



UNIVERSITY
OF
JOHANNESBURG

COLLEGE OF BUSINESS
AND ECONOMICS

Annual Report 2021

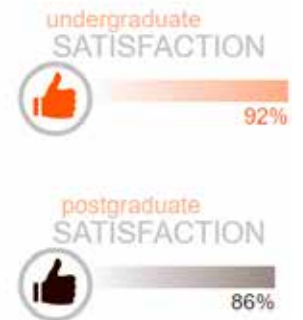
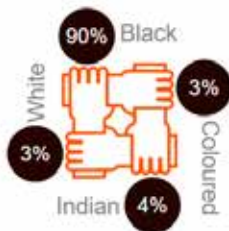
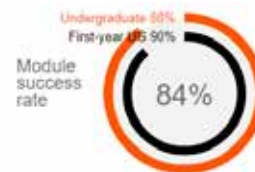
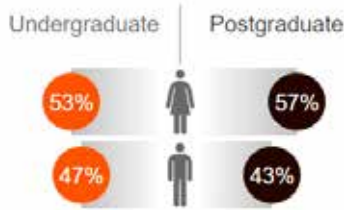
COLLEGE OF BUSINESS AND ECONOMICS

**The Future
Reimagined**

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COLLEGE OF BUSINESS AND ECONOMICS (CBE) 2021 @ A GLANCE



RESEARCH indicators



Executive Summary



Prof Daneel van Lill,
Executive Dean
College of Business and Economics

OVERVIEW

The year 2021 provided many opportunities to deepen knowledge and practice of the art of agility – in short, to respond to CBE stakeholders' changing expectations while maintaining a solid good governance and operations backbone.

President Cyril Ramaphosa announced lockdown in South Africa for 21 days on 23 March 2020, aiming to contain the spread of the coronavirus. Some 700 days later, we continue to implement innovations counteracting the impact of the COVID-19 pandemic.

The first vaccines, administered in February 2021, functioned to a greater or lesser extent. Consequently, the development of new vaccines raced against the coronavirus, which had mutated speedily towards the more contagious Delta

variant by July 2021. By December 2021, Omicron was making headlines in the world of viruses, again halting the staggering local economy, notably the tourism sector, in its tracks. On the bright side, this most recent mutant is associated with fewer deaths and hospitalisations, flagging South Africans' hope towards recovery.

Retrospectively, the pandemic has changed every facet of our society, not least how universities responded rapidly and innovatively in the face of threats looming large.

The detail of UJ's response to the pandemic was narrated by the Deputy Vice-Chancellors, Professors Saurabh Sinha and Angina Parekh (<https://www.uj.ac.za/news/uj-top-executives-explains-how-the-institution-steered-the-2020-academic-year>).

On the dark side, statistics became real regarding the names of family members, friends, colleagues, and students who did not survive the pandemic. We still feel the high impact of disrupted supply and food chains, as we adapt to demands of a new world of work, cyber-security attacks, economic downturn, and social unrest.

On the bright side, the UJ community has evolved our virtual teaching, learning, research, and outreach capacity. Notably, wisdom has been gained through a series of thought-provoking virtual events to answer how we reimagine the post-pandemic world. Because of the impact of the pandemic on the global economy, this daunting task seems ceaseless, and we assimilate what we have learnt into UJ's organisational memory.

February 2022 saw staff and students returning to campus, complying with COVID-19 protocols and UJ's mandatory vaccination policy. Our campuses are alive with the sound and motion of people in search of a better future.

Zooming into the CBE progress, 2021 may well be considered as the best of the five years since the CBE was established, when two legacy UJ faculties dedicated to the field of economics and business were merged.

Why are the CBE results so encouraging?

Since lockdown, staff and students have for two years been confined to a restricted living environment, which emphasised the need to focus on the physical and psychological wellbeing of the CBE community. Staff and students soon gained deep insight into the taxing nature of multitasking the pedagogy of care. On a more critical note, unpacking the CBE 2021 progress portrays how the CBE heart's four chambers are beating systemically and rhythmically.

- A UJ CBE mindset empowers the new generation CBE academics and academic governance staff to drive support networks. The roles and responsibilities of academics and academic governance staff have expanded. Therefore, much more thought and action are being invested in staff and student support, in reconnecting staff and students' networks, and in organisational wellbeing. Ultimately, to sustain the CBE spirit of agility.
- The CBE has invested the gift of time into longer-term strategic thinking by creating plan-ahead teams, deliberately including people identified as future leaders. The CBE's investment in people skills development, awakening mindsets to manage in new ways and building capacity across the CBE, has enabled a vast shift in secured progress. In Prof Chris Brink's words, this shift is marked by an alignment of "what we are good at" as much as "what we are good for."
- The CBE grows empathic managers able to stimulate solutions. It does not take massive investments to cultivate the ability to lead. The journey starts with realising how easy it is to fall prey to the temptation to micromanage contingencies.
- The COVID-19 pandemic has taught the CBE that a broad leadership approach yields better results when compared to a leadership team that can do a few things very well.

The CBE has functioned at an incredible pace since 2017, regardless of the challenges that came our way. The 2021 Annual Report testifies to much resilience and innovation. For ease of interpretation, the CBE monitors and evaluates progress against UJ's six Strategic Objectives (SO1 to SO6) outlined in the UJ Strategic Plan 2025.

COMPARING 2021 WITH 2020

- SO1 (excellence in research and innovation) and SO5 (national and global reputation management) account for 40 key performance indicators (KPIs), of which 24 (60%) improved, 4 (10%) were sustained, and 12 (30%) showed slightly lower results.
- SO2 (excellence in teaching and learning), SO3 (an international profile for global excellence and stature) and SO4 (an enriching student-friendly learning and living experience) account for 33 KPIs of which 26 (79%) improved, 3 (9%) were sustained, and 4 (12%) showed slightly lower results.
- SO6 (fitness for global excellence and stature) accounts for 27 KPIs, of which 25 (93%) improved, and 2 (7%) showed slightly lower results.
- Overall, the CBE has progressed in 75%, maintained 7%, and showed slightly lower results in 18% of its KPIs.

Table 1 reflects essential observations. Highlights and key trends from the College's activities over the past five years, notably since 2020, are summarised in Table 2 and will be discussed further in more detail in this report.

