising, amounting to R269 million (up from the R243 million raised in 2019) for bursaries and other University projects.

The University continued to provide funded access for students from our most vulnerable communities, with 10% of our operating budget allocated to financial assistance to low income and missing middle students.

Collecting student debt on time remained a challenge, with students tending to postpone settlement until registration for the following year. The impact of COVID-19 has exacerbated this situation, with our outstanding debt increasing by 17% to R537 million.







**68** National, international and prestigious awards

**76** Op-eds on 4IR

Students

<b>89,2%</b> Undergraduate success rate (2019: 85,8%)	<b>4 204</b> International students (2019: 4 191)	<b>3 418</b> Total postgraduate output (2019: 3 158)
<b>10 681</b> Undergraduate output (2019: 10 566)	<b>34,8%</b> Students enrolled in Science, Engineering and Technology (SET) programmes (2019: 36,3%)	<b>48 529</b> Total headcount enrolment

Staff

<b>53,9%</b> Permanent and fixed-term academic staff with doctorates (2019: 49,2%)	<b>629</b> Black permanent and fixed-term academic staff (2019: 619)
<b>130</b> Female associate professors and professors (2019: 119)	<b>14</b> Academic staff recruited to work in 4IR (2019: 7)

Research

Research enhances the University's profile, which leads to the strongest possible case for investment in the institution.

<b>17 478</b> Annual citations in Scopus (2019: 14 938)	<b>327</b> Scopus-listed research outputs on 4IR (2019: 113)	<b>42</b> Academic initiatives advancing 4IR (2019: 29)
<b>249</b> NRF-rated researchers (2019: 220)	<b>2 276,4</b> DHET-accredited research publication units	

Financial overview

<b>R530 million surplus</b> Annual operating surplus (2019: R582 million surplus)	<b>R269 million</b> Third- stream income (unencumbered) (2019: R268 million)
<b>R245,6 million</b> Third- stream income (externally-generated research funding) (2019: R221,7 million)	<b>R7,7 billion</b> Consolidated net assets (2019: R6,4 billion)

## Global recognition and university rankings

The University continues to participate in a number of global university ranking systems. External acknowledgement of the considerable work undertaken at UJ in striving for excellence in research that is nationally relevant and internationally significant, and in providing the best possible teaching and learning opportunities for its students and staff, is important and welcomed.

In 2020, the University performed very well in various global, regional and subject ranking systems.

### University rankings

Ranking system		2014	2015	2016	2017	2018	2019	2020
Global	THE WUR	–	–	601–800 SA = 5	601–800 SA = 5	601–800 SA = 5	601–800 SA = 6	<b>601–800 SA = 7</b>
	QS WUR	601–650 SA = 6	601–650 SA = 7	601–650 SA = 6	601–650 SA = 5	551–560 SA = 4	501–510 SA = 4	<b>439 SA = 3</b>
	BGUR	–	562 SA = 6	550 SA = 6	457 SA = 6	397 SA = 5	366 SA = 5	<b>378 SA = 5</b>
	URAP	704 SA = 6	676 SA = 6	706 SA = 6	655 SA = 6	627 SA = 6	647 SA = 6	<b>603 SA = 6</b>
	ARWU	–	–	–	401–500 SA = 4	601–700 SA = 6	601–700 SA = 6	<b>601–700 SA = 6</b>
	CWUR	–	–	–	951 SA = 6	790 SA = 6	761 SA = 6	<b>706 SA = 6</b>
	WEBOMETRICS	1 204 SA = 9	1 136 SA = 7	985 SA = 7	970 SA = 7	850 SA = 6	826 SA = 6	<b>778 SA = 6</b>
Regional	THE EUR	–	–	–	141 SA = 7	92 SA = 6	99 SA = 6	<b>118 SA = 7</b>
Young	QS UNDER 50	–	–	91–100 SA = 1	91–100 SA = 1	81–90 SA = 1	81–90 SA = 1	<b>61–70 SA = 1</b>
	THE YUR	–	–	–	151–200 SA = 1	101–150 SA = 2	151–200 SA = 2	<b>151–200 SA = 3</b>
Graduate employ-ability	QS GER	–	–	–	301–500 SA = 4	301–500 SA = 3	301–500 SA = 5	<b>301–500 SA = 5</b>

**THE** – Times Higher Education, **WUR** – World University Rankings, **QS** – Quacquarelli Symonds, **BGUR** – Best Global Universities Rankings, **URAP** – University Ranking by Academic Performance, **ARWU** – Academic Ranking of World Universities, **CWUR** – Center for World University Rankings, **EUR** – Emerging Economies University Rankings, **YUR** – Young University Rankings, and **GER** – Graduate Employability Rankings

### Global rankings

#### THE WUR

*UJ retained its global ranking in the 601–800 band for the fifth consecutive year, placing joint seventh in South Africa*

#### QS WUR

*For the first time, UJ appeared in the top 500 in the world, climbing 62 places to be ranked at position 439 overall, and up into third place in South Africa*

#### BGUR

*UJ ranked 378, retaining fifth place nationally. This is the University's highest global position across all global ranking systems*

#### URAP

*UJ climbed 44 places to be ranked at 603, its highest position in this ranking, and retained its sixth place nationally*

#### ARWU

*UJ retained its position in the 601–700 band for the third consecutive year, and maintained its sixth place nationally*

#### CWUR

*For the third year running, UJ climbed 55 places to be ranked at its highest position at 706 in the world, retaining the sixth place in South Africa*

### WEBOMETRICS

*UJ climbed 48 places to its highest position of 778 globally, retaining sixth place nationally.*

### Impact rankings

Four South African universities participated in the second instalment of the *THE University Impact Rankings*. UJ was ranked overall at position 75 globally, and first in South Africa. This global ranking of impact and innovation is based on the United Nations' 17 Sustainable Development Goals (SDGs). UJ was ranked globally in the top 100 (placing first in South Africa) for SDG 1: No Poverty (8th), SDG 10: Reduced Inequalities (30th), SDG 4: Quality Education (44th), SDG 8: Decent Work and Economic Growth (48th), SDG 17: Partnerships for the Goals (50th), and SDG 5: Gender Equality (75th).



## Subject rankings

## THE WUR

*THE WUR – UJ placed in 10 subjects globally:***201+**

for Law

**301–400**

for Psychology, Arts and Humanities, and Social Sciences

**601–800**

for Physical Sciences and Computer Science

**251–300**for Education  
(up from 301–400)**501–600**

band for Business and Economics, Engineering and Technology, and Clinical, Pre-clinical and Health

**Joint second in South Africa for Psychology and joint third for Education and Arts and Humanities**

## QS WUR

*UJ was ranked in seven subjects globally (2019: 6):***201–250**

for English Language and Literature (up from 251 to 300)

**401–450**

for Economics and Econometrics (up from 451–500) and Mechanical, Aeronautical and Manufacturing Engineering

**501–550**

for Chemistry

**301–350**

for Chemical Engineering

**451–500**

for Physics and Astronomy

**551–600**

for Medicine

**Joint third in South Africa for English Language and Literature. UJ featured for the first time in Chemical Engineering (301–350) and Medicine (551–600)***UJ was ranked in seven subjects (2019: 6) in the US News and World Report's Best Global Universities Rankings (BGUR):***Top 250**

for Geosciences (222, up 12 places from 234)

**Top 400**

for Engineering (392, up 12 places from 404)

**Top 500**

for Environment/Ecology (463)

**Top 300**

for Chemistry (280, up 87 places from 367), Social Sciences and Public Health (287, up nine places from 296), and Physics (289)

**Top 450**

for Plant and Animal Science (424)

**UJ ranked first for Chemistry, second for Geosciences and Engineering, and third for Physics in South Africa***UJ was ranked for nine subjects in Shanghai Ranking's Global Ranking of Academic Subjects (GRAS):***Top 50**

for Hospitality and Tourism Management (20th in the world)

**201–300**

for Education, Chemical Engineering, Political Sciences, Earth Sciences, and Geography

**401–500**

for Ecology

**101–150**

for Sociology

**301–400**

for Physics

**The University was ranked first in South Africa for five subjects: Hospitality and Tourism Management, Sociology, Education, Chemical Engineering, and Political Sciences; second for Earth Sciences and Physics; and third for Geography**



The University of Johannesburg is a comprehensive university that offers a range of undergraduate diplomas and degrees through to doctoral qualifications. The strategic objectives related to teaching and learning are to provide an outstanding student experience and global excellence in teaching and learning.

# Academic teaching and learning overview

## Strategic focus

The UJ Strategic Plan 2025 places the university on a strong upward trajectory towards global stature, intrinsically linked to leadership in 4IR. Along this trajectory, UJ maintains:

- » Intellectually rigorous curricula that respond innovatively to the challenges and opportunities of the 21st century.
- » Widespread use of technology in the learning process.
- » An enrolment profile with growth in both Education and SET as well as an increase in international students.

## Centre for Academic Technologies, COVID-19 and saving the academic year

With the onset of the COVID-19 lockdown, CAT was key to providing students and staff with innovative technologies to support the transition to teaching and learning online. A quick and decisive response ensured that UJ would meet the targets aligned to the national vision of "saving the academic year".

During the 2020 First Year Seminar, which is the orientation programme for first-year students, CAT introduced more than 5 500 first-year students to UJ's online learning environment: uLink, the student portal; Blackboard; and the learning management system (LMS).

By early March, CAT sent out a high-level contingency plan called *Toolkit for Online Teaching and Learning Off-campus*. By the end of March, CAT had developed two Blackboard modules: *The UJ Online Teaching Toolkit* for academic staff and tutors as well as *Continue to Learn Off-campus* for undergraduate students.

In March, CAT staff viewed over 1 500 undergraduate modules, providing assistance to academics where needed. In addition, the Academic Development Centre and CAT developed modules and toolkits to guide and support remote teaching and learning. Almost 1 800 staff members were trained online from April to June on how to stay in touch with students and how to set up and mark assessments. CAT and the Division for Academic Planning, Quality Promotion and Academic Staff Development compiled the Online Assessment Guidelines, with input from the faculties and the CBE. Senior tutors,

tutors and assistant lecturers were included in these teaching and learning processes. In addition, as and when required, resources were developed to support both staff and students.

Within a matter of weeks, UJ had transitioned seamlessly from offering modules in-person to offering them online, and students were able to engage with the learning materials asynchronously by remotely accessing the LMS. This transition was closely monitored.

## Tablets, data and e-textbooks

In total, 85% of students were active on the LMS at the start of Term 2. After receiving free data, student activity increased significantly. CAT also coordinated the distribution to the locations of students across the country of almost 4 000 Mecer Xpress 2-in-1 devices either free or on loan to students in need. This was in addition to the 1 740 free devices distributed to Quintile 1–3 NSFAS first-year students in March.

UJ made R10,5 million available for purchasing e-textbooks for students in priority modules. By the end of 2020, all the available funding was used for 123 e-textbooks, which were downloaded 27 400 times.





## Student enrolment profile, performance and graduate output

In 2020, UJ's overall headcount was 48 529, slightly under the planned target of 49 647, but still within the DHET's permissible range.

Headcounts Campus	Calendar Year		
	2018	2019	2020
APB Auckland Park Bunting Road Campus	5 274	5 377	5 180
APK Auckland Park Kingsway Campus	26 567	25 924	25 675
DFC Doornfontein Campus	12 429	13 113	11 395
SWC Soweto Campus	6 034	5 580	5 377
Off Campus	404	526	902
<b>Grand Total</b>	<b>50 708</b>	<b>50 520</b>	<b>48 529</b>

Headcounts Campus	Calendar Year		
	2018	2019	2020
CBE	19 077	18 170	17 640
EDU	4 051	4 044	4 294
FADA	1 356	1 404	1 317
FEBE	9 835	10 179	8 931
HSC	4 180	4 459	4 135
HUM	6 111	5 829	5 549
JBS			80
LAW	1 669	1 745	1 739
SCI	4 429	4 690	4 844
<b>Grand Total</b>	<b>50 708</b>	<b>50 520</b>	<b>48 529</b>

UJ was again successful in attracting increasing numbers of postgraduate students in 2020. In the preceding nine years, the University has managed to steadily increase the postgraduate numbers from 13,6% in 2012 to 20,3% in 2020.

### Postgraduate proportion of headcount

	Calendar Year		
	2018 %	2019 %	2020 %
Postgraduate	17,9	18,4	20,3

The enrolment of international students increased substantially to 8,7% of total headcount enrolments compared to 4% in 2009.

### International enrolments and percentage of total enrolments\*

	2018	2019	2020
	4 204	4 273	4 221
	8,3%	8,5%	8,7%

\* Figures include distance and occasional.

In relation to the classification and educational subject matter (CESM) mix, the SET target for 2020 was 37%. The achievement of 34,8% for contact enrolments in the SET field was 2,2% below target.

### Classification and educational subject matter mix\*

CESM category	Calendar Year		
	2018 %	2019 %	2020 %
Business and Management	38,5	36,6	37,2
Education	7,8	7,9	8,8
Humanities/Law	19,2	19,1	19,3
SET	34,5	36,4	34,8

\* Figures include distance and occasional.



## Student population groups\*

Headcounts	Calendar Year		
	2018 %	2019 %	2020 %
<b>Race</b>			
African	86,10	87,19	<b>87,72</b>
Coloured	3,05	2,94	<b>2,84</b>
Indian	4,04	3,82	<b>3,81</b>
White	6,81	6,05	<b>5,63</b>
<b>Grand Total</b>	<b>100,00</b>	<b>100,00</b>	<b>100,00</b>

\* International students excluded.

UJ seeks to maintain a student profile that reflects the diversity of the South African population. Enrolment in the African population group has shown a steady year-on-year increase since 2011, with a 0,5% increase in 2020 to 87,7%.

## Undergraduate success rates

	Calendar Year		
	2018 %	2019 %	2020 %
Undergraduate diploma and certificate	85,1	85,3	<b>90,2</b>
Undergraduate degree	85,8	86,0	<b>88,9</b>
Average undergraduate	85,6	85,8	<b>89,2</b>

The average undergraduate module success rate was 89,2%, higher than in previous years.

Degree Credit Success Rate Qualification Type	Qualification type grouping	Calendar Year			
		2017 %	2018 %	2019 %	2020 %
UnderGraduate	Degrees	85,9	85,8	86,0	<b>88,9</b>
	Diplomas and Certificates	85,2	85,1	85,3	<b>90,2</b>
<b>UnderGraduate Total</b>		<b>85,7</b>	<b>85,6</b>	<b>85,8</b>	<b>89,2</b>
PostGraduate	Honours	74,9	70,6	70,1	<b>71,2</b>
	Other Postgraduate	74,7	70,3	72,2	<b>70,6</b>
	Masters	71,2	73,4	82,1	<b>79,9</b>
	Doctoral	<b>41,0</b>	<b>35,1</b>	<b>43,1</b>	<b>51,0</b>
<b>PostGraduate Total</b>		<b>70,2</b>	<b>64,5</b>	<b>69,1</b>	<b>70,3</b>
<b>Grand Total</b>		<b>83,8</b>	<b>82,5</b>	<b>83,3</b>	<b>86,2</b>

## Graduate output subsidised qualifications

Degree Credit Success Rate Qualification Type PG_UG	Qualification type grouping	Calendar Year		
		2018	2019	2020
UnderGraduate	Degrees	6 962	7 405	<b>6 110</b>
	Diplomas and Certificates	3 604	3 275	<b>3 348</b>
<b>UnderGraduate Total</b>		<b>10 566</b>	<b>10 680</b>	<b>9 458</b>
PostGraduate	Doctoral	189	223	<b>224</b>
	Honours	1 413	1 575	<b>1 824</b>
	Masters	864	999	<b>937</b>
	Other Postgraduate	<b>692</b>	<b>621</b>	<b>592</b>
<b>PostGraduate Total</b>		<b>3 158</b>	<b>3 418</b>	<b>3 577</b>
<b>Grand Total</b>		<b>13 724</b>	<b>14 098</b>	<b>13 035</b>

## Number of applicants at undergraduate level (including BTech)

In 2020, there were over 217 000 applicants for undergraduate places at UJ, up from the almost 180 000 in the previous year.

## Academic development and support (ADS)

The Division of Academic Development and Support (ADS) is focused on providing an excellent academic experience for undergraduate students to maximise retention and success, improve the module pass rate and reduce the dropout rate. Cutting-edge interventions include psychosocial and academic

support initiatives to maximise learning opportunities, and programmes to deepen the use of academic technologies, ensuring UJ's leadership in 4IR. Our collective institutional goal is to develop confident and passionate graduates.

The combined efforts of the Academic Development Centre (ADC) and CAT contributed to student success. The undergraduate degree credit success rate, the barometer of overall undergraduate achievement, rose 3,3% to 89,2% in 2020 from 85,8% in 2019. A variety of factors contributed to this significant increase, including increased attention paid to students' learning needs and adapted academic regulations to facilitate a shift to more continuous assessment.



## Academic Development Centre (ADC)

ADC contributed towards UJ's Strategic Objective Two (Excellence in teaching and learning) as this relates directly to the core business of the centre. Significant contributions were also made to Strategic Objective Three (International profile) through the UJ English Language Programme (UJELP) as well as the work of the South African National Resource Centre.

### Integrated online teaching support

In addition to the normal implementation of the Integrated Student Success Initiative (ISSI), ADC staff piloted a project that focused on ten selected modules to enhance student success while learning remotely. ADC partnered with CAT and CASD to raise awareness of support offered at UJ and to collaboratively deliver workshops and seminars on pedagogies and technologies for effective teaching and learning.