Table 1: CBE 2021 strengths and weaknesses

Strengths (Progressive performance since 2020)	Weaknesses (Weaker results since 2020)
<p>Enrolment</p> <ol style="list-style-type: none"> 1. Enrolment in honours programmes grew to 1 304 (+11%). 2. Enrolment in master’s programmes grew to 842 (+12%). 3. Enrolment in doctoral programmes grew to 302 (+16%). 	<p>Enrolment</p> <ol style="list-style-type: none"> 1. Hugely affected by travel restrictions and the absence of a UJ campus experience, international undergraduate enrolment dropped to 962 (-5%). 2. Hugely affected by travel restrictions and the absence of a UJ campus experience, international postgraduate enrolment dropped to 235 (-51%).
<p>Graduate output</p> <ol style="list-style-type: none"> 4. Honours graduates grew to 850 (+19%) 5. PG Below M grew to 1 181 (+6%) 6. Doctorate output grew to 40 (+8%). 	<p>Graduate output</p> <p>Overall, postgraduate output dropped, undoubtedly due to the societal, professional, economic, and personal impacts of the COVID-19 pandemic since most of our students at this level are senior managers in full-time employment.</p> <ol style="list-style-type: none"> 3. Postgraduate Diploma graduates dropped to 331 (-19%) since students were heavily reliant on private and public sector sponsorships. 4. Master’s graduates dropped to 193 (-14%). 5. Black South African doctorates dropped to 5 (-220%). 6. The percentage of honours students completing in minimum time dropped to 62% (-7%). 7. The percentage of doctoral candidates completing in minimum time dropped to 46% (-6%).

Strengths (Progressive performance since 2020)**Research output and impact**

7. Research output units submitted have improved to 608 units (+34%).
8. Scopus-listed publications improved to 576 (+21%).

Research output by visiting scholars

9. Research output units per PDRF have improved to 1.64 (+112%).
10. Research output units per visiting associate professor and visiting professor have improved to 30 (+39%).
11. Research output units per visiting associate/professor of practice have improved to 5 (+25%).
12. Research output units per senior research associate have improved to 88 (+11%).

Undergraduate qualification mix, international collaboration, and programme delivery

13. Bridging programmes have increased to 8 (+14%).
14. Joint international programmes have increased by 2 (+15%).
15. Academic initiatives advancing 4IR have increased to 24 (+33%).
16. Inbound students attending CBE academic events increased to 1 549 (+26%).
17. Outbound students attending international academic events increased to 2 847 (+42%).
18. The student/academic staff ratio has improved 1:35 (11%) through the appointment of assistant lecturers, also serving to grow our future pool of lecturers.
19. Continuing education enrolment has grown to 7 232 (+10%).

Talent investment

20. Academic staff full-time equivalents have grown to 403 (+21%).
21. The number of full professors has grown to 41 (+21%).
22. The number of black professors has grown to 19 (+73%).
23. Promotions to the rank of senior lecturer increased this category by 9 (8%).
24. The number of academics holding a doctorate as the highest qualification has increased to 149 (+7%).
25. The number of academics holding a master's degree as the highest qualification has increased to 176 (+33%).

Weaknesses (Weaker results since 2020)**External research funding**

8. External research funding has dropped from R28 million to R26 million (-8%); notably, international grant support dropped from some R8 million to R4 million (-51%).

FITNESS FOR PURPOSE

The CBE 2021 Annual Report reflects a counter-disruptive strategy built on the strengths of its School of Accounting, the School of Consumer Intelligence and Information Systems, the School of Economics, the School of Management, 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 CBE community progresses by using technology to educate more people than ever before in business and economics. We impact by generating knowledge, adding value to learning, and teaching how to be better informed, healthier, safer, how to behave better, connect, and learn faster. In so doing, we ensure that the 'black box' accelerated by COVID-19 serves as an enabler in the emerging new world of work.

The past year saw the CBE extending its global scholarly network and concentrating investments into Greenfield projects to expand the economy and create more jobs for unemployed South Africans, of which a staggering 60% are unemployed youths. We integrate the 4IR into our teaching, learning, and research agenda to equip our graduates with a working knowledge of the future of manufacturing, geopolitics, economic trade wars, and the ability to navigate systems for growth spots that can assist with growing national wealth.

In the following, while taking a closer look at how the College staff rose to the challenges faced during 2021, we also focus on how these challenges provided opportunities for rethinking traditional approaches to our purpose of generating knowledge and educating our students for the post-COVID world.

TEACHING AND LEARNING

Academics in the College have faced crucial challenges since 2019 with the sudden shift to online learning but have risen to the occasion. Indeed, the sudden requirement to move to online learning, while creating considerable uncertainty and stress, also focused our efforts to ensure that students completed the 2021 academic year.

Several modules had, in previous years, already introduced blended learning, and staff who were not yet familiar with online learning were aided by the various institutional support structures such as CAT, ICS, ADS, the UJ Library and the Academic Planning Division. The staff made primary use of Blackboard but also drew on other common

platforms such as Zoom, MS Teams, WhatsApp, and Google Classroom.

In a significant boost for future accountants, the UJ CBE School of Accounting became the first tertiary education institution in South Africa to adopt Xero Learn. Says Prof Amanda Dempsey, Senior Director: SOA, "We're proud to be the first South African University to introduce Xero to our teaching syllabus. Our vision is to educate a generation of accountants that embraces the fourth industrial revolution. The partnership is a first for education in the accounting industry and will give our graduates the necessary tools to be well skilled, agile, and ahead of the game".

The move to online learning required some adjustments in terms of pedagogies. Properly developed online learning typically caters to student-centred learning and pedagogies, such as collaborative learning, constructivism, and inquiry-based learning. Hence, there was a broad shift from using Blackboard simply as a communication and repository system to active engagement with students in the learning process. Most staff adopted asynchronous modes of presentation, in video recordings, audio recordings, and written materials uploaded to Blackboard. This more student-centred approach will allow students to accommodate better their engagement with learning materials within their very full-time schedules.

A particular challenge was faced by those programmes that included a work-integrated education component as a requirement for graduation. This challenge was addressed creatively by using online games, simulation components, etc., in collaboration with professional accreditation agencies, which allowed all modules in the relevant departments to be completed. The CBE, in partnership with other faculties, played an instrumental role in rewriting the UJ Policy on Work-Integrated Education, ably led by Prof Roelien Brink.

The College has a strong tradition of supporting students to achieve optimally. Our concerns about student access to online learning were addressed at an institutional level by providing data and, where necessary, devices on loan. A further challenge was to ensure that the extensive tutoring programme could continue online and remain effective. The past year marked an increase of 25% in the number of senior tutors, tutors, and mentors appointed to enhance online support. WhatsApp became the preferred means for tutors to engage with their tutoring groups or individual students.

Maintaining the integrity of assessment in the online environment was critical. At an initial College meeting, a contingency plan involving a College-wide shift to continuous assessment was set up, gradually evolving into detailed module assessment plans. A range of models of continuous assessment emerged, both with and without a final assessment opportunity, as best appropriate to individual disciplines.

Moderation practices were also adjusted in terms of time constraints and logistical issues. An internal proctoring system was able to confirm who was taking the assessment but could not eliminate collusion. Some use was also made of artificial intelligence approaches to compare scripts where collusion might be suspected. In all, the College felt assured that adequate checks and balances were in place to maintain the integrity of the assessments. Student performance showed that our approaches had indeed been successful. Module success rates increased overall from 85% to 90%. The student dropout rate had decreased from 12% to 11,7% in 2021 but was well in line with the five-year trend of -0,8% year-on-year.