### Find Your Way

The UJ *Find Your Way* website (<https://findyourway.uj.mobi/>) was redesigned using current online design principles to create a hub of support information for our new incoming students and was launched in January 2021.

### SOS (Student Online Success)

ADC created a virtual bouquet of bite-sized resources for students, ranging from reading strategies to time management and online exam preparation skills. All 40 000+ undergraduate students were enrolled in the SOS module on Blackboard. The module recorded more than 50 000 hits in four months.

### The ISSI

The ISSI aims to improve student success in the faculties' selected priority modules. The strength of ISSI is the collaborative

participation of all eight Vice-Deans: Teaching and Learning. The ISSI interventions once again focused on the UJ Priority Module Index, which identifies the 20% of modules where most funded credits were lost during the previous academic year.

The ultimate measure of the ISSI lies in student success. In the first semester of 2020, the 45 modules selected to participate in the ISSI performed 8% better when compared to attainment levels in the first semester of 2019.

### ADC Access

ADC Access is responsible for the Academic Development Centre's extended curriculum programmes and taught approximately 660 FEBE, Humanities and CBE first-year students. The module success rates of 12 of the 15 extended curriculum groups were 80% and above, with four of these performing above 90%. Extended diploma offerings were at 88,6%, FEBE extended degree offerings were 85,7%, CBE at 79% and Humanities at 89%.

## Academic Development and Innovation (ADI)

ADI comprises the Learning Development Unit and the UJELP. During 2020, some staff members taught in two credit-bearing modules: Mastering Academic and

Professional Skills (MAPS), which includes MAPS Eco in the CBE as well as MAPS Hum in the Faculty of Humanities, with 594 students attaining pass rates over 85%.

In addition to teaching and learning, ADI led programmes and interventions contributing towards reducing the dropout rate and strengthening the first year and senior student experience as well as the ISSI. ADI continued coordinating the student mentoring programme, and a total of 10 607 students attended either a mentor training session, individual consultation, group consultation, a focus group, a study skills workshop, residence training or ISSI interventions delivered by ADI staff members.

The Reading in the Discipline (RID) initiative maintained its trajectory in 2020 in the Faculty of Humanities. This approach involved developing material and embedded interventions using actual academic content to assist students with making sense of the academic reading they are faced with, and about 950 students attended RID workshops.

UJELP offered an English language programme to international students. In 2020, 174 students were tested, and 83 students progressed through all six levels from elementary A1 to advanced C2.

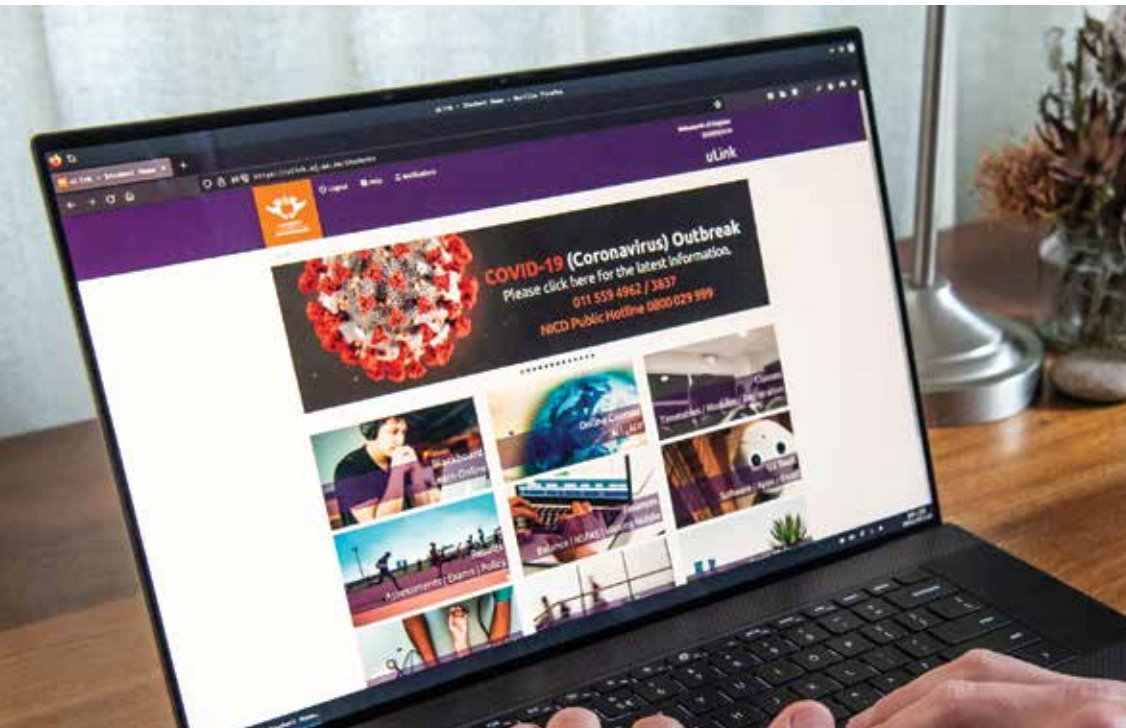
## Department of Academic Literacies

The Department offered three key modules: English for Law, Language and Skills for Science, and Language for the Economic Sciences. In total, 4 400 consultations were completed during 2020, mostly via email. To combat the limitations of emailed feedback, the writing centres produced 27 learning units for the *On the Go* SOS module offered to all UJ students and included in the Council on Higher Education's nationwide student support website.

### DHET University Capacity Development Grant (UCDG) and the Foundation Grant

The UCDG continued with great effect, spanning across ADS, the faculties, the Research Office, and the Postgraduate Centre. Of R150,91 million approved from 2018 to 2020, R50,99 million was made available to UJ during 2020. UJ was allowed to repurpose R8,87 million of its 2020 allocation to fund COVID-19 response activities.

ADC represented UJ at the Centre for Research on Evaluation, Science and Technology's monitoring and evaluation (M&E) development workshops to develop an M&E framework for the UCDG. UJ also participated in the planning for the second round of UCDG funding from 2021 to 2023. A UJ plan for eight projects with a total of R167,44 million was approved internally and by the DHET.



### **Undergraduate enrichment modules**

UJ hosts two online undergraduate enrichment modules, namely African Insights (launched in April 2017) and Artificial Intelligence in 4IR (launched in February 2020). From the end of 2020, students were given the opportunity to enrol for either module, and UJ alumni members were also offered the opportunity to complete either module.

#### **African Insights**

To date, over 38 000 students from four different student cohorts have enrolled for this NQF Level 5 (15-credit) module. In total, 22 000 students have completed the module, representing 57% of the total enrolment for this module between 2017 and 2020.

#### **Artificial Intelligence in the 4IR**

This is a free, non-credit bearing module with eight units. A digital certificate is issued to

students who complete the module. By the end of 2020, 18 000 UJ students had enrolled across two course cohorts.

### **Coursera pilot project**

Coursera's COVID-19 campus initiative offered an opportunity to 10 000 institutions globally for free access to their 3 000+ online courses. Both students and staff could complete and earn certificates from top institutions over three months. ADC staff coordinated the rollout of this project. Over 4 000 students and staff members from UJ participated, with a total of just under 12 000 enrolments. UJ's engagement with the available content was recognised internationally as we outperformed all South African and African institutions, and ranked 33rd out of the 10 000 participating institutions.



### **The UJenius Club**

The UJenius Club encourages undergraduates to strive for excellent academic success while offering a variety of intellectual, social, professional and career development opportunities. In 2020, 496 senior students were accepted and 633 Orange Carpet students (i.e. top-performing first-year entrants) also joined the Club. Regular emails were sent to members during 2020, keeping them informed of job prospects, placing them in direct communication with possible employers, and forwarding invitations to virtual Career Fairs.

### **Online programmes**

Eleven online accredited programmes are offered as part of the UJ Higher Education Partners South Africa agreement: six undergraduate programmes (four advanced diplomas and two bachelor's degrees) and five postgraduate programmes (one honours and four masters). There was a 22,7% growth, with 219 additional module registrations at the end of 2020 (with 969 module registrations) compared with 750 at the end of 2019.

### **Academic planning, quality promotion and academic staff development**

The Division for Academic Planning, Quality Promotion and Academic Staff Development is responsible for academic planning at UJ and for supporting the intellectual, professional and personal development of academics. The Division comprises two centres, namely the Centre for Academic Planning and Quality Promotion (CAPQP) and the Centre for Academic Staff Development. A key priority of the Division and the centres is to provide academics with the skills needed to develop innovative ways of responding to a rapidly changing higher education environment; an example is the University's transition to remote teaching and learning with the onset of COVID-19.

The CAPQP oversees programme and curriculum development and ensures

compliance with regulatory structures external to the University. The Programme Working Group undertakes this work prior to submission of new academic programmes for internal approval by Senate. The CAPQP prepared the UJ Self-Evaluation Report (SER) for the CHE Doctoral Review which was submitted on 31 March 2020. A site visit was conducted on 20 – 23 October 2020. The CHE complimented the university on excellent organisation and a deeply reflective SER. During 2020, the CAPQP worked with academics to ensure readiness for the transition to ERT and assisted with the development of teaching and learning resources that have been shared widely with the sector.

### **Centre for Academic Staff Development (CASD)**

Excellence in teaching and learning is one of the institution's strategic objectives, and the CASD plays a central role in providing developmental opportunities for academic staff, newly appointed academic heads of departments and tutors. These included workshops, seminars, individual consultations, teaching and module reviews, mentorship, tutor training and check-ins, as well as a formal qualification in higher education, the Postgraduate Diploma in Higher Education.

#### **Online professional development**

The CASD created a variety of pathways to communicate and engage with academic staff remotely, via WhatsApp groups, telephone and emails, and a staff development community on Blackboard.

The Academic Preparation Programme for newly appointed staff and assistant lecturers was held in January and July and was attended by 49 and 155 academic staff, respectively. All CASD workshops were offered online from March 2020 and were attended by 446 staff in the first semester and 372 in the second semester.

In total, 1 063 tutors were trained on the UJ Tutor Programme, which received international accreditation from the College Reading and Learning Association.



Collectively, the Research and Innovation Division (R&I), the Postgraduate School (PGS), the Internationalisation Office (IO) and the Library and Information Centre (LIC) represent the hub of research excellence at UJ. These divisions have their own governance and committee structures that interface with institutional governance structures such as the Senate, Faculty Boards, the University Research Committee (URC), Senate Higher Degrees Committee (SHDC), and Central Academic Administration (CAA).

### Research and Innovation

The development of new technologies shapes how we interact with others and with our natural environment, and continuously alters our workspaces. COVID-19 undoubtedly accelerated some of these changes. UJ established a research and innovation portal to capture both the direct as well as indirect responses to the pandemic; valuable lessons are being learned from these.

UJ embraced the change brought on by COVID-19 restrictions; its position as a South African leader in the Fourth Industrial Revolution (4IR) assisted greatly in its transition. UJ was the first South African university to complete the academic calendar in 2020, after adapting virtually overnight to an exclusively online academic programme.

Although the number of registered students decreased marginally during 2020, a large number of inbound and outbound students attended courses or webinars offered through the LIC and the IO. The Postgraduate School continued to support a large number of students, and the time taken to complete postgraduate degrees reduced, and is now closer to the national targets.

Within the context of 4IR, UJ actively drives the fusion of research fields, and initiatives that directly speak to the GES 4.0 Catalytic Initiative Proposal. The University continues to strengthen its position as a research-intensive tertiary institute, with the number of research outputs submitted to the Department of Higher Education and Training (DHET) exceeding the annual targets. Notably, the impact of the work is above global averages, driven by the stellar performance of UJ academics.

### Response to COVID-19

The COVID-19 pandemic is one of the ten most significant catastrophic threats that humanity has ever faced. As an international leader in 4IR catalytic initiatives, UJ's response to local and global needs was swift through tangible support including, but not limited to, the development of open-source ventilator prototypes that can be produced through 3D printing, and the 3D printing of face shields which addressed urgent needs in the healthcare sector. The Biomedical Engineering and Healthcare Technology Research Centre was established to drive basic, applied and strategic research in biomedical engineering, health innovation, healthcare technology and mHealth (mobile health).

Numerous authors argue that other and even more devastating global disease outbreaks will follow after COVID-19. Therefore, it is imperative that we document our experiences and key research findings to help us prepare for inevitable future epidemics. To this end, UJ staff co-authored approximately 80 publications in peer-reviewed outlets covering health, biochemistry, zoonosis and virology as well as economic, legal and political critiques of government's actions and responses. A special edition of *The Thinker* was published, which included discussion pieces on the role that artificial intelligence played, the impact that COVID-19 had on African economies as well as Africa's future post COVID-19. Indirect responses are equally important, as they document the impact that COVID-19 had on our mental wellbeing through artistic expression; this includes The Pandemic Project series, for example, *When the Earth Stands Still*, based on a poem by Don Macdonald.

### DHET-accredited research output

For 2020, publications worth 2 276,40 units were approved by DHET for subsidy. Over the past five years, UJ's accredited research output units have increased by an average of 13,1% year-on-year, equating to a compound annual growth rate (CAGR) of 13,5% between 2005 and 2018. These indicators clearly show that UJ has been consistent in its publication output growth and maintains a steady upward trajectory.



UJ Library Makerspace develops 3D printed face shields

# Research overview

The number of UJ's Scopus-indexed publications has increased from 215 in 2005 to 3 361 in 2020, representing a CAGR of 20,1%. To place this in context, the South African higher education sector achieved a CAGR of 9,2% over the same period.

Another measure of research impact is the so-called Field-weighted Citation Impact (FwCI); this is a metric that indicates how the number of citations received by a researcher's publications compares with the average number of citations received by all other similar publications. In 2005, UJ's publications received 13% fewer citations than the world

average for similar publications. By 2020, UJ publications received 25% more citations than world averages. This represents a CAGR in FwCI of 2,4% over the period, compared to the South African higher education sector that achieved a CAGR of just 0,5% over the same period. Indeed, UJ's 2020 submissions to DHET included five publications in two of the most prestigious journals, namely two publications in *Science* and three in *The Lancet*.

## NRF researchers

The number of NRF-rated researchers continues its upward trajectory, with 249 UJ researchers holding valid ratings in 2020. UJ has seven researchers whom their peers recognise as global leaders (NRF A-rating); these respective fields are Geology, Educational Leadership and Management, Zoology, Intelligent Systems, and Mathematics. A number of UJ's younger researchers have successfully made the transition from the young (or NRF Y) category to established researchers (NRF C categories).

### Prestigious recognition of UJ researchers

- » An Academy of Science of South Africa (ASSAF) Science-for-Society Gold Medal for outstanding achievement in scientific thinking for the benefit of society was awarded to Prof. Tshilidzi Marwala;
- » Prof. Leila Patel (a SARCHI Chair) received the second ASSAF Science-for-Society Gold Medal and was also awarded the prestigious Katherine A. Kendall Memorial Award by the International Association of Schools of Social Work;
- » Ms Nolwazi Mamorare was the winner of the 2020 CFO of the Year in the category Non-Private Sector – the African Women's Chartered Accountant Recognition Award;

- » Prof. Saurabh Sinha was awarded the Institute of Electrical and Electronics Engineers Fellow (class of 2021) – the highest global IEEE distinction – for his technical and educational work in millimetre-wave integrated circuits (microelectronics);
- » Prof. Cecile Nieuwenhuizen (a SARCHI Chair) was bestowed an Honorary Doctorate by the Cracow University of Economics, Poland;
- » Prof. Hassina Mouri was elected as one of the Vice-Presidents of the International Union of Geological Sciences; this is the first time a woman has been elected as a Chair or Vice-Chair of the International Science Council Union; and
- » Ms Boniswa Madikizela (a UJ Council member) was included as one of 28 top-performing female leaders from different countries in the International Women's Forum Fellows Programme.

### Intellectual Property (IP) portfolio

During 2020, a Patent Cooperation Treaty (PCT) patent was granted by the African Regional IP Organization (ARIPO) for a ligand binding assay for detecting gibberellins.

Two additional patents were registered with the South African Patent Office relating to medical diagnostics and a patient transport apparatus.

A further three PCT applications were registered for inventions that are currently under review.

A comprehensive shareholder's blueprint has been finalised for UJ Invnt (Pty) Ltd, the recently incorporated UJ company, which facilitates the commercialisation of the University's selected IP.

### Postgraduate output

- » For the 2019 academic year, UJ graduated 3 418 postgraduate students;
- » The overall UJ postgraduate student enrolment increased by 6,3% in 2020 to 9 871 students, including 1 315 postgraduate diploma students (262 graduated) and 2 619 honours students (1 575 graduated);
- » At master's level, a total of 4 363 students enrolled at UJ, including 2 604 coursework master's (594 graduated) and 1 759 research master's (405 graduated);
- » The doctoral headcount increased by 12,1% to 1 571 in 2020 (223 students graduated).

The number of South African black graduates remains an important postgraduate target, with 85 South African black doctoral graduates in 2019 compared to 65 in 2018. Of these 85 graduates, 60 were black, nine were coloured and 16 were Indian.

## Postgraduate support

The overall financial allocation to UJ postgraduates and postdoctoral fellows increased from R153.1 million in 2019 to R179.8 million in 2020; this is an increase of 17,7% year-on-year. The number of students supported at a master's and doctoral level has grown noticeably due to a reallocation of funding.

The number of postdoctoral fellows administered by the Postgraduate School increased from 126 in 2012 to 344 in 2020. The University Research Committee (URC) and GES funding play significant roles in increasing the number of PDRFs, with ~67,7% being partially supported through the URC funding (R16 million), while 20,9% are fully funded by GES 1 or GES 4.0 initiatives (R14,4 million).

### External research income

Even though COVID-19 has imposed considerable financial restrictions on the South African and global economies, UJ has grown external funding resources beyond those received in 2019, exceeding the annual target of R180 million. The external research income received for the 2020 financial year was R245,6 million, with the main income sources being national and international contract research and research funding received from the NRF. In addition, R269 million was raised as unencumbered income, bringing the total external income to







R514,6 million. The flagship institutes under the GES 1 and 4.0 catalytic initiatives excel at securing third-stream income to support their endeavours.

**Capacity development**

The overarching aim of the research components of the DHET University Capacity Development Grant is to support the academic research activities and capacity development of staff, primarily directed towards staff completing higher degrees. Overall, six projects continued to be supported in 2020, with a total annual budget of R7.2 million allocated to these.

The UCDG research development plan for the 2021–2023 cycle was approved by the DHET with R20,8 million allocated to seven projects, including international collaboration and networking and a leadership development programme for women.

**Research Leadership Programme**

A bespoke Research Leadership Programme (RLP) was developed, funded in part through the Association of Commonwealth Universities



Gender Grant, the DHET UCDG, and UJ Strategic Grant funding. This programme will continue in 2021 with a new cohort of women, including those who identify as women. As part of a larger collaboration with the University of the Western Cape, the RLP reached out to UWC researchers, with shared activities during 2021.

**The GES 4.0 Initiative**

The goal of the GES 4.0 Initiative is to support UJ in sustaining academic excellence for global competitiveness and prominence, while remaining relevant and responsive to the Pan-African agenda.

The GES Initiative has several interlinked catalytic interventions, whose particular objectives are aligned with, and support, the KPIs of the 2025 University GES Strategy. In particular, these interventions aim to strengthen academic and research capacity and leadership within UJ, with the ultimate goal being to increase research outputs and impact.

GES 4.0 catalytic interventions include flagship institutes and programmes, and the distinguished professors and distinguished visiting/virtual professors programmes.

The Institute for Intelligent Systems (IIS) continued to build on its academic offerings in the Continuing Education Programme. The IIS has remained hugely successful in establishing long-term collaborations that are linked to leveraging external funding. Examples include Accenture (approximately R50 million over five years) and City Power (R9.7 million), as well as Growing Up Africa (over R40 million of in-kind infrastructure commitment; this is an across-university endeavour).

Activities for the Institute for Pan-African for Thought and Conversation (IPATC) included public and policy dialogues and two book launches. Four additional books, a journal article, six book chapters, two essays, and eight media interviews arose from work done by IPATC.

The Johannesburg Institute for Advanced Studies (JIAS) hosted several events online

during 2020, and advanced discussions around various topics including, but not limited to, African Studies and 4IR, and whether black economic empowerment matters.

The Confucius Institute (CI), in conjunction with the UJ Centre for Africa-China Studies (CACS), became one of only two South African members (with Stellenbosch University) appointed to the BRICS Studies International Thematic Group. Through a series of engagements, the Institute received support from Hanban and the Chinese International Education Foundation.

The first doctoral student completed his degree as part of the joint degree offered between the Flagship Programme in International Commercial Law, under the custodianship of the Research Centre for Private International Law in Emerging Countries and the University of Lucerne. Research associates contributed as general editors, regional editors, and authors to a global research project on the Hague Principles on Choice of Law in International Commercial Contracts; the resulting book of more than 1 000 pages includes contributions from 60 countries.

The Flagship Programme in Earth Sciences consists of several independent but collaborating units, namely

the DSI-NRF Centre of Excellence for Integrated Mineral and Energy Resource Analysis, a SARChI Chair in Geometallurgy and several UJ-funded research groups. The Department of Geology (the academic host department for this programme) maintained its positioning among the top 300 universities globally and climbed 27 places in the Shanghai Global Ranking of Academic Subjects in Earth Sciences. The programme continued its high publication output with 105 peer-reviewed publications.

The Flagship Programme in Nanotechnology for Water is intricately linked to a SARChI Chair in nanotechnology for water that is held by Prof. Philiswa Nomngongo, the youngest female to hold a Tier 1 SARChI Chair. She was recognised by the African Academy of Science Affiliate and selected as part of a group of female academics in the Research Leadership Programme.

The Graduate School of Architecture (GSA) offered for the first time a Master of Architecture in 2020.

**Internationalisation**

Through internationalisation, UJ continues to enhance its scholarly impact on national and international transformation agendas and reaffirms the University's position on the global higher education landscape.

At UJ, internationalisation seeks to enrich the student's experience at home and abroad, the University's research and innovation, teaching and learning towards excellence in scholarship, and UJ's international profile.

**COVID-19 challenges**

The COVID-19 pandemic challenged the Division to reimagine internationalisation within the virtual landscape. The emphasis shifted to:

- » Remote work and virtual engagements;
- » Developing processes for online admissions and recruitment for UJ degree and short-term mobility programmes;
- » Virtual mobility opportunities for UJ students, and students from partner universities;
- » Developing a creative and innovative marketing strategy to attract international students;
- » Increasing the number of virtual mobility programmes;
- » Engaging with the global community through *virtual* events; and
- » Maintaining open lines of communication with our international students.

**Academic success**

Attracting and retaining international students posed the most significant challenge due to funding, visas, and accommodation issues.



The current number of valid joint programmes indicates that the engagements with international partners remain fruitful, in line with the University's expectations. Particularly significant to 2020 was the continued work with Times Higher Education (THE), Universitas 21, and BRICS networks to elevate UJ's global reputation, while maintaining UJ's leadership position within the global higher education field, with particular reference to the Pan-African agenda.

**2020 headcount**

In total, more than 4 000 international students enrolled during 2020 for undergraduate formal degrees or diplomas. Of these, 2 300 were for undergraduate and more than 1 700 for postgraduate studies.

**Study Abroad and International Student Services**

Internationalisation supports inbound and outbound student mobility. It coordinated a two-week structured academic programme during 2020 for students from Cornell Law School. The Division launched a series of conversations under the banner "World Café" to highlight the importance of study abroad and international mobility.

The Division also hosted two Town Hall meetings with students to update them on the latest developments related to the COVID-19 pandemic and to address their concerns, as well as a virtual engagement in July, which focused on "virtual mobility".

**Student mobility**

Virtual programmes allow greater access for students to participate at substantially reduced costs, as reflected in the mobility numbers in the table below:

**Virtual mobility figures**

Inbound students	3 414
Outbound students	7 949

Although some initial engagements were in-person during the first part of 2020, most of the activities shifted to online from March onwards. Virtual engagements included students attending conferences, Coursera, exchange students undertaking their semester abroad virtually, short learning programmes, World Café as well as the International Design Studio, a joint virtual programme between FADA at UJ and Nanyang Technological University in Singapore.

**Academic Services: Partnerships**

The Directorate facilitates international partnerships that include joint/co-badged degrees, while supporting the development of short learning

programmes at UJ. A senior delegation from UJ visited the University of Zimbabwe in February 2020. The visit was aligned with UJ's vision to expand the University's Pan-African footprint, to drive innovation on the continent by being the leaders in 4IR, and to strategically partner with institutions on the continent to build capacity in critical areas. The visit included the signing of a memorandum of agreement between both universities.

The Directorate hosted a webinar on information sharing related to joint and co-badged degrees. It also hosted a workshop facilitated in partnership with the Office of the General Counsel to share information on the Protection of Personal Information Act.

Several partnership agreements were concluded with international universities and colleges including in China, India, the Netherlands, Nigeria, Russia and the United States.

**Fundraising and administration**

The International Office manages and drives international funding initiatives to support student and staff mobility. Most of the international students travelled back to their home countries during the lockdown, and some had no access to the internet. To

ensure that our students abroad could continue their online learning, we negotiated with international telecoms to subsidise data. Negotiations were concluded with MTN Eswatini and Vodacom Lesotho.

The international community and various countries supported students who had remained in South Africa and could not return to their countries of origin. The Botswana High Commission and Namibia Students Financial Assistance Fund created a relief fund to support their students while the Consulate of Eswatini provided food parcels for their students. The Chinese Consulate General in South Africa donated R100 000 towards bursaries to support the missing middle students.

A grant of R24 million was received from the Intra-Africa Academic Mobility Scheme, a joint initiative of the African Union and the European Union.

UJ is the lead partner in a project named Africa Sustainable Infrastructure Mobility (ASIM); other partners include the University of Malawi, Ardh University, Covenant University, and Leeds Beckett University as EU technical partner. This includes a four-year grant to support student and staff mobility.



The project aims at developing education, training and research capacity for African professionals to enhance Africa's sustainable infrastructure.

### **International Student Recruitment and Admissions**

As a member of the Council of International Schools (CIS), UJ has automatic access to illustrious international schools across the globe. During 2020, recruitment activities were largely undertaken digitally/virtually. The *Internationalisation Application Cycle 2020* booklet was distributed electronically to CIS counsellors and prospective students, partner schools in the SADC region (Botswana, Eswatini, Lesotho, Namibia and Zambia), to undergraduate leads from Keystone (the Internationalisation Division's digital marketing platform) and 2020 career fairs and information session prospect lists, funding agencies, and embassy Education attachés.

Keystone was used to advertise all undergraduate and postgraduate programmes, and follow-up communication was emailed to prospective applicants. Colleagues also kept in touch with guidance teachers from schools in SADC as well as East and West Africa for leads and information on applications and admissions.

The team participated in an online recruitment drive and ran a web/mobile banner advertising campaign in Botswana, Eswatini, Kenya, Lesotho, Namibia and Zambia. To support this campaign, "live reads" took place on radio stations in Botswana, Eswatini, Lesotho, Namibia and Zambia.

### **Looking ahead**

Recruitment and retention of international students will require a focused, innovative and collective effort. In the absence of onsite recruitment for the foreseeable future, participation in virtual recruitment events and information sessions will be pivotal in growing our international student numbers. Recruitment efforts will be supported by digital marketing platforms like Keystone, social media platforms and other electronic communication.

### **Library and Information Centre (LIC)**

In 2020, the Library changed its mission statement to: "Empowering users to find the most relevant information easily". This has guided the work of the nine divisions and staff in the Library, all of whom continued to work during the lockdown.

### **Support for teaching and learning**

During 2020, librarians learnt how to run online training sessions for undergraduate and postgraduate students on information literacy, plagiarism, referencing and how to find resources in the library catalogue and on other database platforms. In April and May, they trained over 9 000 students each month. Just over 30 000 students were trained in 2020, compared with 18 413 in 2019. The library adopted multiple strategies to reach out to students and played a pivotal role during the various phases of the lockdown.

The online training enabled them to teach over 150% more postgraduate students than in any previous year, because these students could log onto the online training sessions at times that were convenient for them.

At the end of March, the Library produced 12 short online tutorial videos made available on the Library YouTube channel, Facebook and LinkedIn. These short, two- to three-minute videos helped students navigate various core online library resources.

Overall, the Library enquiries went up 3%, showing how engaged the students were in the learning process during this year. In January 2020, the Library launched BOTsa, the UJ Library chatbot to answer Library-related queries 24/7.

"BOTsa" means "ask" in Setswana, and BOTsa is accessible via the Library website and app. The app has provided hassle-free access to library books, guides, information, BOTsa, and online training during 2020. The app is available via IOS / Google Play.

A further innovation to make finding resources as easy as possible is the Lean Library app, which the Library has purchased. Library users download the app onto their computers to search for resources using any search engine. If the UJ Library has the resource, a link to the Library will pop up, and the researcher can get the resource within two clicks, otherwise a form pops up, which the researcher fills in if they would like to have the article/book/manuscript sent to them via interlibrary loan.

### **Research support**

The usage of electronic resources was the highest to date in 2020. Database usage was up 37% and the e-book usage was up 77% compared to 2019. The institutional repository

views were also the highest to date, up 21% from 2019.

The Library launched the Research Navigator for postgraduate students who find it challenging to navigate the different research sources available. This one-stop service on the Library website offers useful information about the whole research process, with links to podcasts, videos, books and articles.

The Library rolled out a Research Data Management (RDM) service, and the RDM team trained over 800 UJ researchers and postgraduate students during 2020. The data repository is a self-submission system with multiple research data support functionalities, which means researchers need to receive training to use the platform effectively. Researchers also need guidance on the FAIR (findable, accessible, interoperable and reusable) data principles before using the site, and the Library also provides this training.





#### **UJ Online Press**

Towards the end of 2020, UJ announced its online press. The first component of the UJ Online Press is the Open Journal System used to publish online academic journals. Each journal on the platform has a unique URL as well as a distinctive look and feel.

#### **Conference and events**

The Library was proud to collaborate with the Association of Commonwealth Universities (ACU) for their first virtual international conference: "From zero to hero: Rising to the challenge in a time of crisis" in September 2020. It focused on the changing roles of librarians in a time of global disruption.

The Library continued to provide a stimulating environment for debate and engagement with topical seminars, book launches, workshops and presentations to students, staff and external stakeholders on the Library's virtual platform. It hosted over 260 events online; 49 focused on COVID-19 and 62 engaged with 4IR, its technologies and impact.

TEDxUniversityofJohannesburg (TEDxUJ) highlights fascinating thinkers and leaders at UJ and in the wider UJ community. This year's TEDxUJ was fully online.





This section reports on UJ's **one college** and **seven faculties**, listed in alphabetical order.

The faculties of Management, and of Economic and Financial Sciences were merged to create the College of Business and Economics (CBE) in July 2017. During 2018, the College completed the process of merging policies, governance structures, and procedures. The term Faculty in this report includes the CBE.



## College of Business and Economics (CBE)

The outbreak of COVID-19 provided the College with the opportunity to practise agile responses to its stakeholders' changing expectations, while maintaining solid governance and operations. CBE's resilience and innovation has yielded at least 5% improvement in numerous key performance indicators compared to 2019, with highlights including the postgraduate output below master's and the significant increase in enrolments for master's and doctorates. As expected, however, there was a significant decline in master's and doctoral outputs since the majority of our master's and doctoral cohorts are in full-time senior management and leadership positions, and the pandemic had increased the pressure on their professional and personal lives.

### Fitness for purpose

The CBE has a counter-disruptive strategy built on the strengths of its School of Accounting; the Johannesburg Business School (JBS);

the School of Consumer Intelligence and Information Systems; the School of Economics; the School of Management (SOM); the School of Public Management, Governance and Public Policy; the School of Tourism and Hospitality; and an agile academic governance force directed by the deanery.

The JBS has now been established as a separate entity and has the status of a UJ faculty. This strategic move distinguishes the JBS globally with a renewed vision which takes on the disruptions of the 4IR. Redesigned modules and a distinctively focused MBA programme promise that the JBS will make a significant mark as a leading business school. A new Dean of the JBS was appointed, effective 1 March 2021.

As part of the restructuring, four departments migrated from the JBS to the newly established SOM. A new Director: SOM was appointed, effective 1 October 2020.



# Faculty performance

Over the past year, the CBE extended its global scholarly network and concentrated investments into greenfield projects capable of expanding the South African economy to create more jobs. The 4IR has been integrated into our teaching, learning and research agenda to equip our graduates with a working knowledge of the future of manufacturing, geopolitics and economic trade wars.

### Teaching and learning excellence

The School of Accounting became the first tertiary education institution in South Africa to adopt *Xero Learn*, providing students with access to this leading online accounting software to gain experience and develop skills needed in today's working environment.

The move to online learning required some adjustments in terms of pedagogies, with online learning being more able to cater for student-centred learning, collaborative learning, constructivism and inquiry-based learning. Blackboard evolved from simply a communication system to active engagement with students, with staff uploading video and audio recordings as well as written materials.

Lockdown restrictions created a challenge with programmes that included a work-integrated learning (WIL) component, which is required for graduation. This was addressed creatively through online games and simulation components in collaboration with professional accreditation agencies, and resulted in the completion of all modules.



Maintaining the integrity of assessment in the online environment was vital, and the College shifted to continuous assessment. Moderation practices were also adjusted due to time constraints and logistical issues. The School of Accounting developed an internal proctoring system that was able to confirm who was actually taking the assessment. In all, the College is assured that adequate checks and balances were in place to maintain the integrity of online assessments.

Student performance indicated that the approaches were successful. Module success rates increased to 90%, a 5% increase on performance in 2019, as a result of improved communication with students as well as a 25% increase in the number of tutors and mentors appointed to enhance online support.

### Online programmes

The CBE hosts six non-subsidised online programmes, namely advanced diplomas in Financial Markets, Logistics, People Performance Management and Transportation Management; a BCom (Accountancy); and a Bachelor of Human Resource Management. Online enrolments grew to 2 463 in 2020 from 75 in 2018.

### Continuing education

The College launched 18 new continuing education programmes (CEPs), with 15 focusing on the 4IR. Overall, CEP enrolment remained stable at 6 604 students (+1%).

### Research and innovation

While the number of published journal articles grew from 404 to 568 papers (+41%) and book chapters increased from 44 to 52 (+18%), conference proceedings dropped 66% from 179 to 61 papers. The increase in the number of journal articles points to a continuous improvement in the quality of our research

outputs. While the number of submitted book chapters increased, a change in the calculation of research output units (ROUs) prescribed by the DHET resulted in a decrease in ROUs awarded to the College.

Researchers within CBE have sought to contribute to knowledge on the impact of the prolonged COVID-19 lockdowns on the socio-economic fibre of South Africa. Key among these has been the School of Economics, which has developed a highly visible research-based "Happiness Index", in collaboration with researchers in Europe and Australia. The School of Tourism and Hospitality is researching the changing dimensions of the tourism sector due to COVID-19.