Governance of the changed approaches to course delivery was professionally managed under the leadership of the deanery, directors of schools, and heads of departments. The development of teaching, learning, and assessment plans at the College level guided schools and departments in developing their plans. Monitoring of progress took the form of weekly reports to the deanery. Blackboard Module Activity Reports played an essential role in monitoring student activity. These reports often tended to indicate lower student activity than expected. Yet, it became clear that students were downloading all the material at once and then working offline in their own time. However, student activity picked up significantly during assessments when students had to be on Blackboard.

In 2022, the CBE will follow a hybrid teaching and learning model consisting of in-person and online engagements. The 80% contact and 20% online ratio will serve as a broad guide for the combination of in-person and online activities, especially for first-year undergraduate students. However, we expect variation across the various departments' modules due to differences among disciplines and enrolment sizes.

The College will continue to innovate and advance the teaching and learning environment. There is still need for critical reflection on teaching pedagogies and how they can be optimally given effect in a blended or online learning environment,

taking into consideration the learning profile of students in an environment of rapid technological change. Critical reflection is also needed around assessments, to develop strategies that would more meaningfully evaluate the attainment of expected learning outcomes.

UNDERGRADUATE ENRICHMENT MODULES

UJ hosts two undergraduate online enrichment modules (African Insights and AI in 4IR), of which students need to complete one. Between 2017 and 2021, some 2 584 CBE students had completed either the enrichment module African Insights or AI in 4IR.

ONLINE PROGRAMMES

The CBE hosts six non-subsidised online programmes, namely Advanced Diplomas in Financial Markets, Logistics, People Performance Management, Transportation Management, a BCom (Accountancy), and a Bachelor (Human Resource Management).

CONTINUING EDUCATION

The delivery of continuing education programmes (CEPs) has again been a growth area in the College during 2021, focusing on 4IR (4IR Ethics for Accountants, 4IR Ethics for Professionals in Business, 4IR Perspectives for Accounting, 4IR Perspectives for Professionals in Business, Advanced Technology Systems in Quality Management 4.0, An Introduction to Blockchain Technology for Accountants, An Introduction to Blockchain Technology for Professionals in Business, Artificial Intelligence: Perspectives for Accountants, Artificial Intelligence: Perspectives for Professionals in Business, Computational Intelligence for industry, Innovation Series: Industry 4IR, Intelligent System Development, Operational Excellence Strategy with Digital Transformation, Policy Governance of 4IR in Africa, Principles and Applications of the 4IR in Power and Energy Industry).

Overall in 2021, CBE CEP enrolment has grown by 10% to 7 232 students.

RESEARCH AND INNOVATION

The year 2021 has been encouraging from the perspective of research and innovation. At the time of writing this report, the number of research output units submitted had grown from 454 in 2020 to 602 in 2021 (+32%). The CBE submitted around 955 individual publications in 2021, compared to the 686 in 2020.

The reduction in conference publications (8%) corresponds with the CBE strategy to steer the College away from over-reliance on conferences. The increase in the number of journal articles (81%), books (3%), and book chapters (9%) submitted in 2021 is pleasing and points to a continuous increase in the quality of our research outputs.

Numerous researchers have engaged with the Fourth Industrial Revolution, with 16% of research output units reflecting insight into the evolving field of 4IR, and a further 5% to the interface between 4IR and the Scholarship of Teaching and Learning.

In terms of impact, the number of Scopus-listed publications increased to 576 (+21%), Scopus-listed publications in collaboration with international scholars increased to 45% (+2,4%), and Scopus citations are standing at 2 749 (+1%). Publications in the Top 10% of global journals (SNIP) increased by 1,4% to 28,6%.

This contribution to UJ's global excellence and stature is remarkable, considering the impact of the pandemic in publication delays, for instance, in obtaining feedback from reviewers and obtaining the mandatory documentation required for the submission of publications.

RESEARCH CAPACITY

To further deepen research into the Fourth Industrial Revolution (4IR), the CBE has established the Centre for Data Science (CADS) to lead applied

data science research and offer specialist training and postgraduate qualifications in the field. In addition, the Centre for Technopreneurship in the School of Consumer Intelligence and Information Systems is contributing hugely to graduate employment and self-employment through technological innovation.

Another impressive development in the research and innovation portfolio is that the College further grew its list of NRF-rated researchers from 27 in 2020 to 31 in 2021. NRF ratings fall within the following categories: leading international researchers (A), internationally acclaimed researchers (B), established researchers (C), prestigious awards (P), and promising young researchers (Y).

CBE NRF-rated researchers include:

B-rated:



Prof CM Rogerson



Prof RN Nunkoo

C-rated:

Prof A Thomas, Prof C Hill, Prof C Marnewick, Prof DE Uwizeyimana, Prof F Adekambi, Prof G Verhoef, Prof GA Goldman, Prof H Twinomurinzi, Prof I Botha, Prof JH Eita, Prof JM Rogerson, Prof JW Muteba Mwamba, Prof KJ Bwalya, Prof KN Njenga, Prof LG White, Prof M Mpinganjira, Prof N Ngepah, Prof SJ Roberts, Prof T Moloji, Prof TJ Tselepis, Dr J Mba, Dr O Mosweu, Dr V Kalitanyi



Prof A Thomas



Prof C Hill



Prof DE Uwizeyimana



Prof F Adekambi



Prof G Verhoef



Prof GA Goldman



Prof H Twinomurizi



Prof I Botha



Prof JH Eita



Prof JM Rogerson



Prof JW Muteba Mwamba



Prof KJ Bwalya



Prof KN Njenga



Prof LG White



Prof M Mpinganjira



Prof N Ngepah



Prof SJ Roberts



Prof T Moloji



Prof TJ Tselepis



Dr J Mba



Dr O Mosweu



Dr V Kalitanyi



Prof C Marnewick

Y-rated: Dr JK Giddy, Dr MI Raborife, Prof AO Ade-Ibijola, Prof BD Simo Kengne, Prof D Sanders-Nel, Prof N Meyer, Prof C Schachtebeck



Dr JK Giddy



Dr MI Raborife



Prof AO Ade-Ibijola



Prof BD Simo Kengne



Prof D Sanders-Nel



Prof N Meyer



Prof C Schachtebeck

The CBE has continued to advance the affiliation of global scholars to increase the depth of our scholarly networks, which, coupled with the ten members of staff who have achieved their doctorates in 2021, has augmented research and supervision capacity. By the end of 2021, the College has affiliated 294 visiting scholars (8% more than 2020). The investment in the number of PDRFs has been increased to 62 (+41%).

The CBE hosts 11 distinguished visiting professors, who, on average, present Scopus field-weighted citation indices of 2.64, meaning that their publications have been cited 2.64 times more than the world average for similar publications.