### Research capacity

To further deepen 4IR research, the College is establishing the Centre for Data Science, which will lead research in applied data science and offer specialist training and postgraduate qualifications in the field.

Another impressive development has been the 42% increase in the list of NRF-rated researchers to 27 from 19 in 2019.

The CBE hosts 11 visiting professors, who present Scopus field-weighted citation indices of 2,64 on average, meaning that their publications have been cited 2,64 times more than the world average for similar publications.

The College hosts three SARCHI Chairs in Entrepreneurship Education; Transformative Innovation, 4IR and Sustainable Development; and Industrial Development.

CBE's external research funding increased by 126% to R24,4 million (2019: R10,8 million), of which R16,5 million was sourced nationally.

### Research structures

The CBE houses the Institute for Transport and Logistics Studies (Africa) as well as nine centres dedicated to research and community development, including a Technopreneurship Centre.

### Staff profile

The number of professors increased to 78 (+23%) and senior lecturers to 120 (+5%), through promotions and new appointments.

### Postgraduate profile

Enrolments for master's and doctorates grew to 833 (2019: 753) and 260 (2019: 230), respectively. International enrolments at postgraduate level increased to 1 475 (2019: 1 049).

While postgraduate output below master's grew by 6% to 1 181, the master's and doctoral outputs declined to 180 (-20%) and 33 (83% of target), respectively. This is undoubtedly due to the professional, economic and personal impacts of the pandemic on our students since most of them at this level are in full-time employment.

Finally, the College Higher Degrees Committee started migrating many of its processes online during 2020. The phased migration will culminate in increased automation and available information in the higher degrees administration processes, in line with the 4IR aspirations.

### Looking ahead

Overall, the College has progressed well in 2020. Underpinning the mindset of all the staff in the College is the theme of connectedness, of productive and active interdisciplinary connections as well as a vast set of continental and international connections, to ensure that the CBE excels globally. The CBE's leadership team is confident that the College, with the collaboration of all role players across the private and public sectors as well as civil society, will help to turn business into a powerful engine that drives our economy forward.





## Faculty of Art, Design and Architecture (FADA)

Despite the radical changes brought about by the COVID-19 national lockdown restrictions, FADA planned to deliver its performance targets during 2020 in line with the University's Strategic Plan 2025. While access to studios, workshops, computer labs and other essential resources were restricted, administrative and academic staff remained responsive to the strategic imperatives of the University.

This Faculty comprises 10 academic departments: Architecture, Fashion Design, Graphic Design, Industrial Design, Interior Design, Jewellery Design and Manufacture, Multimedia, Visual Art, Graduate School of Architecture, and Design Studies.

### Awards and achievements

In the first term of 2020, the Faculty continued to provide support to its students through ongoing initiatives. Additional tutor support was funded by the MEC Strategic Fund, as well as by the continued deployment of assistant lecturers in the Departments of Architecture, Industrial Design, and Graphic Design. The numerous national and international achievements and awards received by the Departments of Graphic Design, Industrial Design, Interior Design and Visual Art are a testament to the successes that were achieved during this challenging period.



### Academic programme offering and curriculum development

A Bachelor of Arts Honours in Art Therapy was launched in January 2020. Nine students were enrolled in the programme, and an international partnership was negotiated with the University of Hertfordshire in the UK to assist in programme delivery with access to six international lecturers and advisors. The MA in Art Therapy awaits a professional evaluation by the Health Professions Council of South Africa in 2021.

Although a blended learning approach had been progressively introduced since the incorporation of Blackboard, the Level 5 lockdown required a rapid transition to delivering programmes online. Blackboard quickly became a tool to allow students to gain access to resources and to attend online classes.

Given the nature of the design and art disciplines, practical modules require the application of specialised machinery, equipment, software packages and demonstrative teaching methodologies. Completion of practical and studio modules required students to return to campus from Level 3 onwards in July 2020. A phased-in approach aligned to UJ requirements and protocols was implemented.



### Research and creative production

#### *NRF SARCHI Chair*

2020 was the final year of the first cycle of the SARCHI Chair in South African Art and Visual Culture, and the Chair was renewed for a second cycle from 2021.

#### *Visual Identities in Art and Design (VIAD) research centre*

VIAD is a significant contributor in delivering Faculty research targets, submitting 31 textual research outputs and three creative research outputs in 2020.

VIAD adapted swiftly and strategically to the limitations of remote working by converting its physical events to online platforms, which opened up new ways of presenting and disseminating research with a global reach.

Working online also proved to be more cost-effective as it enabled VIAD to work with a range of international scholars and research associates without incurring travel and accommodation expenses.

Working digitally enabled the centre to reinforce and grow its public presence with the launch of new programmes. VIAD's online public programme events were well attended and drew in a new and broader range of participants and also comprised a range of international and national presenters from Art and Design disciplines, as well as from disciplines across the Humanities.

## Looking ahead

The COVID-19 lockdown restrictions affected the annual academic cycle, teaching and learning strategies, international partnerships, research activities, financial sustainability, and human resources. The changes implemented in 2020 will have a ripple effect on the 2021 programme offerings, and blended learning will have a longer-term impact on teaching and learning strategies in the Faculty.

In the final analysis, our 2020 performance shows a slight decrease in undergraduate enrolment. International projects and partnerships continued through online platforms, which could well initiate a new strategy for strengthening international partnerships and networks. Transformation, improving staff qualifications and the provision of studio and workshop space for the growing demands of the Faculty will require continued focus in 2021 as FADA increasingly realises its vision of becoming a leading centre of excellence in tertiary art and design education in Johannesburg and beyond. FADA remains a dynamic and active contributor to the University's global excellence strategy.







## Faculty of Education

This Faculty is spread over three campuses: Soweto Campus, Auckland Park Kingsway Campus and the research village on the Auckland Park Bunting Road Campus. It consists of five academic departments:

- » Educational Psychology
- » Education Leadership and Management
- » Childhood Education
- » Education and Curriculum Studies
- » Science and Technology Education

### Qualifications offered

The Faculty offers Initial Teacher Education (ITE) qualifications: Bachelor of Education (BEd) and Postgraduate Certificate in Education (PGCE); qualifications for continuous professional development: Advanced Diploma in Education (AdvDip in Ed) and Postgraduate Diploma in Education (PGDip in Ed); and postgraduate programmes at honours, master's and doctoral levels.

The popular postgraduate programme areas are Educational Psychology, Education Leadership and Management, and Information and Communications Technology (ICT) in Education.



### Teaching and learning

When the lockdown ensued in March 2020, Faculty staff were well-prepared to pivot to online teaching. A significant innovation in the Faculty was the rollout of the Flexible Design Template for online teaching. The pre-set design was created to customise the look and feel for all ITE modules in the Faculty but was also adopted widely at the postgraduate level. It also created a seamless transition for students between modules. The template was refined in the latter part of the year to roll out as Flexible Design Template 2.0 in 2021.

Assessment practices had to be reconsidered for the online environment. Continuous assessment was adopted. It became evident that there were various interpretations of the concept of continuous assessment. This resulted in the development of guidelines for staff, which were adopted by the University and published within the institution in Circular 2020 – 4534.

### Research

The Faculty has two research centres – the Ali Mazrui Centre for Higher Education Studies and the Centre for Education Rights and

Transformation. It also houses four National Research Foundation (SARChI) Chairs for Education and Care in Childhood; Integrated Studies of Learning Language, Science and Mathematics in the Primary School; Teaching and Learning in Post-school Education and Training; and Community, Adult and Worker Education.

- » Research output submitted to the DHET for accreditation: 178 research units
- » Number of PDRFs: 25
- » Two schools associated with the Faculty:
  - UJ Metropolitan Academy (secondary school)
  - Funda UJabule Primary School
- » Research journals hosted by the Faculty:
  - *Education as Change*
  - *South African Journal of Childhood Education*

In total, 90% of the output was through journal article units. In 2020, the number of research-active academics increased to 60 (2019: 51).

**NRF-rated researchers**

The number of NRF-rated researchers increased to 22 from 18 in 2019. The Faculty had 16 C-rated (established researchers) in the field of education; four B-rated (internationally acclaimed researchers); and two A-rated researchers recognised as leading international researchers.

**Postdoctoral research fellows**

In 2020, 25 PDRFs were involved in the Faculty – 12 renewals and 13 newly appointed. They contributed 29,58 research units in 2020.

**Looking ahead**

2020 was a challenging yet successful year for the Faculty, and much was achieved despite the

COVID-19-related complications. The Faculty has many staff members who are busy with their doctoral studies, and supporting them in reaching the significant milestone of attaining a doctoral degree is a priority. Also, even though progress is evident, more still needs to be done to establish a commitment to research among our academic staff and to increase the research funding net so that we are less dependent on the NRF. Finally, more remains to be done to increase the throughput of master’s and doctoral students; even though the Faculty is often acknowledged as a trailblazer in meaningful education innovation, momentum needs to be maintained.







## Faculty of Engineering and the Built Environment (FEBE)

In addition to the pandemic, the Faculty experienced a number of substantial changes. The shift from diploma offerings to degrees has resulted in the phasing out of most national diplomas. With these programmes reaching the conclusion of their phase-out cycle, there was a significant decrease in total enrolments from 10 183 in 2019 to 8 939 in 2020.

### Strategic focus and targets

The strategic objectives of FEBE are aligned to the six strategic objectives of UJ as follows:

#### **Excellence in research and innovation**

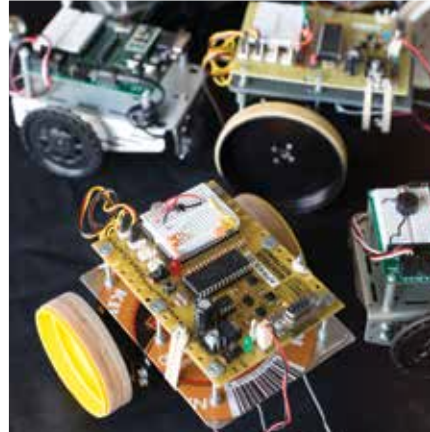
FEBE's academics continued to participate in research-driven projects, despite the lockdown restrictions that included travel restrictions and limited access to the campus. The research output was at 485,7 publications.

FEBE has 45 NRF-rated researchers (1 A-, 5 B-, 25 C- and 14 Y-rated).

FEBE's postgraduate enrolments increased to 2 038 (2019: 1 598), contributing to the Faculty's pursuit of research excellence. FEBE graduated 394 postgraduates – the highest number of graduates in the past four years.

Three new patents were added to the Faculty's Intellectual Property portfolio.

The Faculty also secured external research funding of R44 million.



#### **Excellence in teaching and learning**

FEBE followed the *Guiding Principles to Online Teaching and Learning during COVID-19* prescribed by the Engineering Council of South Africa (ECSA) in June 2020. FEBE ensured that the recommended total number of notional hours of programmes was not reduced and that all the graduate attributes were assessed as per the ECSA policies. The Faculty also adopted continuous assessment for most modules.

The academic departments implemented alternative methods to continue with practical and laboratory work, which included practical demonstrations, simulations and videos. In July 2020, students were progressively allowed to return to the University to perform in-person practical work in the laboratories.

#### **FEBE and 4IR**

FEBE has conducted various 4IR activities in the realm of teaching and learning, with the use of virtual reality and artificial intelligence in the Mining and the Electrical Engineering programmes, respectively.



#### **An international profile for global excellence and stature**

In comparison with other faculties, FEBE attracts a larger contingent of international students. Of FEBE's total headcount of 8 939, there were 1 165 international students. With some international students being restricted from returning to South Africa, FEBE's smooth transition to online teaching ensured students were able to complete the academic year irrespective of their physical location.

#### **Student-friendly living and learning environment**

Following a review of its facilities, FEBE elected to return most of its computer laboratories to the Central Academic Administration. These laboratories are now shared throughout the Faculty and administered using the centralised timetable, with the benefit that upgrades of these venues are undertaken at institutional level.

#### **National and global reputation management**

FEBE strives to be a Pan-African centre of critical intellectual inquiry through extensive scholarship and balanced participation in knowledge networks, both within Africa and further abroad.

#### **Fitness for GES**

FEBE engaged the support of an external agency to market the 14 new programmes (mostly at the advanced diploma and honours levels), with a focus on social media marketing. These measures will aid the Faculty in extending its reach and impact and growing FEBE's fitness for global competition, faculty awareness and branding.

Anticipating that the pandemic could continue into 2021, FEBE explored innovative methods to facilitate the accreditation process, which paved the way for virtual accreditation visits, confirming the integrity of the Faculty's programmes against national and global standards of excellence.

## Student profile, success and experience

### Student profile

FEBE's 2020 student population of 8 939 students included 31% females, which has been maintained since 2019. Efforts are ongoing to attract female learners to the Faculty.

### Student success and experience

The Faculty achieved an overall undergraduate success rate of 85,7% in the 2020 academic year – an improvement of 1,7%.

The Faculty graduated 1 869 students (2019: 2 890), a decline that can be attributed to the phasing-out of non-aligned programmes, which saw the majority of students completing these programmes in 2019.

Given the pandemic, national diploma students lacking only the experiential learning component required for completion were unable to source employment experience during the various stages of lockdown. FEBE will assist these students towards accessing training that will result in the completion of their studies.

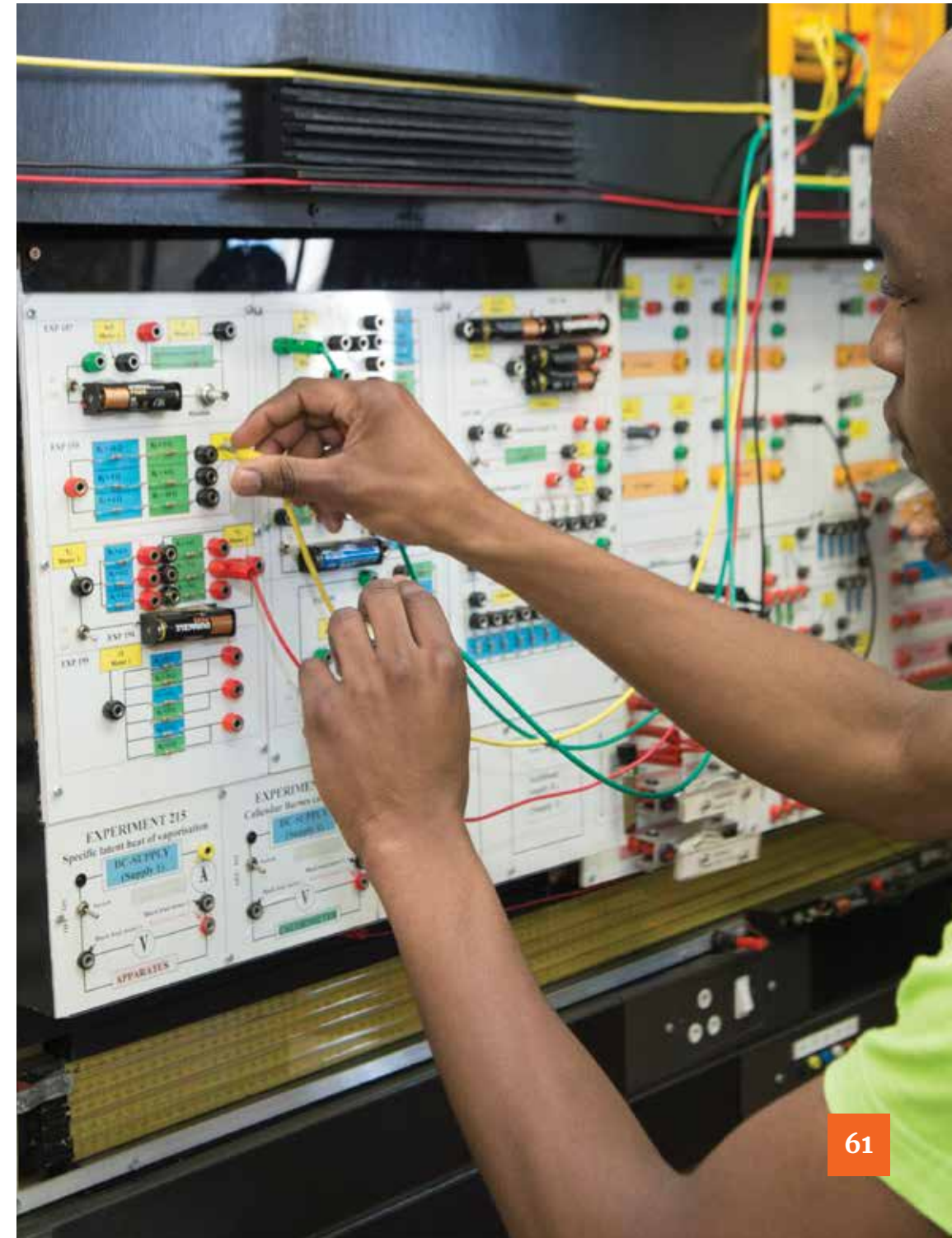
### Non-subsidised academic programmes

FEBE offers non-subsidised online short learning programmes (SLPs). A number of SLPs centre on critical green solutions and technologies.

## Looking ahead

FEBE's strategic transformation is nearly complete as staff and academics gear up for the improved implementation of fully articulated undergraduate programmes and a niche suite of postgraduate offerings. With this new trajectory, the Faculty remains committed towards growth and fit-for-purpose contributions towards the SET sector. FEBE has therefore taken active measures to rebrand and repurpose itself as a key contributor towards the growth of SET programmes. In addition, FEBE has remained committed to recognising and welcoming the critical role that industry and professional bodies will holistically play towards achieving the intended growth, impact and sustainability of its programmes.

As FEBE ventures forward, it does so armed with a wide variety of robust and competitive engineering and built environment programmes. Cutting-edge programmes, such as the Master of Sustainable Energy and the Master of Micro- and Nanoelectronic Engineering degrees, are helping FEBE lead the way towards an uncharted but innovative and promising future.







## Faculty of Health Sciences

The Faculty strives for excellence in research and innovation as well as teaching and learning. Its other strategic imperative is to think differently about what defines an enriching student-friendly learning experience in an online and 4IR reality.

### Excellence in research and innovation

The Faculty increased its external research income and promoted a culture of innovation by conducting applied research with the potential to lead to commercialisation.

#### Research output

The Faculty exceeded its 2020 research output target (88 accredited units) by submitting 114 units compared to 87 units in 2019.

- » The Laser Research Centre (LRC) was a top achiever, publishing 67 internationally accredited articles, two peer-reviewed conference proceedings and 16 book chapters.
- » The Department of Emergency Medical Care (EMC) led the launch of a South African journal dedicated to emergency care. Although not yet accredited, it is a vital step in developing emergency care research in South Africa and Africa.



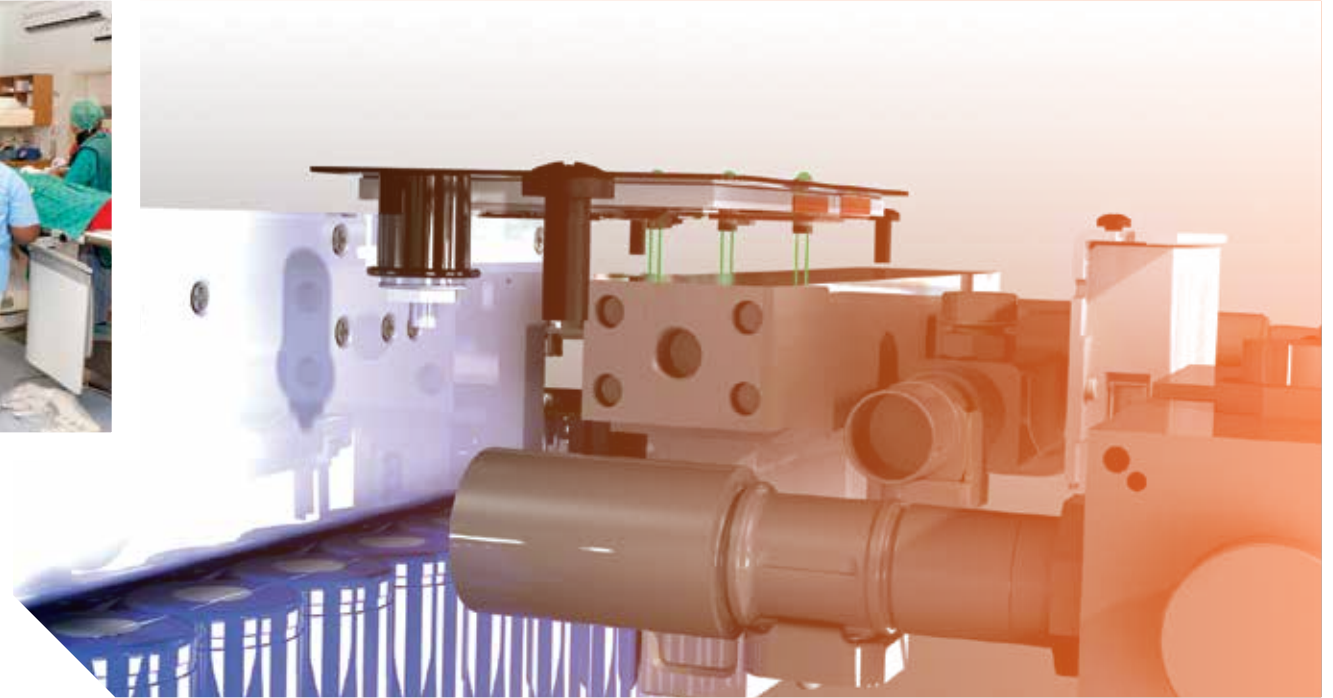
- » The Department of Chiropractic released the second edition of *The Chiropractic Clinician* journal, which included international research submissions.
- » The Department of Nursing continues to manage the *Health SA Gesondheid (HSAG)* journal, an accredited online interdisciplinary health sciences research journal.

**There were six rated researchers in the Faculty in 2020 (two C1, three C2 and one Y1).**

**The SARCHI Chair in the LRC was renewed (2021–2025) and upgraded to a Tier 1 Chair.**

**The Faculty appointed 10 PDRFs who contributed to 17 publications.**

**The number of visiting professors and research fellows increased to 33 (2019: 22).**



### Trans- and interdisciplinary research

Research between faculties, departments within this Faculty and the Faculty's four research centres increased opportunities for leading trans- and interdisciplinary research, creating opportunities for increased publications. One example was the launch of the Biomedical Engineering and Healthcare Technology (BEAHT) Research Centre (RC), an initiative between the Faculties of Health Sciences and Engineering and the Built Environment. The BEAHT RC will conduct basic, applied and strategic research in biomedical engineering, health innovation, healthcare technology and mHealth (mobile health), and also embark on delivering services through consultancy, education and short learning programmes as well as contract research in the 4IR.

Three departments in the Faculty were engaged in research related to the COVID-19 pandemic – focusing on its impact on teaching and learning/clinical training, on adherence to guidelines by practitioners and on the ethics of health research in a pandemic.

### Excellence in teaching and learning

As a result of the national COVID-19 lockdown restrictions, all teaching and learning as well as assessments moved online in April 2020. Although the Faculty had been increasing its use of technology in teaching over the past years, it was required to roll out faculty-wide training on the use of Blackboard for teaching and assessments.

An increase was noted in registered Orange Carpet students, from 43 in 2019 to 61 in 2020. Total postgraduate enrolments decreased in 2020 to 1 244 due to the decrease in postgraduate diploma enrolments. At master's level, enrolments significantly increased to 598 in 2020, while doctorate registrations increased to 81.

The success of Health Sciences students is closely linked to the clinical practice they gain in the Faculty's Health Training Centre, which provides opportunities to participate in work-integrated learning (WIL). The number of patients seen at these approved sites by students under the supervision of qualified practitioners decreased to 13 339 (2019: 28 779) due to COVID-19 restrictions.

Creative solutions for delivering practical clinical components were implemented. For example, the Department of EMC identified alternative software solutions that empower students to engage in simulation learning online. The Department of EMC was the only department in South Africa to graduate emergency care students at the end of 2020 after having met all the clinical requirements.

### Enriching student-friendly 4IR learning experience

Students in the Faculty have access to venues equipped with state-of-the-art modern equipment. Here are some examples:

- » The Department of Medical Imaging and Radiation Sciences received funding to purchase the Virtual Environment for Radiotherapy Training system, which is a 3D, life-size, virtual treatment room where students can immerse themselves in a simulated environment. It will be installed in 2021.

- » The construction of the first integrated on-campus rescue simulation centre in Africa will position the Faculty as a regional and global centre of excellence for medical rescue education.
- » The Department of Podiatry acquired a CAD-CAM machine to produce 3D orthotics using the 3D scanner and the Zebris gait system. The Department is looking at using this technology to drive specialist clinics in diabetics, sports injuries and paediatrics.

### Looking ahead

The Faculty will continue to pursue and build strategic partnerships with collaborators within and beyond academia at all levels nationally, in Africa and beyond the continent as a mechanism to further research excellence, ensure relevance, and expand resources available for research, teaching and community engagement.

Support for the professional development of staff as it relates to research, teaching and engagement remains a priority for the Faculty. In particular, the Faculty will continue to support and encourage staff who are enrolled for postgraduate qualifications to enable completion. This will make an important contribution to further raising the research profile and output within the Faculty, and will make a major contribution to mitigating some of the risks around staff retention and retirement.

In 2021, the Faculty will prioritise the curricularisation of a medical programme. This will be done in collaboration with the University of Illinois, since the Faculty is eager to incorporate its teaching and learning principles, like engineering and innovation, into the curricula.







## Faculty of Humanities

### Enrolments, teaching and the wellbeing of lecturers

A pleasing observation in 2020 was the sharp increase in top-performing students selecting the Faculty of Humanities as a first choice. The 2020 target for first-year undergraduate students with an Admission Point Score (APS) score higher than 35 was exceeded by 12,2%. Some reasons for the Faculty becoming a first choice include:

- » The new flexible BA, which allows students to customise their degree by combining their preferred majors and modules from the 17 Humanities subjects, plus students have the option to combine these with subjects from other faculties.
- » The multi-disciplinary Politics, Economics and Technology degree, which prepares students for the new world of work within the context of the 4IR.

The Faculty also offers extended degrees, and the graduation rate for the BA extended programme was 18,8% (2019: 18,7%).

Keeping student satisfaction levels high required immense sacrifices from our staff who were working longer hours while also dealing with their own work-family balance issues.



The UJ Staff Wellness Committee's reports indicated that the Faculty had the highest number of reported cases among the faculties on stress, depression, conflict and family issues.

Looking ahead, the top three interventions with regard to teaching and learning will be to:

- » continue with training to enhance blended learning and online capabilities;
- » sustain strong success rates and reduce the dropout rate; and
- » improve the physical and psychological wellbeing of our staff.

### Research outputs, COVID-19 research and public intellectual work

The Faculty's research output was 434 units, which is just lower than the target of 440. Although our staff were research-active in 2020, much of the work is still online (not yet in print) as journal reviewing processes were slower, given the complications associated with COVID-19.

In 2020, the Faculty had 43 NRF-rated researchers. A number of NRF workshops were held for staff during the year under review, particularly for those planning on applying for promotion.



While our accredited publication units in 2020 remained similar to those produced in 2019, noteworthy was the very high quantity of published public intellectual work that offered insights on poverty, inequality, the impact of the lockdown, violence against women, gender empowerment, natural healing methods, alcohol consumption and cigarette smoking, and receptiveness to the vaccines.

### Student mobility and looking ahead

Internationalisation has been a key area of engagement and growth in recent years. Nine in-bound students arrived in South Africa for semester-long stays in 2020. However, by April 2020 no more in-bound students were able to arrive and the few who were in the country stayed until travel was permissible months later. All out-bound trips were stopped. As a substitute for travelling to other countries, numerous webinars across the Faculty were

held, often with international collaboration, and in this way the estimated number of virtual out-bound students was significant.

A three-part international seminar series titled *The Humanities in the Time of COVID: Responses, Challenges & Opportunities* was launched in September 2020. The series was a partnership between UJ Humanities, Shanghai University and Western Sydney University, and it brought together students from around the world.

The Africa-by-Bus venture for students could not continue due to the pandemic, and the planned bus trip to Botswana had to be cancelled. Previously, annual trips to Lusaka, Namibia and Uganda were undertaken in 2017, 2018 and 2019 respectively, with great success. The aim is to have a virtual bus trip in 2021.

## Launch of research entities

The events in 2020 led the Faculty to reflect deeply on the role and strengths of Humanities in society, within the University and in relation to the 4IR, decolonisation and social asymmetries.

Two research centres were launched in 2020: The Race, Gender & Class Centre and the Karl Mittermaier Centre for the Study of Philosophy of Economics, which will be located at the Johannesburg Institute for Advanced Study (JIAS).

## Subject rankings

Sociology, Psychology, English and Literature, Development Studies and Philosophy were ranked highly by the different ranking agencies. Of special mention are the Subject Rankings released in 2020 by the THE WUR in which Arts and Humanities retained its ranking position in the 301–400 band in the world and remained joint third in South Africa; Social Sciences retained its ranking position in the 301–400 band in the world and was ranked fourth in South Africa; and Psychology retained its ranking position in the 301–400 band in the world and was ranked joint second nationally.

## Looking ahead

The Faculty of Humanities experienced a difficult year in 2020. Fortunately, there were credible undergraduate and postgraduate success rates and research outputs. The Faculty kept up with internationalisation initiatives, invested in staff, facilitated transformation, built active committees and encouraged public intellectual work on COVID-19 and other topics.

At a structural level, enrolments were stabilised and new undergraduate programmes launched. Simultaneously, new problems were encountered that will require attention going forward. These include:

- » Programmes to cater for the social and psychological wellbeing of staff and students who were severely affected during the lockdown periods
- » Strategies to equip students in online methodologies and self-directed learning.
- » Improving and developing further scholarly research outputs.
- » Keeping up the momentum to transform the Faculty and its climate and culture.



The Race, Gender & Class Centre and the Karl Mittermaier Centre for the Study of Philosophy of Economics, will be located at the Johannesburg Institute for Advanced Study (JIAS)





## Faculty of Law

The 2020 academic year was challenging due to the outbreak of the COVID-19 pandemic. Even though it is the second smallest Faculty at UJ, the Faculty of Law is one of the largest law faculties at residential universities in terms of the number of students it teaches. The Faculty is also one of the eight South African faculties of law ranked in the 201+ band for Law in the 2021 THE WUR subject rankings.

Teaching in the Faculty is split between the traditional law modules to law students and the service modules offered to non-law students registered for diploma and degree programmes in other faculties.

### Local partnerships

The Faculty's partnerships with local firms of attorneys and auditors resulted in several practising attorneys, advocates and auditors lecturing online, particularly in the Faculty's non-subsidised programmes. The Faculty's relationship with the profession enables it to work closely with various law firms to secure vacation work, job shadowing opportunities, bursaries and articles of clerkship for top achievers. Prominent South African law firms, like Webber Wentzel and Tselanyane Attorneys, formed part of the Faculty's First Year Experience programme and gave aspiring lawyers a sense of what they can expect when they enter the legal fraternity. Representatives



from the Johannesburg Bar and the Constitutional Court also addressed the 2020 first-year students during their orientation.

### International exchange agreements

The Faculty has active exchange agreements with 32 foreign universities. It also has cooperation agreements with the Graduate School of the Public Prosecution Service of Brazil, The Hague Conference on Private International Law (Netherlands) and the International Institute for the Unification of Private Law (Italy).

### Research footprint and impact

#### Publications

The Faculty had over 90 subsidy-generating publication units in respect of articles, books, chapters and conference proceedings published by Faculty members. Faculty members were also involved in editing several books and contributed chapters to non-subsidy-generating books.

#### Fourth Industrial Revolution (4IR)

A book was published on Law and Industry 4.0: *Selected Perspectives on a New Scholarship of Teaching and Learning*. It consists of some of the research papers on teaching, learning and 4IR that were presented at the Research Indaba hosted by the Faculty, selected after a double-blind peer review.



### Research structures

The Faculty has four active research centres:

- » Centre for Banking Law
- » Centre for International and Comparative Labour and Social Security Law
- » Centre for Private International Law in Emerging Economies
- » South African Institute for Advanced Constitutional, Public, Human Rights and International Law

The Faculty hosts the NRF Research Chair in International Law, which produces publications, arranges seminars, and submits reports to national and international bodies together with the research centres.

### Looking ahead

As the Faculty transitions into a new era under the leadership of a new Executive Dean in 2021, it will continue to support the development of its junior staff members through various interventions including a structured mentorship programme, developmental programmes in research and postgraduate supervisory capacity as well as teaching relief to complete doctoral studies. The Faculty is determined to continue producing innovative research focusing on contemporary areas of law and 4IR, decolonisation of knowledge and COVID-19.

The Faculty will continue to collaborate with the relevant University structures to improve the success, throughput and on-time completion of its undergraduate, postgraduate and CEP students. The Faculty will build on existing relations with local and international partners in its quest to be a Faculty of Law of choice in Africa.



## Faculty of Science

UJ was ranked highly by the top international university rankings agencies in 2020, with the Faculty of Science making a significant contribution to the institution's global impact by extending its footprint in the top international rankings. Various academic departments and broad disciplines were included in global rankings. These included UJ Earth Sciences, Physics, Geography, Chemistry, Computer Sciences, Mathematical Sciences, and the broader fields of botany and zoology, whose combined impact was included under Biological Sciences.

### Fitness for purpose

In total, 76% of the academics within the Faculty hold a doctoral qualification. Additionally, the Faculty's competitiveness is exemplified by the fact that Google Scholar states that 26 out of the top 50 most cited researchers from UJ were from the Faculty of Science, with five of these academics being in the top 10.



Furthermore, the Faculty's national relevance is illustrated by its employment equity profile in that 47% (153/326) of the academic, technical, and administrative staff are from South African designated groups, namely black, Indian and coloured.

### Excellence in research and innovation

Academic and Research staff, including a research-active postgraduate student and postdoctoral group, contributed just under 400 units to UJ's success. Of these, postdoctoral fellows contributed 30 units. This equates to an average of 2 units per academic staff member.

More than 83 addresses were delivered at international conferences and seminars in 2020, which is considerably fewer than in normal years, but this is because many conferences were cancelled due to the pandemic, while others continued online.



The national and international standing of Faculty of Science researchers and visiting scholars is also evident through their NRF ratings – within the Faculty of Science, 79 researchers were rated, four of whom were A-rated, indicating their recognition as global leaders in their respective fields. A further 22 were B rated, 44 were C rated, while nine were Y rated.

### Patents and pending patents

The Department of Biochemistry patented a phytoconstituent for treating diabetes. The Chemistry Department has a pending patent for an acid free process for the selective preparation of products from furfural.

### Social impact

The Soweto Science Centre (SSC) is the Faculty's flagship programme with 147 registered Grade 10 to 12 learners in 2020 from 105 schools primarily located in Soweto and neighbouring areas such as Eldorado Park and Lenasia. The SSC hosted a UJ-SSC 4IR robotics and coding workshop. There was a hiatus on activities with the onset of the pandemic in March 2020, however, in July, the SSC piloted online teaching and learning for the Grade 12 learners and continued with the Grade 11 and 12 learners in August using the uLink Blackboard LLM. During 2020, SSC registered learners could register free with Siyavula, an online tool for high school learners in mathematics, chemistry and physics.