These esteemed scholars include:

Prof Angustin Fosu (University of Ghana), Prof Arnold Bakker (Erasmus University of Rotterdam), Prof Edward Lorenz (University of Notre Dame), Prof Eva Demerouti (Eindhoven University of Technology), Prof Frank Riedel (Bielefeld University), Prof Jarkko Saarinen (University Oulu), Prof Naresh Malhotra (Georgia Institute of Technology, USA), Prof Robin Nunkoo (University of Mauritius), Prof Stefano Ponte (Copenhagen Business School), Prof Thomas Baum (University of Strathclyde) and Prof Ulrich Schmidt (University of Kiel).



Prof Angustin Fosu



Prof Arnold Bakker



Prof Edward Lorenz



Prof Eva Demerouti



Prof Frank Riedel



Prof Jarkko Saarinen



Prof Naresh Malhotra



Prof Robin Nunkoo



Prof Stefano Ponte



Prof Thomas Baum



Prof Ulrich Schmidt

The South African Research Chairs Initiative (SARChI) was established in 2006 by the Department of Science and Technology (DST) and the National Research Foundation (NRF). It is designed to attract and retain excellence in research and innovation at South African public universities through establishing Research Chairs at these universities with a long-term investment trajectory of up to fifteen years. The College takes pride in hosting three SARChI Research Chairs: Prof Cecile Nieuwenhuizen, SARChI Research Chair in Entrepreneurship Education; Prof Erika Kraemer Mabula, SARChI Research Chair in Transformative Innovation, 4IR and Sustainable Development; and Prof Fiona Tregenna, SARChI Research Chair in Industrial Development.

In 2021, CBE's total external research funding declined by 8%, from R28 million to R26 million, leading to a substantial drive towards grant applications with promising results awaited in 2022.

POSTGRADUATE PROFILE

Postgraduate enrolment below master's grew in 2021 to 1 998 (+10%); enrolments for master's grew to 842 (+12%), while doctorate enrolments increased to 302 (+16%).

In 2021, postgraduate output below master's grew to 1 181 (+6%). Master's graduates dropped from a five-year peak of 224 in 2020 to 193 (-14%) in 2021. This drop is undoubtedly due to the societal,

professional, economic, and personal impacts of the COVID-19 pandemic since most of our students at this level are in full-time senior-level employment. Doctoral output grew slightly to 40 (+8%).

The CBE is well on schedule to improve higher degrees administration processes. In 2021, the College Higher Degrees Committee started migrating many of its processes online. The migration is being done in a phased approach. It will eventually culminate in increased automation and available information in the higher degrees administration processes, in line with the aspirations of the Fourth Industrial Revolution.

RESEARCH STRUCTURES

The CBE houses an institute and nine centres dedicated to research and community development.

- The Centre for Competition, Regulation and Economic Development (CCRED), located in the School of Economics, specialises in industrial development, competition and barriers to entry, and regional value chains. CCRED, for example, draws leading global experts, such as Dr Antonio Andreoni (SOAS, University of London, UK); Dr Rashmi Banga (United Nations Conference on Trade and Development); Parminder Jeet Singh (IT for Change, India); Prof David Kupfer (Federal University of Rio de Janeiro, Brazil); Prof Stefano Ponte (Copenhagen Business School, Denmark); Dr Tim Sturgeon (MIT Industrial Performance

- Centre, USA) and Dr Jinkeun Yu (Senior Research Fellow, Korea Institute for Industrial Economics and Trade).
- The Centre for Public Management and Governance, located in the School of Public Management, Governance and Public Policy, offers two CEPs. These programmes are integrated academic and professional distance education programmes designed for students, working professionals and elected local political leaders, offered through online technology-enhanced distance learning.
 - The Centre for Public Policy and African Studies, located in the School of Public Management, Governance and Public Policy, is a hub of teaching and learning targeted primarily at recruiting public-spirited students who are involved or aspire to be involved in policymaking, policy implementation, or policy research.
 - The Centre for Local Economic Development (CENLED), located in the School of Economics, is partnering in an international research study on strengthening urban engagement of universities in Asia and Africa, funded by the British Academy. The project includes six other international partners from Iran, Iraq, the Philippines, Scotland, Tanzania, and Zimbabwe. CENLED has established a three-year capacity-building programme for Gauteng Department of Economic Development officials.
 - The Food Evolution Research Laboratory (FERL), located in the School of Tourism and Hospitality, contributes to combating the impact of COVID-19 and the subsequent lockdown on dietary habits and food choices. FERL studied the dietary habits and possible health outcomes in Sub-Saharan Africa during the COVID-19 lockdown. FERL and the Nutrition Society of South Africa (NSSA) hosted a virtual symposium to commemorate World Food Day.
 - The Institute for Transport and Logistics Studies (ITLS) (Africa), located within the School of Management, Department of Transport and Supply Chain Management, responds to industry needs for independent, unbiased, relevant, and up-to-date research. Its international partner institution is the Institute of Transport and Logistics Studies at the University of Sydney. In 2021, the contribution of ITLS (Africa) ranged from surveys on trends in transport, logistics, and supply chain management to once-off specialist research projects, such as the skills gaps in Kenya, Namibia, and Zimbabwe.
 - The Public and Environment Economic Research Centre (PEERC), located in the School of Economics, is dedicated to basic, applied, and strategic research in environmental economics. Governments and development agencies have now recognised the critical role of environmental assets for sustainable development. This increased focus on the healthy environment has shifted the fiscal debates around the world to policies that promote the effective incorporation of environmental concerns into development decision making.
 - The Technopreneurship Centre, located in the School of Consumer Intelligence and Information Systems, is an ideation and innovation hub. The Centre fosters collaboration between students and industry partners to develop new technologies. Students must structure real-life innovative solutions in intelligent software systems, video games, mobile applications (apps), and other forms of technological solutions that address business, economic and societal challenges as required by industries, local communities, and the government.

CBE STAFF PROFILE

There have been significant shifts in staff profile during 2021 in terms of staff gaining their doctorate and staff promotions. Staff with doctorates have steadily progressed since 2017, when 98 staff held a doctorate; the total moved to 149 in 2021. Similarly, an outstanding total of 21 staff were promoted across the various ranks.

Five colleagues were promoted to full professor: Professors Crystal Hoole, David Pooe, Dominique Uwizeyimana, Kevin Nell, and Shepherd Dhliwayo. Staff members promoted to associate professor include Chris Schachtebeck, Reena das Nair and Roslyn de Braine. Finally, the following colleagues were promoted to senior lecturer: Dr Andrea Potgieter, Dr Calvin Mabaso, Dr Joyce Toendepi, Dr Karolina Laba, Dr Leon Janse van Vuuren, Dr Milan de Wet, Dr N Cunningham, Dr Rozanne Smith, Dr Seugnet Bronkhorst, Dr Siya Nyikana, Dr Stella Bvuma, Dr Vaisha Harilal, and Ms Lydia Pelcher.