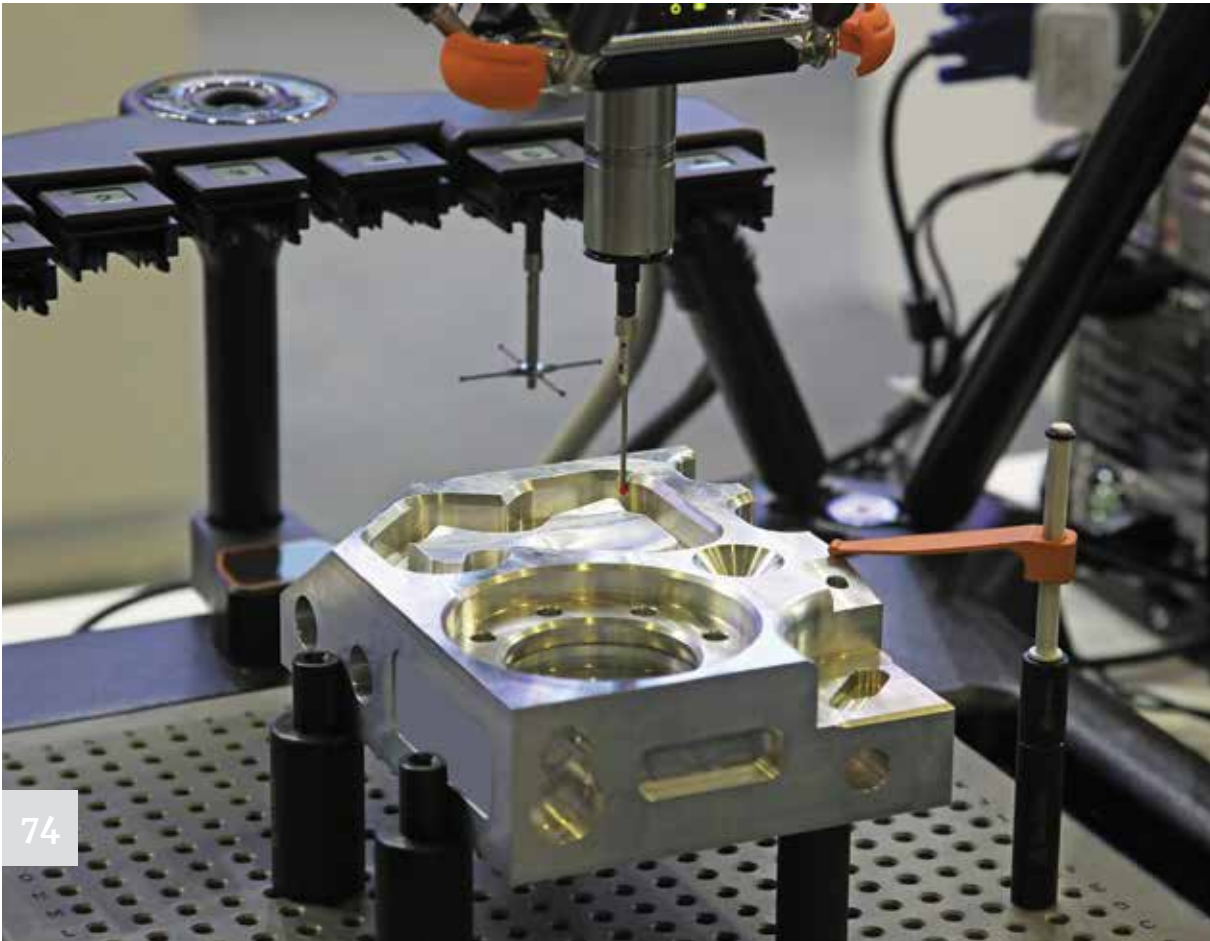


Looking ahead

The Faculty produced more than 700 Scopus publications in 2020 and continues to lead the institution when it comes to the highest percentage of internationally peer-reviewed journal publications as well as citations generated by those publications (26 of UJ's top 50 cited researchers reside in the Faculty of Science). In 2021, the intention is to continue to improve upon strategies to ensure that more academics contribute to research output and to substantially increase the number of designated South African doctoral degree students. Several promotions in 2020 contributed to increasing the seniority of academic staff, and the Faculty will continue to address the low number of designated South African professors. In 2020,

three designated females were promoted to the ranks of full professor, which was a first for the Faculty. Quality promotion and good governance were ensured through the activities of various Faculty committees for the quality monitoring of functions related to teaching and learning, research, higher degrees, community engagement, and health and safety.

Excellent research and its successful marketing have become evident in the improved rankings of many of the Science disciplines by numerous international ranking agencies. The Faculty is energised by this recognition and plans to reach higher heights in research and innovation, teaching and learning and social impact in 2021.



Eco-friendly, sustainable growing of fresh, green produce





Providing an enriching student-friendly learning and living experience is one of the University's strategic objectives. Student life at UJ is supported by Student Affairs, Arts and Culture as well as Sport. Student Affairs and Sport are led by Senior Directors while Arts and Culture forms part of the portfolio of the Executive Dean of FADA. All report to the Management Executive Committee (MEC).

**Student affairs**

While the COVID-19 pandemic posed huge challenges with the transition to online learning and teaching in 2020, the Student Affairs Division continued to prioritise student stability and relations to ensure a conducive and student-friendly environment. The cooperation of the student leadership structures such as the 2020 Interim SRC, house committees and student societies, made it possible for UJ to continue to respond consistently to student needs.

**Enriching student-friendly learning and living experience**

Student Affairs continued with support for students throughout the student life cycle by providing an enriching student-friendly support environment. Interventions included establishing learning and living communities, mitigating student hunger, and providing financial assistance through the SRC Trust Fund and the Student Funeral Assistance Programme. From April 2021, interventions and programmes addressing issues of risky student behaviour, safety and security, diversity and tolerance, good conduct and citizenship were conducted online.

**Student success rates**

In order to contribute to the University's strategy of improving student success rates and reducing dropout rates, Student Affairs reviewed the Residence Admissions and Placement Policy, which was later approved by the MEC.

**COVID-19 and student accommodation**

Students remaining in the UJ residences and in approved privately owned student accommodation had to sign an undertaking that they would adhere to the regulations and measures to prevent infections and the spread of the virus. The University provided PPE to students, including masks and sanitisers.

**Key student accommodation statistics**

Category	Numbers
<b>On-campus accommodation</b>	» 6 753 beds available at on-campus residences (excluding 240 beds in Kopano residence, decommissioned due to renovations)
	» 5 120 students took occupancy at the start of 2020
	» 866 students remained in residence during the lockdown
	» 3 433 returned during the year to increase occupancy to 4 299
<b>Privately owned student accommodation (POSA)</b>	» 27 587 beds were available in POSA
	» About 23 000 beds were occupied until students moved out due to the lockdown
	» 3 330 returned to POSA during the year

Student experience



The increase in the number of beds complying with UJ standards and the minimum norms and standards of the DHET was due to the strict monitoring of compliance by both accredited and prospective service providers.

**Living and learning communities**

The Five-Pillar Model comprising the academic, leadership, community engagement, sport and social pillars were promoted in 2020. Academic excellence cut across all the elements of the model.

Living and learning communities in the UJ residences were supported through the

Residence Academic Advising Programme. About 180 senior students were identified to help junior students, particularly first-year students in residences, with their academic work. However, the programme was disrupted by the lockdown.

**Orientation of first-year students**

During the First Year Seminar, Student Affairs presented the University's student regulations for student discipline and the expected UJ undergraduate attributes. Over 5 500 students attended the presentations and workshops online.





The Student Affairs calendar and pamphlet covering tips, rules and regulations, (previously distributed in hard copies during orientation) were uploaded onto the Student Portal (uLink).

#### **Extracurricular activities**

Student Affairs, together with the SRC, house committees, the Institutional Office for HIV and AIDS (IOHA), Protection Services and the Campus Clinic coordinated extracurricular activities and programmes on safety and security and the prevention of risky student behaviour. To this end, UJ approved the Charter for the Student Wellness Committee.

#### **Student welfare and support**

In total, 3 547 students were approved for the Student Meal Assistance Programme. They received two cooked meals a day until the start of the nationwide COVID-19 lockdown. The meal assistance was converted into providing meal packs to students who had remained in residence or were living around the University. Tiger Brands also continued to provide meal packs for 500 students.

Student Affairs coordinated the University's response to psychosocial and personal issues affecting students. These issues included student deaths; students who had attempted suicide; students who had been mugged in and around UJ campuses; students who had experienced trauma; students in financial or emotional distress; and students without accommodation. Most of the incidents were resolved in collaboration with Protection Services, Campus Health and PsyCaD.

#### **Student governance**

- » The elections for the 2021 SRC, the first-ever electronic SRC elections, were held in October 2020.
- » Elections for the leadership of other student organisations, such as house committees, were conducted in October/November 2020.

## **Arts and Culture**

UJ Arts and Culture, a division of the Faculty of Art, Design and Architecture, made tangible contributions to creating an enriching student-friendly learning and living experience through the UJ Arts Academy, which offers students opportunities to develop artistic skills.

#### **Awards**

The second-year FADA students received the prestigious Naledi Theatre Award for Best Set Design for the *Metamorphosis* set, and the production also won the award for Best Lighting and Animation.





### Student success

At the beginning of 2020, 4,7% more students than the year before were selected for the UJ Arts Academy. Of the 546 students whose auditions were successful, only 199 had qualified for cultural bursaries at the end of the year; these are dependent on strict attendance and participation criteria. Critically, 49% of students did not complete the programme (normally this figure is around 20%); this can be attributed to COVID-19, which required the redesign of programme offerings and challenged students mentally, emotionally and financially. The Division's redesigned extracurricular programme included drama, dance, movement and musical theatre classes that were presented online at no additional cost.

Group drama classes made room for a more personalised online one-on-one approach. Dance opportunities included ballet, hip hop, afro-fusion, contemporary and Latin and ballroom. The practical nature of these specialisations made these classes challenging for students and instructors alike.

In 2020, the Izimbongi Poetry Festival created opportunities through online poetry writing, publishing and performance masterclasses. In addition to the final round of the year-long slam competition, a series of video projects, *Black Lives Matter*, *These Hands* and *The Pandemic* were filmed and released online, with the latter also being featured on the global virtual stage.

UJ Choir's much anticipated new album, *When the Earth Stands Still*, was released and is available on Spotify, Amazon Music, Google Play, Apple Music and Deezer.

Additionally, a 3D virtual exhibition, *Conversing the Land*, and a docuseries on Willem Boshoff's *Blind Alphabet* were accessible to students on the UJ Art Gallery's new online platform, Moving Cube. This is one of the most innovative visual art platforms in South Africa, offering 3D and 2D virtual exhibitions and video interviews with artists, curators and specialists.

### Sport

UJ Sport comprises three units, with Sport Clubs as the core component of the division. The other two units provide the necessary support for performance of both students and staff, namely Athlete Support, which is responsible for the physical, emotional, and academic welfare of student athletes; while Support Services is responsible for facilities, events, marketing, communication, and maintenance, including internal UJ Sport transport. Given the challenges that were imposed by the pandemic, University Sport South Africa (USSA) took a decision to cancel all university sports competitions. This affected all UJ teams and was a bitter pill to swallow for both staff and students, as these sports activities are a highlight of every sport student's year. It then became important for UJ Sport to review this and find a way to keep students and staff engaged with a variety of interactive virtual events.

### Highlights

- » The following UJ Netball players made the elite squads for Gauteng Fireballs and Limpopo Baobabs: Liza Kruger, Sinenhlanhla Msomi, Bongiwe Msomi, Rome Dreyer, Zanele Vimbela and Zene de Waal were all in

the provincial teams that competed in the Telkom Netball League.

- » UJ Netball had 18 representatives in the Spar National Championships representing the Johannesburg Netball Association.
- » Rower, Lebone Mokheseng, attended the SA Under 23 Camp held at the Vaal Dam from 3 to 10 October 2020. Both Lebone Mokheseng and Murray Bales-Smith are part of the South African training squad for the World Student Championships, which will be held in Chengdu, China, in August 2021.
- » Lifa Hlongwa, UJ's para rower, came second at the African Rowing indoor Championships, held online on 28 November 2020.
- » The UJ Women's football team won the Engen Challenge, which was hosted online by Engen.
- » Three UJ cricketers received awards for their outstanding performance in Central Gauteng Lions Cricket: Delano Potgieter (Most improved Lions Player of the Year); Joshua Richards (Newcomer of the Year); Ryan Rickleton (Fitness Award).
- » Shaun Williams, one of our senior players, was signed to join the Blitzbokke Sevens Academy.







Stakeholder engagements sought to manage the challenges presented by the COVID-19 pandemic while continuing to showcase UJ as a leader in 4IR. Developing and maintaining relationships with significant stakeholder groups is key to UJ achieving its Strategic Plan 2025.

**Stakeholder groups**

Stakeholder engagement affects UJ's reputation nationally and globally. The stakeholder groups include staff, students and prospective students, parents and fee payers, schools and learners, alumni, donors and prospective donors, bursars, local and international foundations/trusts, sponsoring companies, corporates, municipalities, government, peer institutions, local and international media, and the communities around UJ's campuses.

**The Division of University Relations**

The core business of this Division is to engage with stakeholders to enhance UJ's profile and reputation. It rolls out programmes aligned with the University's Strategic Plan 2025, emphasising UJ's national and international reputation management and further elevating UJ as an institution of global excellence and stature.

The following operating units within the Division ensure active stakeholder engagement:

- » *Strategic Communications* safeguards and advances UJ's reputation.
- » *Marketing and Brand Management* builds and protects UJ's corporate brand.
- » *Government and Stakeholder Relations* facilitates and sustains relations with the government, agencies and parastatals.
- » *UJFM* drives strategic communication to current students.
- » *Community Engagement* creates active interaction between UJ and its communities.
- » *Student Affairs* coordinates student development activities, provides support to student structures and manages student accommodation in both university residences and privately owned student accommodation.

During the year under review, the Division played a vital role in promoting public understanding and recognition of UJ as a global leader in higher education and of its vision to become a university of choice across the globe.

**Strategic communications**

When the University's normal operations and academic programme were threatened by COVID-19, the Unit was swift in developing a proactive response and crisis communications strategy, which safeguarded UJ's brand reputation.

UJ continued to dominate the media space and also set the news agenda and influenced public debate, thereby contributing to possible solutions on societal issues through impactful research and knowledge sharing.

In terms of publicity generated in print, broadcast and online platforms, UJ outperformed most of its competitor universities in South Africa and maintained its position among the top three leading South African universities. This was achieved even though the media focus was largely on universities with medical schools, because of the COVID-19 pandemic.

UJ also maintained its leading position in thought leadership articles and expert commentary, remaining the preferred choice for online and print publications such as *The Sunday Times*, *Mail & Guardian* and *Daily Maverick* as well as the various Independent Media titles. In total, 109 UJ experts featured in the global media, while 306 op-eds were published across the national media, 72 of which had a strong inclination to 4IR.

According to reports by two media monitoring agencies,

Stakeholder engagement



PEAR and Meltwater, UJ generated the most press clippings headline mentions with a positive association. Around 2,3 billion readers, listeners, and viewers (including repeats) were reached during 2020. The University achieved an advertising value equivalence (AVE) of approximately R173,16 million (the amount the University would have spent for advertising space).

**Marketing and Brand Management**

The strategic objective of this Unit is to position UJ as a global 4IR leader with a long-term brand repositioning campaign that was launched in 2018 and continues to be rolled out. Since the inception of the brand campaign in 2018, some 447 million people have been reached through print, radio, TV and digital platforms, with an added social media reach of 4 billion. This campaign won an Africa Silver Quill Award from the International Association of Business Communicators in November 2020.

Research in October 2020 confirms that UJ realised a significant increase in key target market perceptions from 2019 to 2020. Of notable mention is the sentiment that UJ equips students for 4IR (+6%); has a technology focus (+3%); is a reputable institution (+3%); and has positive media coverage (+5%). Awareness levels have increased by 7% with 51% of respondents in this survey seeing UJ as a leader in 4IR.



- » The Unit reached 80 million people through a media marketing campaign and a further 1,2 billion through social media.
- » There was a 5% growth nationally in recall of UJ advertising.

Cloudebates™, 4IR in Action stories, *Beyond Imagining* – an interactive 4IR e-zine – as well as the undergraduate Imagine THAT campaign were used in the multi-channel marketing media campaign to position UJ in the 4IR space. These stories all live on the 4IR website – [www.uj.ac.za/4IR](http://www.uj.ac.za/4IR) – which has been viewed more 240 000 times: 179 000 views from South Africa, 26 000 from the UK, 3 000 from the USA, and a spread across various African countries with Botswana, Eswatini and Kenya having just over 600 views each.

In order to grow the reach of the online brand shop, vending machines were procured for each of the campuses where staff and students could purchase UJ-branded merchandise. This initiative was well-received and will be further developed in 2021.

A COVID-19 awareness campaign was also driven on the social media platforms to encourage responsible behaviour and the sharing of relevant information. An awareness campaign on the responsible use of social media was rolled out to train staff and students on its associated risks and benefits.

A Facebook chatbot was introduced during 2020 to assist students and potential students with their queries. An Orange Carpet WhatsApp chatbot was also developed to create an effective communication channel with these prospective high-achieving students.