The College's commitment to developing younger staff, not least through their participation in UJ's Accelerated Academic Mentoring Programme (with approximately 70 CBE participants), is having a considerable impact.

STAFF ACCOMPLISHMENTS

The accomplishments of CBE staff on the international and national stage are too numerous to mention in detail. CBE staff members have been elected to the boards of learned societies and been appointed as visiting professors at global universities. They have also given keynote presentations at international conferences, secured notable international conferences for South Africa, and hosted conferences that brought leading experts together for dialogue and networking.

May I draw attention to 11 remarkable staff achievements in 2021.



Dr Beate Stiehler-Mulder secured the UJ Wholesale and Retail Leadership Chair to professionalise and improve skills levels in the Wholesale and Retail Sector and to position wholesale and retail as an attractive career proposition for young talent by developing qualifications at NQF Levels 5 to 10 and innovative research.



Dr Collins Leke and Dr Nico Strydom waved the UJ flag high with their industry-wide acknowledgment by the *South African Institute of Chartered Accountants* (SAICA) for their research titled 'Enhance your Digital Acumen'.



Dr Stella Bvuma was elected to the Executive Committee of the South African Institute for Computer Scientists and Information Technologists.



Ms Akona Babana scooped the award as Woman Academic of the Year at the Association for the Advancement of Black Accountants of Southern Africa (ABASA), for her exceptional effort and dedication with regard to accountancy careers for women.



Ms Boniswa Madikizela received the Trailblazer in Academia Award in recognition of her contribution as a Chartered Accountant, trailblazing a real and tangible impact on society. She achieved top honours at the African Women Chartered Accountants virtual recognition awards.



Ms Wadzanai Mabuto was acknowledged as a Power Hour Coach at the SAICA Women in Leadership conference.



Prof Claude Mayer was elected a Fellow of the International Academy for Intercultural Research (IAIR). This Academy consists of scholars from multiple disciplines, including, Anthropology, Communication, Education, Management, Policy Science, Psychology, and Sociology.



Prof Linda de Beer was appointed as Non-Executive Director for Shoprite Holdings and will serve on the company's Audit and Risk Committee.



Prof Natanya Meyer was elected Chairperson of the Entrepreneurship Development in Higher Education (EDHE) Community of Practice (CoP) for Entrepreneurship.



Prof Shepherd Dhlwayo was awarded the UJ Vice-Chancellor's Distinguished Award for Teaching and Learning.



Prof Talita Greyling has led the development of the first real-time balancing algorithm measuring nations' evaluative wellbeing by the hour. The Gross National Happiness Project (www.gnh.today) extracts data from a live stream of tweets and uses natural language processing to code sentiments. Prof Greyling's initial international project team of behavioural economists included South Africa, New Zealand, and Australia, and has now grown to participation by 11 countries. The New Zealand Treasury now officially uses the Gross National Happiness Today Index live as an official economic indicator on the NZ Statistic COVID-19 data portal.

Prof Greyling was also awarded the UJ Vice-Chancellor's Distinguished Award for the best innovation in 2021 and elected Vice-President of the International Society for Quality-of-Life Studies (ISQOLS) (global).

ACADEMIC GOVERNANCE

The College would not function without its 127 committed, hardworking professional administrators and 40 operational staff members who take a broad view of the University, the College and our staff and students' best interests.

The CBE renders a one-stop service to some 27 000 registered students on three different campuses, ranging from certificate to doctorate level, representing 43% of the University's student population.

This foremost responsibility is divided among Prof Sivan Chetty (Vice-Dean: Teaching and Learning), Prof Kelvin Bwalya (Vice-Dean: Research and Internationalisation), Prof Marita Pietersen (Head: CBE Quality Assurance), Dr Ronel Toerien (Manager: CBE Brand, Marketing and Internationalisation), Ms Maria Motaung and Ms Elmarie Vermeulen (the two CBE Heads of College Administration), Ms Delia Arends (Head: Dean's Administration), and Ms Yasmiena Sally-Joyce (Executive Secretary to the Dean).

LOOKING FORWARD

Overall, the CBE has progressed well in 2021, and remarkably since 2017. Underpinning the mindset of all staff in the College is the theme of connectedness, of productive and active

interdisciplinary connections within the College, as well as a vast set of continental and international relations, to ensure that globally, the UJ College of Business and Economics is top of mind and top of the class.

The CBE leader team is confident that the CBE, with the collaboration of all role-players across the private and public sectors and civil society, will help turn business into a powerful engine that drives our economy forward.

We express our deep appreciation for individual and collective commitment to our future impact.

The end of 2022 will see my last of three five-year terms as Executive Dean. I am looking forward to contributing to the UJ CBE in a different role. My sincere thanks for many opportunities to explore and learn from my colleagues, students, and other CBE stakeholders. I wish you the absolute best in forging a better future.

Prof Daneel van Lill

Executive Dean

College of Business and Economics

HIGHLIGHTS AND KEY TRENDS FROM THE COLLEGE

Table 2: CBE Progress – 2017 to 2021

UJ Strategic Objective	2017	2018	2019	2020	2021	Progress 2020 to 2021	Year-on-year trend since 2017
SO1 (Excellence in research and innovation) and SO5 (National and global reputation management)							
Postgraduate programme qualification mix							
# PG Diploma programmes	2	3	3	4	4	0	1
# Honours programmes	24	22	22	22	22	0	0
# Master's programmes	51	46	45	45	45	0	-1
# Doctorate programmes	30	28	26	26	26	0	-1
Enrolment							
Subsidised enrolment – Postgraduate Diploma	713	926	770	644	694	50 (8%)	-32
Subsidised enrolment – Honours	1 259	1 070	1 103	1 178	1 304	126 (11%)	20
Subsidised enrolment – Postgraduate Diploma and Honours	1 972	1 996	1 873	1 822	1 998	176 (10%)	-12
Subsidised enrolment – Master's	735	731	753	752	842	90 (12%)	24
Subsidised enrolment – Doctorate	169	201	230	260	302	42 (16%)	33
Subsidised enrolment – Total postgraduate	2 876	2 928	2 856	2 834	3 142	308 (11%)	44
International enrolment – Undergraduate	906	1 046	1 062	1 013	962	-51 (-5%)	8
International enrolment – Postgraduate	401	366	352	355	235	-120 (-34%)	-34
International enrolment – Total	1 307	1 412	1 414	1 368	1 197	-171 (-13%)	-26
Graduates							
Postgraduate Output – Honours	1 179	830	706	714	850	136 (19%)	-77
Postgraduate Output – Postgraduate Diploma	32	370	460	395	331	-64 (-16%)	62
Postgraduate Output – HEQF Level 8	1 211	1 200	1 166	1 109	1 181	72 (6%)	-15
Postgraduate Output – Master's	164	163	160	224	193	-31 (-14%)	12
Postgraduate Output – Doctorates	11	23	31	37	33	-4 (-11%)	6
Postgraduate Output – SA black doctorands	3	8	8	16	5	-11 (-69%)	1