Growth was seen across all the UJ social media platforms.

Social media fan base

	End 2019	End 2020	Growth
Facebook	423 734	520 439	+96 705
4IR Facebook	–	7 024	New platform
LinkedIn	237 257	266 081	+28 824
Twitter	47 086	64 461	+17 375
Instagram	23 400	28 200	+4 800
YouTube	6 670	10 400	+3 730

Government and Stakeholder Relations

This Unit made progress towards attaining the University's ambitions for global excellence and stature. It engaged in mutually beneficial and sustainable stakeholder relations with various levels of government and other key stakeholders.

Agreements and partnerships were refined into three focus areas: local government and agencies; provincial government and national government; and state-owned enterprises.

The Unit coordinated a successful high-level meeting between the Vice-Chancellor and the City of Johannesburg to discuss potential collaboration in providing solutions for food security. Subsequently, UJ Council approved the establishment of the Centre for Ecological Intelligence in September 2020, providing a substantive illustration of UJ being at the forefront of delivering solutions to societal problems.



The Unit facilitated an initiative with the School of Tourism and Hospitality and Gauteng Tourism, which provided experiential learning opportunities for UJ students at a Tourism and Hospitality Indaba in February 2020.

In collaboration with PsyCaD, the Unit hosted the annual Government Career Day, which was held virtually, and included 15 exhibitors from government departments, government agencies and Sector Education and Training Authorities.

UJFM – UJ's radio station

UJFM retained its position among the top three campus-based radio stations. The station also made it to the finals in eight categories in the 2020 South African Radio Awards and received the South African Radio Award for Best Imaged Radio Station, a combined category for community and small commercial radio stations.

Phase 1 of the UJFM digitisation project was launched with a mobile streaming app and refurbishment of the UJFM social media accounts.

UJFM generated R400 000 towards the University's third-stream income, less than half of the income in 2019 and 40% of its expected revenue target.

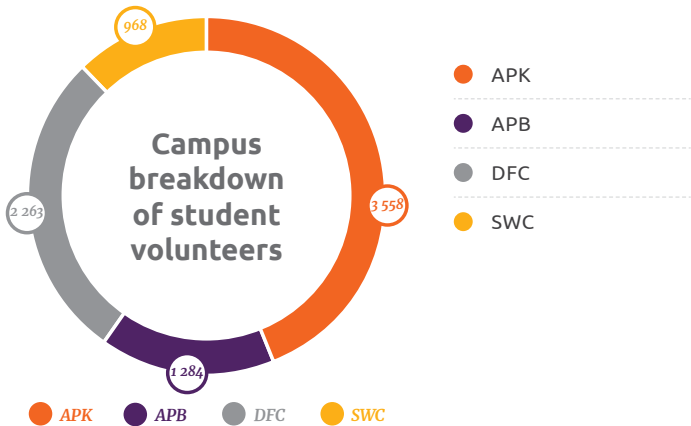




**Community Engagement (CE)**  
*Student Volunteer Champion Programme*

The University's CE flagship is the UJ Student Volunteer Champion Programme, which is multidisciplinary, interfaculty and transformational in engaging higher education priorities, the SDGs, the National Development Plan (NDP), the City of Johannesburg Independent Development Plan as well as the Nelson Mandela Foundation Pillars.

In 2020, the programme was aimed at promoting greater awareness about responsible global citizenship and the SDGs. In total, 8 074 student volunteers registered for the weekly organised outreach projects.



**Contributions by other divisions and units**

**Student Marketing**  
Student Marketing creates awareness among high school learners of UJ's various qualification offerings so that learners can make informed decisions regarding their career and study choices.

An extensive programme was planned, but due to COVID-19 restrictions, specific campaigns had to be cancelled while the following were converted online:

- » The Orange Carpet Campaign continued on a virtual platform. Applications increased to 2 653 from 2 160 in 2019.
- » About 20 virtual seminars/webinars took place for Grade 9s, 11s and 12s, with

online attendees having opportunities to interact with presenters. On some occasions, specific faculty marketers were also involved in virtual discussions.

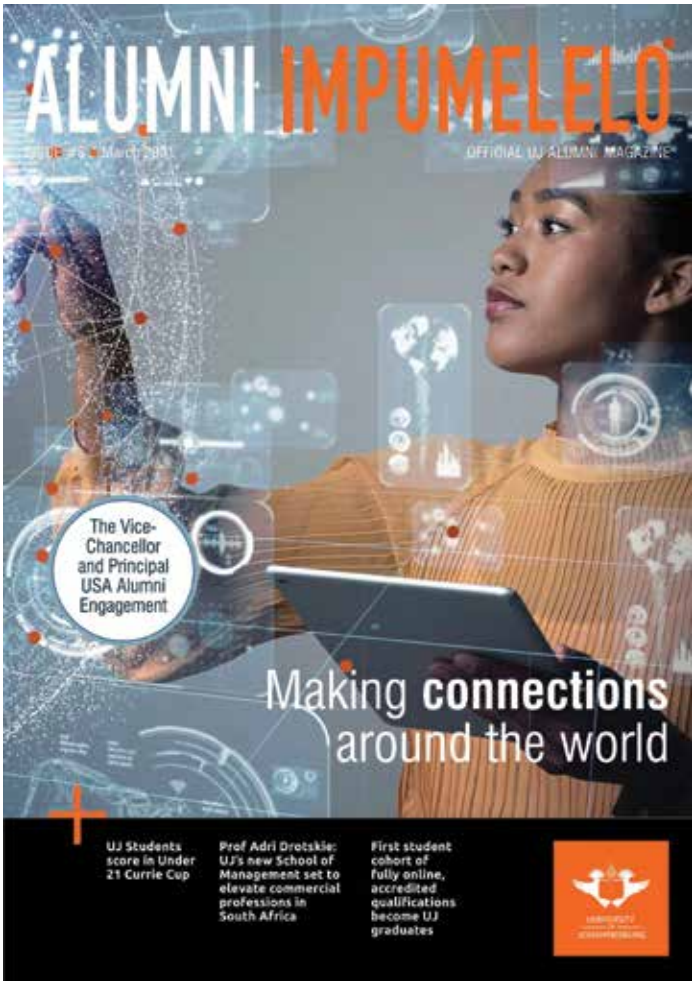
- » Four monthly newsletters were sent to schools and Grade 11 and 12 learners from August to November, with specific topics and links.
- » *Apply-on-time* and *No walk-ins* marketing campaigns continued virtually.
- » *Hamlet* and *Othello* productions (generally hosted at the UJ Arts Centre on campus) were presented virtually to schools with a UJ marketing video to encourage learners to make UJ their university of choice for further studies.
- » 2 000 UJ-branded virtual reality headsets, cloth face masks and marketing material were distributed to UJ's top 50 feeder schools.

**Alumni Office**

The Alumni Office facilitates and maintains contact with its worldwide alumni community. Regular communication on UJ activities or events is shared with 80 000 active email subscribers from our 200 000 alumni worldwide from UJ and founding institutions.

The fifth edition of the digital Alumni *Impumelelo* magazine was delivered in July 2020, sharing stories of illustrious alumni and valuable insights into the pandemic and how UJ had successfully transitioned to online teaching and learning while managing the risks. The ITS iEnabler alumni database system was launched in May 2020, which allows alumni to update their personal details online, and also manages affinity groups.

Alumni Connect is an online platform that was expanded for use by pre-alumni who are final-year students approaching graduation. The system also allows alumni to reconnect with classmates locally and abroad, receive news and event updates, and informs alumni of educational opportunities and employment offerings. Alumni were also given special access (at no cost) to register for two online modules (Artificial Intelligence and African Insights).





Solar panels at B-Parking, Auckland Park Kingsway Campus (APK).

# Environmental sustainability



The Strategic Plan 2025, anchored in the overarching GES goal, requires UJ to continuously improve on its sustainability footprint across its campus and stakeholder activities.

UJ firmly believes that sustainable development is a long-term commitment and aims to contribute to sustainability by reducing its total environmental footprint, while maintaining and further enhancing its contributions to the social and economic development of South Africa as required by the SDGs.

This report highlights specific focus areas and related improvements achieved during 2020. However, it should be noted that 2020, with its mandatory lockdowns due to the COVID-19 pandemic, was not a "normal" year and that many of the targets for sustainability and resource usage were easily met; in many cases the reported performance is so different from the expected performance that this cannot be seen in any way as a trend for the future. For example, electricity consumption was down dramatically because of the reduced number of students in residences and the reduction in lecture venue usage (implying reduced lighting and heating, ventilation and air-conditioning (HVAC) needs) for most of the 2020 calendar year.



## Energy management

### Carbon footprint

UJ's carbon footprint decreased to 42 405 tonnes of CO<sub>2</sub> compared to 54 156 tonnes in 2019, indicating a 21,8% reduction.

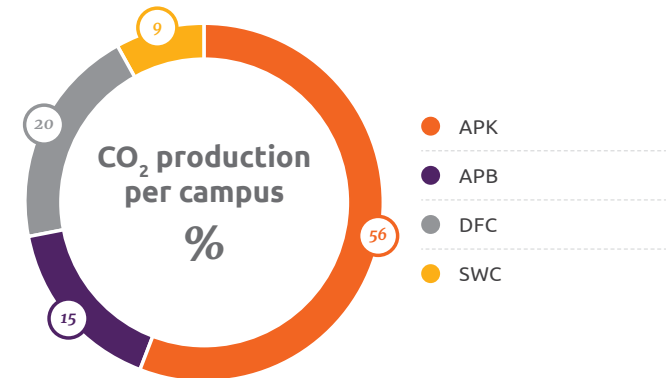
#### Carbon footprint based on 2020 actual consumption

Emission source	APK	APB	DFC	SWC	Total CO <sub>2</sub>	2020 Total tonnes of CO <sub>2</sub>	2019 Total tonnes of CO <sub>2</sub>
Electricity (kWh)	20 708 411	5 845 577	7 988 701	3 457 593	38 000 280	38 000	50 332
Natural gas (GJ)	1 763 193	357 354	295 886	–	2 416 433	2 416	1 840
Catbot fuel	38 581	–	–	–	38 581	39	247
Petrol (fleet)	163 373	30 746	71 159	61 342	326 620	327	190
Diesel (fleet)	229 424	23 325	54 062	51 435	358 246	358	89
Diesel generators	62 102	–	2 353	47 565	112 020	112	64
Intercampus bus and staff flights	329 816	93 344	130 682	68 452	622 294	622	1 394
Paper used by UJ/KMSA sites	831 905	162 085	356 499	168 182	1 518 671	1 519	n/a
<b>Total kg of CO<sub>2</sub></b>	<b>24 126 805</b>	<b>6 512 431</b>	<b>8 899 342</b>	<b>3 854 568</b>	<b>43 393 146</b>	<b>43 393</b>	<b>54 156</b>
<b>Total tonnes of CO<sub>2</sub></b>	<b>24 127</b>	<b>6 512</b>	<b>8 899</b>	<b>3 855</b>	<b>43 393</b>	<b>reduction</b>	
Solar PV generation (tonnes CO <sub>2</sub> )	271	506	123	88	988	2,28%	
					<b>Total tonnes of CO<sub>2</sub></b>	<b>42 405</b>	

2020 was the first time that UJ was offsetting carbon savings due to solar photovoltaic (PV) electricity generation, creating a 2,28% CO<sub>2</sub> saving.

The 2020 carbon footprint breakdown per campus is depicted below:

### Electricity



In 2020, UJ achieved an electrical energy saving of 34,25% against the 2015 baseline (which is the initial value against which we are required to report going forward) for all properties. This is based on an absolute measurement methodology that makes no allowance for infrastructure changes or fluctuations in student or staff numbers.

In addition to the energy-saving initiatives highlighted

in 2019, UJ installed an additional three solar PV plants on the APK, DFC and SWC campuses. In addition, other initiatives are ongoing:

- » The implementation of energy-saving lights (LEDs)
- » Occupancy sensors (implementation in progress)
- » The installation of additional heat pumps,

especially in new and refurbished residences

Continuing with these initiatives, including the further deployment of PV systems together with awareness campaigns, will further improve our savings. Since 2015, savings have been least effective on APK campus due to increased HVAC and the increase in specialist research equipment on the campus.

The following table identifies the 2020 energy savings expressed as a percentage. The months of the hard lockdown (April to August) show very large reductions, while the other lockdown months display the clear impact of the work/study from home that was in place.

#### Electrical energy savings 2020 (based on 2019 consumption)

Month	APK %	APB %	DFC %	SWC %	Total %
January	(0,35)	(17,25)	(0,28)	(2,22)	(3,06)
February	2,97	(5,69)	5,43	12,86	2,87
March	(7,84)	(10,22)	(3,92)	(35,21)	(10,32)
April	(47,65)	(44,43)	(43,20)	(51,14)	(46,65)
May	(44,46)	(45,07)	(46,14)	(54,78)	(45,98)
June	(28,51)	(26,61)	(36,08)	(40,49)	(30,99)
July	(27,44)	(29,74)	(31,45)	(33,63)	(29,28)
August	(29,37)	(31,30)	(30,58)	(34,65)	(30,50)
September	(28,55)	(28,14)	(26,56)	(31,01)	(28,32)
October	(26,91)	(25,59)	(29,16)	(26,72)	(27,15)
November	(35,80)	(25,88)	(26,73)	(28,18)	(24,51)
December	(27,67)	(19,84)	(18,77)	(23,56)	(16,21)
<b>Total</b>	(26,05)	(26,94)	(25,96)	(31,35)	(26,70)

Electricity generated by the four solar PV installations on the campuses – even though not all were in operation for the full year – accounted for the generation of more than 987 000 kWh – or about 2,68% of electricity purchased from Eskom. In a normal meteorological year, it can be expected that as much as 7,85% of the electrical power required by UJ will be generated from the present solar installations.

#### Total electricity consumption 2020 (kWh)

Month	APK	APB	DFC	SWC	Total
January	1 976 002	428 621	618 062	295 150	3 317 835
February	2 171 366	572 442	708 194	366 682	3 818 684
March	2 070 569	582 047	692 425	266 989	3 612 030
April	1 343 621	414 129	490 533	221 577	2 469 860
May	1 408 775	424 642	501 887	226 820	2 562 124
June	1 572 323	490 219	565 672	243 758	2 871 972
July	1 776 371	533 174	677 264	306 048	3 292 857
August	1 680 480	508 762	661 373	314 990	3 165 605
September	1 586 862	471 933	646 342	289 527	2 994 664
October	1 793 709	514 644	643 723	314 306	3 266 382
November	1 587 522	440 521	578 789	304 743	2 911 575
December	1 137 653	294 183	406 949	206 296	2 045 081
<b>Total</b>	20 105 253	5 675 317	7 191 214	3 356 886	36 328 670

#### Natural gas

Sasol natural gas (Egoli Gas) contributed 5,69% to UJ's total carbon footprint. In 2020 there was a saving of 18,1% against the 2015 baseline. This gas is used mainly for food preparation, to generate hot water in residences, and in laboratories for experiments; it has a lower CO<sub>2</sub> footprint per gigajoule (GJ) of energy than coal and is a cleaner source of energy.

#### Petrol, diesel and travel-related usage

Petrol and diesel fuels are primarily fuel sources for UJ's vehicle fleet and for diesel used in the 84 generators within the University's infrastructure. Petrol and diesel contributed 1,615% to the total carbon footprint. This is a small but growing amount due to the increasing occurrence of load shedding, which has resulted in an increase in diesel for backup power generation, adding 0,27% to the carbon generation.

Due to the use of rental vehicles instead of the Innovent fleet pool of vehicles, the carbon generation for vehicle usage cannot be tracked accurately and has not been factored into the UJ carbon generation footprint. In 2021, this factor will be included in the carbon calculation; we are requesting detailed carbon statements from all rental agencies.

#### Catbot fuel

Catbot fuel is used to run two generators to heat water during the five winter months for the central air conditioning system on APK campus. Catbot fuel makes a relatively small contribution to the total carbon footprint, which was even less than normal during the 2020 lockdown for most of winter. Given the extensive water-heating contribution of catbot-fuelled generators – less than 0,09% of UJ's carbon generation – this can reduce the generation by electrical sources using an alternative liquid fuel.

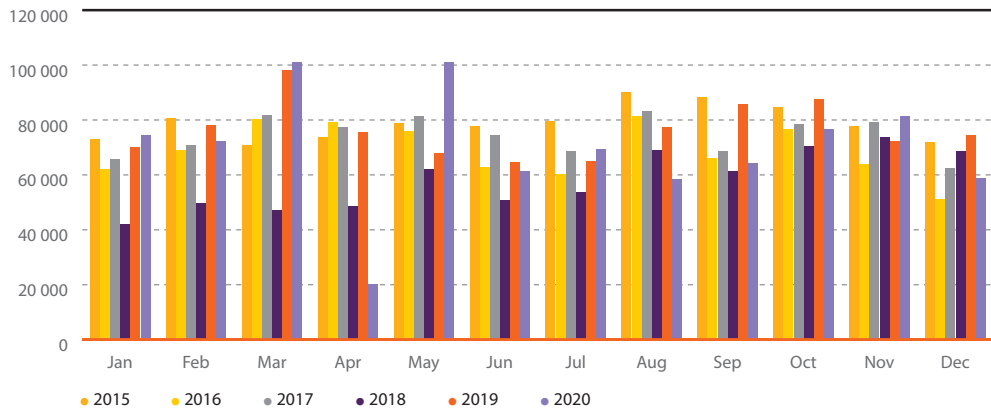
#### Water management

Marginal water savings were achieved in 2020, with a reduction of 8,4% compared to 2019 and an overall decrease of 11,33% against the 2015 baseline. This was due to the COVID-19 lockdown and also two large water supply pipe failures on campuses due to ageing infrastructure. A request for a proposal to upgrade the water reticulation equipment and piping will be run in 2021. Four new boreholes on the various campuses are now in use and allow for various types of water supply subvention.





UJ total water consumption (kl) 2015–2020



Waste management

Waste generated versus waste recycled – 2015–2020 (tonnes)

Year	Waste generated	Waste recycled	Recycled percentage (%)
2015	1 773,81	506,52	28,56
2016	1 818,89	513,60	28,24
2017	2 333,52	456,66	19,57
2018	2 312,87	521,48	22,55
2019	1 858,48	625,33	33,65
2020	1 409,30	673,86	47,82

Paper usage

For the first time, UJ will actively measure and report on total white paper usage, which is also part of our overall sustainability drive. White paper (especially virgin, i.e. first-time use) has a significant effect on CO<sub>2</sub> production. UJ is attempting to transition to recycled paper with its much lower carbon generation impact.

In 2020 UJ used more than 65 million A4 equivalent pages of white bond paper, of which 25% was recycled paper, increasing the total CO<sub>2</sub> generation by 3,58%. It can be expected that without significant effort to reduce paper usage, this could accelerate to beyond 7,5% in a more normal year.

Looking ahead

The focus areas for 2021 will be to expedite further sustainability projects, such as a possible third wave of solar PV installations on the proposed Media24 site as well as secondary installations on the roofs of student residences on the DFC and SWC campuses, if funds allow. The replacement of geysers with more efficient reverse heat pump solutions in the larger residences is also continuing apace.

Additional areas of focus will include stakeholder engagement, especially with students; the diversification of energy sources with emphasis on renewables, including solar and natural gas; further technology advancements within sustainability in terms of the new building programmes; and the possible trial of an electric vehicle fleet for Operations to use on campuses.



UJ has adopted a proactive approach to managing both risks and opportunities, with the ultimate accountability for the effective management of these being with Council. In executing this responsibility, Council has adopted an enterprise risk management framework – an approach that ensures that the University takes a holistic view of the risks inherent in UJ's strategy, business and operations.

Consequently, the management of risks and opportunities is entrenched in all decision-making processes and embedded within our governance processes. Ethical behaviour, legislative compliance and sound practices lay the foundation for internal control processes and ensure effective governance of risk.

Faculties and non-academic support divisions are required to analyse, assess, evaluate and rate their operational and strategic risks continuously. Risk registers are maintained and presented to the Risk Management Committee (RMC) – a subcommittee of the MEC.

UJ's risk management process requires members of the Executive Leadership Group to evaluate their respective identified risks, related ratings, internal controls and mitigating strategies throughout the year to ensure that the risks remain valid and up to date, and to

maintain an effective risk management and internal control environment.

The following institutional risks were listed in the University's Risk Register for 2020:

**INSTITUTIONAL RISKS**

**1. Risk to financial sustainability**

- » Decline in subsidy from DHET and future tuition and residence fee increases
- » Impact on UJ's financial sustainability due to the 65th percentile exercise
- » NSFAS shortfall on student funding
- » A shift in the socio-economic means of students may impact long-term financial sustainability
- » Possible financial loss due to unpaid debt
- » Inflation and the depreciation of the rand
- » The impact of the technical recession on the budget and the sustainability of the University
- » Undesirable ratio of support staff to academic staff



Managing risk

Current controls	Action plans
<ul style="list-style-type: none"><li>» Developed cost control strategies to decrease operational expenses</li><li>» Focused effort on increasing the third-stream income to supplement the decline in subsidy</li><li>» Continuous engagement between USAf, NSFAS and DHET</li><li>» Approved a financial sustainability model</li><li>» Regular benchmarking with other universities</li><li>» Regular communication to staff and unions regarding implementation of the 65th percentile</li><li>» Cancellation Policy on student debt (use of debt collectors and tracing agencies)</li><li>» Early settlement incentives and flexible payment plans on tuition fees</li><li>» Missing middle fundraising campaign and additional focus on securing external bursary funding</li><li>» Annual budgets to be prepared in line with the medium-term expenditure framework budget allocations</li><li>» MEC placed a moratorium on the filling of vacancies in the support divisions</li></ul>	<ul style="list-style-type: none"><li>» Managed expenses and contracts to ensure a reduction in expenses over the next five years</li><li>» Implemented the outcome of the Funding Review Committee Report</li><li>» Explored increasing the third-stream income</li><li>» Engaged with funders to secure future funding commitments</li><li>» Implemented the first phase of the investment strategy and monitored performance</li><li>» Implemented a third-party debt collection tool</li><li>» Launched a debit order option for tuition fees</li><li>» Rolled out a revised payment plan with monthly payments instead of bi-annual payments in April and August</li><li>» Developed a policy on import and foreign exchange</li><li>» Redefined the fundraising strategy to include international initiatives in the scope</li></ul>



Deputy Minister of Higher Education Mr Buti Manamela visits UJ to assess the state of readiness for the phased return of students and staff to campuses.





2. National state of disaster due to global pandemic

- » High risk of staff and students contracting the coronavirus with the return to campuses during the various stages of lockdown
- » Delay in academic programme due to lockdown regulations
- » Increased reliance on technological infrastructure to continue with business operations
- » Support staff not adequately equipped to provide services to the institution during lockdown
- » Increased sick leave
- » Increased workload with the shift to online learning and to save the academic year

Current controls	Action plan implemented
<ul style="list-style-type: none"><li>» Screening students and staff at campus entrances</li><li>» Providing PPE</li><li>» Off-campus accommodation venues identified for isolation</li><li>» COVID-19 dashboard developed to track infections of students and staff</li><li>» Protection Services conduct daily monitoring operations to detect staff and students not complying with the safety guidelines</li><li>» Implemented online teaching and learning and research capabilities for staff and students</li><li>» Devices and data provided to students</li><li>» Amendment of the academic calendar</li><li>» Continued presence of ICS staff for technical support</li><li>» A COVID-19 task team ensures compliance with regulations</li><li>» Update business continuity plans to provide staff with necessary equipment and support to work remotely</li><li>» Biweekly meetings with unions</li><li>» Employee Wellness Programme to promote and optimise health, wellbeing and high performance</li><li>» Training interventions centred on remote learning and remote working</li></ul>	<ul style="list-style-type: none"><li>» Continued monitoring of COVID-19 regulations at campus, faculty and support levels</li><li>» Online teaching and learning and a commitment to save the academic year</li><li>» Provided data and devices to staff and identified sustainable solutions for prolonged remote working</li><li>» Conducted safety risk assessments in terms of closures of units, reporting of occupationally acquired COVID-19, waste management and decontamination</li></ul>

3. Impact of load shedding

- » Limited generator and UPS service providers
- » Poor maintenance of substation (UJ/ Eskom/City Power) and service delivery from service provider

Current controls	Action plan implemented
<ul style="list-style-type: none"><li>» Back-up generators and UPS installed at examination and registration venues, libraries and data centres</li><li>» Identified priority areas of emergency power</li><li>» Installed generators for main buildings and residences</li><li>» Developed an Emergency Power Plan</li><li>» Solar panel rollout on APB and APK campuses</li></ul>	<ul style="list-style-type: none"><li>» Initiated tender process for additional generators and UPS for residences and faculty offices</li><li>» Implemented Emergency Power Plan</li><li>» Completed the solar panel project on the APK campus</li></ul>

4. Threat of cyberattacks on hardware, software and data

- » Access control to systems and buildings
- » Federated IT environment resulting in inconsistent application of IT standards
- » Increasing use of cloud storage services
- » Lack of dedicated Web Application Firewall (WAF)
- » Lack of secure configuration on all systems
- » Spam, phishing and human error





Current controls	Action plan implemented
<ul style="list-style-type: none"><li>» User access reviewed on all systems</li><li>» Acquired quality vulnerability monitoring tools to regularly scan the environment and send monthly reports to IT Exco</li><li>» Core network implemented for all campuses</li><li>» Implemented firewalls</li><li>» Network operating centre established to monitor network activity</li><li>» Enterprise-wide antivirus solution and perimeter security</li><li>» Regular institution-wide information security awareness and cyber risk programmes</li><li>» Adherence to cloud service guideline</li><li>» Automated back-up facility for selected end-users</li><li>» Back-up and off-site storage of critical data and systems configurations</li><li>» Phase 2 implementation of the WAF</li><li>» Secure configuration standard for all systems</li><li>» Implemented email security solution known as Cofense to identify spam and phishing emails</li></ul>	<ul style="list-style-type: none"><li>» Configured 27 systems on the BI system – 19 in 2020 and the rest by February 2021</li><li>» Obtained approval for systems-user access standard</li><li>» Provided training and created awareness of the systems-user access standard to system owners</li><li>» Automated the UJ identity and access management process for employees</li><li>» Created awareness of ICS standards and best practice in ICS as well as other areas where IT services are provided</li></ul>

Further institutional risks

The following risks were also listed on UJ's Risk Register:

Safety and security of life and limb

Key control measures include:

- » Recording all risks discussed at the monthly safety meetings in the Occupational Register
- » Distributing awareness material throughout campuses and residences
- » Deploying security personnel in all high-risk areas
- » Identifying safe routes on all campuses
- » Close partnerships with law enforcement agencies

Student protests

Key control measures include:

- » Continuous engagement with students and a responsive approach to dispute resolution
- » Mediation by clinic professionals or psychological debriefing through ICAS (an employee wellness assistance service provider) and PsyCaD
- » Unblocking N+1, N+2, Orange Carpet and NSFAS students in advance to ease the burden on the online payment system
- » Implementing a business continuity plan





## Impact of COVID-19 on UJ's enrolments for the 2021 academic year

### **Key control measures include:**

- » Extending the application date
- » Marketing under- and postgraduate programmes via online platforms
- » Conditional under- and postgraduate online registrations for international students
- » First Year Experience and Seminar conducted online
- » Blended learning approach within modules to encourage academic staff to continue to use online platforms
- » Device and data support for students

## Academic fraud (staff and students)

### **Key control measures include:**

- » Declaring interest disclosures
- » Whistleblowing and Eradication of Improper Activities Policy
- » Information literacy training sessions, which include information sources, plagiarism, copyright and referencing skills
- » Student Ethics and Judicial Services
- » Plagiarism detection tools
- » Academic integrity campaigns conducted by Student Affairs during tests and examination periods
- » Implement Assessment Policy
- » Policy/Code of Conduct on Academic Integrity
- » UJ Faculty Rules and Regulations

## Inadequate on-time completion of undergraduate studies

### **Key control measures include:**

- » Student Code of Ethics and UJ Student Regulations
- » Offering online alternatives
- » Academic staff development to ensure appropriate responses and attention to students' needs
- » Blackboard predict and data informed by Integrated Student Success Strategy
- » Integrated Student Success Strategy, which is institutional and data informed. This includes the new Student Success Committee, more involvement by Vice-Deans and priority module and qualification intervention
- » Ongoing integration of tablets and e-resources in learning and teaching
- » Psycho-social support by PsyCaD and peer buddies

## Reputational risk on public platforms

### **Key control measures include:**

- » The Social Media Operating Procedures include a crisis management strategy that aligns to the Strat Comms risk management document
- » Daily reports on social media activity

## Postgraduate students' completion of qualification and high dropout rates

### **Key control measures include:**

- » Strategy for supporting students (Postgraduate Fund Management)
- » Financial support centrally and through faculties
- » Regular reporting of time to completion and analysis of high-risk areas to determine interventions



The University has achieved an operating surplus of R530 million against a projected operating surplus of R10 million.

Despite operating in an environment mired in funding constraints, we entered this past financial year with strong momentum. We managed our budgets effectively and were on track to achieve our approved operating surplus of R10 million until the stringent COVID-19 lockdown protocols were enforced, posing a significant risk to our going concern and liquidity.

We responded quickly and decisively and realigned our financial plans accordingly, being deliberate about achieving maximum cost savings in the year to cushion the impact of the uncertainty on future income generation. This has resulted in a strong balance sheet, with an enhanced liquidity and cash flow profile.

The University has achieved an operating surplus of R530 million against a projected operating surplus of R10 million. The income generated during the year exceeded our budget by 4% (budget: R4,424 billion vs actual R4,613 billion). This was largely due to the inclusion of the gap grant in our block grant; higher than expected earmarked grants; and higher than budgeted investment income resulting from improved investment

strategies. Our student fees were lower than budget as a result of delayed completion of residences under refurbishment and the discount offered to compensate students for the COVID-19 lockdown.

Our actual expenses for the year were at 92% of budget (budget of R4,415 billion vs actual of R4,083 billion). A large component of the saving is from vacant positions that were not filled during the year. In response to the uncertainties caused by the pandemic, a moratorium was placed on the filling of non-critical vacancies. Further savings were achieved from other areas like travel and conferencing, utilities, printing and scheduled maintenance of facilities that could not be undertaken. The savings were utilised to fund the unplanned costs associated with the pandemic, such as data bundles and mobile computing devices for staff and students as well as the costs of cleaning and PPE.

The actual outcome of the comprehensive and consolidated operating results of both the budgeted and the non-budgeted cost centres as well as subsidiary entities is a surplus of R767 million (2019: R708 million), after accounting for income from investments, including fair value adjustments on available-for-sale financial assets, and actuarial gains and

losses on post-retirement benefits. The growth is largely as a result of the positive performance of equity markets in the last quarter of 2020.

Our financial position remains strong with consolidated net assets of R7,7 billion (2019: R6,4 billion). In total, R226 million was spent during the year on infrastructure.

UJ places a high premium on sound corporate and financial management and does everything in its power to ensure that finances are managed in a transparent and judicious manner. This includes ensuring that a responsible level of reserves is maintained with a view to long-term institutional sustainability, which includes maintaining the academic quality and requisite infrastructure throughout. These reserves take the form of funds intended for various environments and to be used only according to specific guidelines and conditions.

Council-controlled reserves at year-end amounted to R2,167 billion (2019: R1,492 billion), which represents 94% of annual permanent remuneration. The growth in Council-controlled reserves is earmarked for infrastructure expansion and GES 4.0 catalytic interventions to the extent that the level of these funds does not go below 50% of annual permanent remuneration.

# Financial Performance



Our liquidity position also remains strong with the ratio of current assets to current liabilities being 1,5 compared to 1,4 in 2019.





# Acronyms

<b>4IR</b>	Fourth Industrial Revolution	<b>HVAC</b>	Heating, ventilation and air-conditioning
<b>ADC</b>	Academic Development Centre	<b>IIS</b>	Institute for Intelligent Systems
<b>ADS</b>	Academic Development and Support	<b>ISSI</b>	Integrated Student Success Initiative
<b>AI</b>	Artificial Intelligence	<b>IT</b>	Information Technology
<b>APB</b>	Auckland Park Bunting Road Campus	<b>ITE</b>	Initial Teacher Education
<b>APK</b>	Auckland Park Kingsway Campus	<b>LLM</b>	Master of Law
<b>APS</b>	Admission Point Score	<b>LMS</b>	Learning management system
<b>ARWU</b>	Academic Ranking of World Universities	<b>MEC</b>	Management Executive Committee
<b>BA</b>	Bachelor of Arts	<b>NRF</b>	National Research Foundation
<b>BGUR</b>	Best Global Universities Rankings	<b>NSFAS</b>	National Student Financial Aid Scheme
<b>BRICS</b>	Brazil, Russia, India, China and South Africa	<b>PDRF</b>	Postdoctoral Research Fellow
<b>CAGR</b>	Compound annual growth rate	<b>PG</b>	Postgraduate
<b>CASD</b>	Centre for Academic Staff Development	<b>PGCE</b>	Postgraduate Certificate in Education
<b>CAT</b>	Centre for Academic Technologies	<b>PPE</b>	Personal protective equipment
<b>CBE</b>	College of Business and Economics	<b>PsyCaD</b>	Centre for Psychological Services and Career Development
<b>CCC</b>	COVID-19 Coordinating Committee	<b>QS</b>	Quacquarelli Symonds
<b>CEPs</b>	Continuing Education Programme	<b>SADC</b>	Southern African Development Community
<b>CHE</b>	Council on Higher Education	<b>SARCHI</b>	South African Research Chairs Initiative
<b>CWUR</b>	Center for World University Rankings	<b>SDG</b>	Sustainable development goal
<b>DFC</b>	Doornfontein Campus	<b>SET</b>	Science, Engineering and Technology
<b>DHET</b>	Department of Higher Education and Training	<b>SLP</b>	Short learning programme
<b>DSI</b>	Department of Science and Innovation	<b>SRC</b>	Student Representative Council
<b>EEUR</b>	Emerging Economies University Rankings	<b>SWC</b>	Soweto Campus
<b>EMC</b>	Emergency Medical Care	<b>THE</b>	Times Higher Education
<b>FADA</b>	Faculty of Art, Design and Architecture	<b>UCDG</b>	University Capacity Development Grant
<b>FEBE</b>	Faculty of Engineering and the Built Environment	<b>UJELP</b>	UJ English Language Programme
<b>FTE</b>	Full-time equivalent	<b>UG</b>	Undergraduate
<b>FWCI</b>	Field-weighted citation impact	<b>URAP</b>	University Ranking by Academic Performance
<b>GES</b>	Global Excellence and Stature	<b>USAF</b>	Universities South Africa
<b>GRAS</b>	Global Ranking of Academic Subjects	<b>VC</b>	Vice-Chancellor
<b>HE</b>	Higher Education	<b>WIL</b>	Work-integrated learning
		<b>WUR</b>	World University Rankings

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.