UJ Strategic Objective	2017	2018	2019	2020	2021	Progress 2020 to 2021	Year-on-year trend since 2017
Postgraduate Output – Total	1 386	1 386	1 357	1 370	1 407	37 (3%)	3
% Honours students completing in one year	57%	64%	65%	69%	62%	-7%	2%
% M-students completing in two years	27%	28%	18%	23%	26%	3%	-1%
% D-students completing in four years	46%	30%	55%	51%	46%	-6%	2%

Research output and capacity development

Research Output Units (DHET Accredited) (Target for 2021 = 441)	285	286	440	454	608	154 (34%)	81
# Scopus-listed publications	267	332	593	476	576	100 (21%)	76
% Scopus-listed publications with international co-authors	39%	38%	33%	43%	45%	2%	2%
# Scopus-listed publications in the broad field of 4IR	21	53	67	83	70	-13 (-16%)	13
# Citations in Scopus	1 777	2 650	3 353	2 783	2 749	-34 (-1%)	208
% Publications in Top 10% journals by Source-normalized Impact per Paper (SNIP)	29%	25%	24%	27%	29%	2%	0%
# of NRF-rated researchers	14	19	23	27	29	2 (7%)	4
External research funding – National (ZAR million)	R5.87	R7.83	R8.71	R20.00	R21.91	R1.91 (10%)	R4.42
External research funding – International (ZAR million)	R1.55	R1.94	R2.08	R8.13	R3.97	R2.12	R1.10
External research funding – Total (ZAR million)	R7.42	R9.77	R10.79	R28.13	R25.88	-R2.25 (-8%)	R5.53
Visiting Scholars – # PDRFs	12	27	38	44	62	18 (41%)	12
Visiting Scholars – Research Output by PDRFs	3.52	12.78	20.27	34.07	70.18	36 (106%)	15.46
Visiting Scholars – Research Output per PDRF	0.29	0.47	0.53	0.77	1.13	(46%)	0.20
Visiting Scholars – # Distinguished Visiting Professors	5	7	9	11	12	1 (9%)	2
Visiting Scholars – # Visiting Professors	5	8	11	16	17	1 (6%)	3
Visiting Scholars – # Visiting Associate Professors	4	9	11	12	13	1 (8%)	2
Visiting Scholars – Visiting APs and Ps (ROUs)	7	11	14	21	30	8 (39%)	6

UJ Strategic Objective	2017	2018	2019	2020	2021	Progress 2020 to 2021	Year-on-year trend since 2017
Visiting Scholars – ROU (Visiting APs and Ps)	0.50	0.46	0.44	0.55	0.71	0.16 (29%)	0.05
Visiting Scholars – # Professors of Practice	2	8	15	17	18	1 (6%)	4
Visiting Scholars – # Associate Professors of Practice	4	4	4	4	5	1 (25%)	0
Visiting Scholars – # Senior Fellows/ Senior Research Associates	41	52	63	79	88	9 (11%)	12
Visiting Scholars – # Fellows/Research Associates	43	56	71	89	79	-10 (-11%)	11
Visiting Scholars – Total	116	171	222	272	294	22 (8%)	46
SO2 (Excellence in teaching and learning), SO3 (An international profile for global excellence and stature) and SO4 (An enriching student-friendly learning and living experience)							

Undergraduate Programme Qualification Mix, collaboration and delivery mode

# Undergraduate subsidised programmes	65	59	58	52	49	-3 (-6%)	-4
# Continuing Education Programmes (cumulative) – Whole Programmes	10	10	13	13	13	(%)	1
# Continuing Education Programmes (cumulative) – Bridging Programmes	6	7	7	7	8	1 (14%)	0
# Continuing Education Programmes (cumulative) – Short Learning Programmes (notably involving 4IR)	88	91	96	114	118	4 (4%)	8
# Continuing Education Programmes (cumulative) – Total	104	108	116	134	139	5 (4%)	10
# Continuing Education Programmes on 4IR (cumulative)	4	7	18	33	35	2 (6%)	9
# Joint, interdisciplinary programmes with international institutions (cumulative)	9	10	12	13	15	2 (15%)	2
# Academic initiatives advancing 4IR (cumulative)	4	11	14	18	24	6 (33%)	5
# Inbound students attending academic events virtually				1 231	1 549	318 (26%)	318
# Outbound students attending academic events virtually				2 005	2 847	842 (42%)	842
# Fully online programmes	2	6	6	9	9	0	2
# Blended learning modules offered in contact programmes	772	1 088	1 364	2 231	2 235	4 (%)	407
# UG completion of the enrichment module African Insights	2 308	2 547	2 233	349	1 308	959 (275%)	-420

UJ Strategic Objective	2017	2018	2019	2020	2021	Progress 2020 to 2021	Year-on-year trend since 2017
# UG completion of the enrichment module AI in 4IR				2 164	1 276	-888 (-41%)	-888
# Total UG completion of the enrichment modules	2 308	2 547	2 233	2 513	2 584	71 (3%)	52

Enrolment

Subsidised enrolment – Undergraduate diplomas	6 773	6 393	6 109	6 064	6 191	127 (2%)	-149
Subsidised enrolment – Undergraduate degrees	10 088	9 756	9 205	8 742	8 872	130 (1%)	-345
Subsidised enrolment – Undergraduate total	16 861	16 149	15 314	14 806	15 063	257 (2%)	-494
Subsidised enrolment – Undergraduate total/Staff full-time equivalents (FTEs)	53,526984	50,308411	46,689024	39	34,811414	-4 (-11%)	-5
Enrolment in Continuing Education Programmes	6 041	6 122	6 547	6 604	7 232	628 (10%)	286
CBE overall undergraduate enrolment	22 902	22 271	21 861	21 410	22 295	885 (4%)	-208
CBE overall under- and postgraduate enrolment	25 778	25 199	24 717	24 244	25 437	1 193 (5%)	-164

Student Profile

% of first years with an APS ≥ 35 (without Life Orientation)	16%	16%	15%	15%	22%	7%	1%
% of first years from Quintile 1 and 2 schools (under-resourced)	23%	25%	27%	28%	28%	0%	1%
% of first years from Quintile 5 schools (well-resourced)	38%	35%	34%	34%	36%	2%	-1%
# NSFAS bursary holders	2 089	4 588	4 600	5 473	5 890	417 (8%)	849
% NSFAS bursary holders	12%	28%	30%	37%	39%	2%	6%

Student Progress

UG module success rates	85%	85%	85%	85%	90%	5%	1%
UG dropout rate by end Year 1 (2020 Target = 11,5%)	15%	13%	12%	12%	12%	0%	-1%
Graduate output – Diplomas and degrees	3 910	3 865	4 030	3 991	4 187	196 (5%)	68
Graduate output – PG diplomas, honours, master's and doctorate	1 386	1 386	1 357	1 370	1 301	-69 (-5%)	-19
Graduate output – Total	5 296	5 251	5 387	5 546	5 488	-58 (-1%)	68
Undergraduate graduation rate (%)	21%	22%	24%	25%	27%	3%	0
Total graduation rate (%)	22%	26%	27%	28%	31%	3%	0

UJ Strategic Objective	2017	2018	2019	2020	2021	Progress 2020 to 2021	Year-on-year trend since 2017
% Advanced Diploma students graduating in minimum time	48%	59%	59%	63%	63%	64%	0
% Mainstream students completing 3-year qualifications in minimum time	38%	33%	39%	36%	40%	4%	0
% Mainstream degree students completing 3-year qualifications in minimum time	41%	34%	41%	38%	42%	4%	0
# Senior tutors, tutors and mentors	245	273	340	424	430	6 (1%)	52

SO6 (Fitness for global excellence and stature)

Student enrolment full-time equivalents (FTEs)	14 816	14 331	13 872	13 810	14 029	219 (2%)	-210
Staff full-time equivalents (FTEs)	315	321	328	334	403	69 (21%)	19
Student FTEs/Staff FTEs (Ideal = 1:28)	47.04	44.64	42.29	41.35	34.81	-6.54	-3
Student FTEs/ROUs (Ideal = 1:00)	0.90	0.89	1.34	1.36	1.51	0.15	0.17
% UG Student Satisfaction Rate	88%	89%	90%	96%	92%	-4%	0
% PG Student Satisfaction Rate	81%	83%	85%	81%	86%	5%	0

Full-time and Fixed-term Staff members

Academic staff members	324	344	361	364	361	-3 (-1%)	9
- Professors	29	27	28	34	41	7 (21%)	3
- Associate Professors	30	35	44	44	34	-10 (-23%)	2
- Black Professors and Associate Professors	5	6	8	11	19	8 (73%)	3
- Senior Lecturers	110	115	114	120	129	9 (8%)	4
- Lecturers	145	146	149	140	130	-10 (-7%)	-4
- Assistant Lecturers	10	21	26	26	27	1 (4%)	4
Administrators	94	125	125	127	128	1 (1%)	7
Operations	51	52	43	41	40	-1 (-2%)	-3

Staff talent profile

% Women academics (2020 Target = 50%)	51%	50%	52%	50%	52%	2%	0%
% Professoriate	18%	18%	20%	21%	21%	-1%	1%
% Women in the professoriate	5%	6%	8%	9%	15%	6%	2%
% Academics (designated)	45%	46%	46%	46%	48%	2%	1%
% Academics (non-designated)	42%	40%	38%	38%	36%	-2%	-1%

UJ Strategic Objective	2017	2018	2019	2020	2021	Progress 2020 to 2021	Year-on-year trend since 2017
% Academics (international)	11%	13%	16%	15%	17%	2%	1%
# Academics with a doctorate (n)	98	114	121	139	149	10 (7%)	13
% Academics with a doctorate (%)	30%	33%	34%	38%	42%	4%	3%
# Academics with a master's	170	150	150	132	176	44 (33%)	-1
% Academics with a master's	52%	44%	42%	36%	49%	12%	-1%
# Academics who are CAs	66	66	66	67	70	3 (4%)	1
% Academics who are CAs (%)	20%	19%	18%	18%	19%	1%	0%



Teaching and Learning



Teaching and Learning



Prof Sivan Chetty

Vice-Dean: Teaching and Learning
College of Business and Economics

Following on the experience of 2020, the CBE remained resilient in, and responsive to, a highly challenging teaching and learning environment.

OVERVIEW

The College's teaching and learning portfolio is steered through the leadership of the Vice-Dean, Prof Sivan Chetty. Following on the experience of 2020, the CBE remained resilient in, and responsive to, a highly challenging teaching and learning environment. The surge in the Delta variant of the COVID-19 virus pushed the country into a fourth wave of the pandemic, resulting in stricter lockdown restrictions. The pandemic pervaded virtually every area of family, social and economic life, leaving a trail of hardship and despair. The instability created by the July 2021 riots simply added to the prevailing high levels of uncertainty, as those events laid bare the underlying vulnerabilities of the country. It was under these conditions that educational institutions endeavoured to maintain a stable academic environment. To this end, teaching, learning and assessment (TLA) at UJ continued to take place in an online, remote setting in 2021, as in 2020. Academic staff members remained both steadfast and innovative in ensuring a TLA environment

that would enable a credible academic experience for students. With 15 063 undergraduate (UG) students enrolled for 537 modules in 49 programmes, a module success rate of 88,2% was achieved, above the institutional rate of 87,4%, and with close to 4 200 students expected to graduate. The decline in the UG module success rate from 2020 to 2021 may be deemed as a correction, given the unusually high rate experienced in the former year. When compared to 2019, the success rate increased by close to 3%.

TEACHING AND LEARNING INNOVATIONS IN 2021

An innovative spirit continued to permeate the corridors of the CBE, with academic staff members exploring and/or introducing new approaches, content, and courses in the teaching and learning environment. Below are some of the key initiatives undertaken in 2021. Several initiatives are also planned for 2022, including those that are in progress from 2020.

SCHOOL OF ACCOUNTING

- A new course in 4IR and Digital Acumen for all BCom and BAcc students at third year.
- A short course in 4IR (online SLPs) – Six already developed.
- Student Personal Development Programme – Piloted in the Dept of Accountancy (Ms W Mabuto).
- WorkSmart Rewards Programme (Ms W Mabuto).
- A Toolkit for Self-Reflection after an Integrity Lapse – In development (Ms S Venter).
- Gamification app adapted for FAC1 (Ms M Carter).
- Multilingual glossaries for Auditing and Internal Control (Ms L Nzama, Ms M Nevhutande, and Ms M Dube).



Ms W Mabuto



Ms S Venter



Ms M Nevhutande



Ms M Dube



Ms M Carter



Ms L Nzama

SCHOOL OF CONSUMER INTELLIGENCE AND INFORMATION SYSTEMS

- Minecraft Education (Prof K Njenga).
- Virtual learning environment (3D simulation of an in-person class) (Prof A Ade-Ibijola).
- #UJ WIE Website (Prof R Brink).
- Inter-faculty multidisciplinary project about Story Telling of Hope (Prof R Brink, Prof R Benecke and Mr E Hart).
- Healthy Eating Routing Version 2 (Prof R Brink and Dr H Kesa).
- SOIL Agricultural Project (Prof Brink, Dr C Leke and Waymark Infotech (PTY) Ltd).
- Umdlalo Virtual Gaming Centre (Prof R Brink and Mr L Seseni).
- #Enactus Online (Prof R Brink and Mr L Seseni)
- Short courses on 4IR (Mr S Khumalo).



Prof K Njenga



Prof A Ade-Ibijola



Prof R Brink



Dr H Kesa



Dr C Leke



Mr L Seseni



Mr S Khumalo



Prof R Benecke, Mr E Hart and Prof R Brink

SCHOOL OF ECONOMICS

- Use of flipped classroom approach.
- Upload of pre-recorded videos using screen-recording software (Mr F Kirsten).



Mr F Kirsten

SCHOOL OF MANAGEMENT

- Case study writing and teaching – three workshops (Prof A Drotskie).
- Academic Integrity and Ethical Behaviour Project (Prof A Drotskie and Dr R Toerien).
- Gamification project – gamifying management tools (Ms S Hughes and Dr P Thomas).
- Business simulation at honours and advanced diploma courses (Dr C Reddy and Ms S Hughes).
- TRACE project – online development tools (Ms J Sibeko).
- Integrating MOOCS in small business modules (Ms J Sibeko).
- JSE Challenge for Accounting students (Ms S Hughes).
- Video-based personal entrepreneurial development – in collaboration with AIS (Prof T Tselepis).
- Research Proposal Development Toolkit (Prof T Tselepis).
- Teaching and Learning Innovation Project 2021: Business Ethics from an Intercultural Perspective, facilitated online via ILIAS (Swiss), Zoom, and MS Teams (Dr A Makka).
- TEACH Competency Toolkit – in conceptual phase (Dr R de Braine).



Prof A Drotskie



Dr R Toerien



Ms S Hughes



Dr P Thomas



Dr C Reddy



Ms J Sibeko



Prof T Tselepis



Dr A Makka



Dr R de Braine

SCHOOL OF PUBLIC MANAGEMENT AND GOVERNANCE AND PUBLIC POLICY

- A 'Weekly Insights' support system for students (Prof D Uwizeyimana and Ms Y Bernhardt)



Prof D Uwizeyimana

SCHOOL OF TOURISM AND HOSPITALITY

- The Kerzner@UJ presence on delivery platforms such as UberEats and Mr D.
- The SUCSESS Project – An Erasmus+ funded project in collaboration with the University of Pretoria, the University of Zululand, Haaga-Helia University (Finland), the University of Oulu (Finland) and Sheffield Hallam University (UK).



STAFF TRAINING AND DEVELOPMENT

Several workshops/webinars were held in 2021 for academic staff in the context of teaching and learning. Workshop: The Business and Management Collection Support for Teaching and Learning on 20 July 2021, Presented by HS Talks.



Case Study Workshop 1: Introduction to Case Study Writing and Teaching on 3 June 2021, presented by Prof Adri Drotskie.

Case Study Workshop 2: Case Study Teaching on 18 August 2021, presented by Prof Adri Drotskie.

Case Study Workshop 3: Case Study Writing on 30 September 2021, presented by Prof Adri Drotskie.



Webinar:
A 3D Game that simulates Face-to-Face Classes on 12 October 2021, presented by Prof Abijede Ade-Abijola.



Workshop:
Minecraft Education on 04 June 2021, presented by Prof Kennedy Njenga.



Webinar:
Aggressive Behaviour in an Academic setting and the Management thereof for a Favourable Teaching and Learning and Environment on 31 May 2021, presented by Dr Ronél Toerien.



Webinar:
WorkSmart Rewards Programme on 05 October 2021, presented by Wadzi Mabuto.



ENROLMENT AND STUDENT PROFILE

- Total enrolment in subsidised programmes stood at 18 205 students in 2021, reflecting a growth of 3,2% from 2020. However, when considered over the five-year period from 2017 to 2021, there was a decline at an annual average rate of 1,9%. This was a deliberate reduction over time, in line with the institutional enrolment plan for subsidised programmes. If non-subsidised or continuing education programmes (CEPs) are considered, then total enrolment was recorded at close to 25 500 students in 2021.

The following are some key observations relating to student enrolment and profile:

- Undergraduate (UG) enrolment increased by 1,7% from 14 806 students in 2020 to 15 063 in 2021, while postgraduate (PG) enrolment increased by 10,9% from 2 834 to 3 142 students over the same period.
- The relative shares of PG and UG students to total enrolment were 83% (UG) and 17% (PG) in 2021. The favourable trend in the proportion of PG students to total enrolment is evident over the five years since 2017 when it stood at 14%.
- International student enrolment, which increased steadily from 2017 to 2020, declined by 1,4% in 2021. As a proportion of total enrolment, international student intake fell from 8,13% (1 432) in 2020 to 7,76% (1 412) in 2021. Undergraduate students who account for the bulk of international enrolment, was recorded at 71,5% (1 009) of total international enrolment in 2021.
- A significant increase was recorded in the proportion of the first-year intake with admission points scores (APS) of 35% or more, from 15% in 2020 to 22% in 2021.
- The percentage of first-year students from Quintile 1 and 2 (under-resourced) schools remained unchanged at 28%. Furthermore, close to 40% of the students are NSFAS bursary holders.

STUDENT ACCESS AND SUCCESS AND SUPPORT

The CBE remains committed to providing access to quality education in the field of business and economics, which entails maintaining an enabling learning and teaching environment aimed at student success. Apart from the normal access routes into mainstream programmes, the CBE provides alternative access for those who do not

meet minimum admission requirements. These mainly include extended degrees, extended diplomas, bridging programmes, short learning programmes and recognition of prior learning. The extended programmes include significant foundational provision aimed at preparing students for studies in mainstream modules.

The overall learning experience is of fundamental importance when creating and maintaining an environment conducive to student success. The CBE, through its schools and departments, engage in several measures aimed at providing a holistic learning experience for students.

Key measures, aimed largely at UG students, include:

- Participation in institutional initiatives that focus on first-year and senior student experience.
- Participation in the institutional Integrated Student Success Initiative, which focuses on priority modules.
- Effective use of operational and strategic tutor funding.
- Participation in the UJ-funded e-textbooks initiative for undergraduate students.
- A CBE Student Peer Mentoring Programme, aimed at supporting first-year students to transition into a university environment.
- A Student Personal Development Programme, piloted in 2021 for full implementation in 2022.
- The provision of work-integrated education (WIE) in programmes with a strong practical orientation, such as marketing, tourism and hospitality, accounting, and business management.
- Various school/departmental initiatives for top performing students who are members of the UJenius Club.
- A range of school/departmental-driven in-person and online support initiatives.

With teaching and learning taking place in an online-remote setting in 2021, much of the additional academic support in 2021 was provided through online platforms, such as Blackboard (the UJ learning management system), WhatsApp and Google Classroom. It was therefore important to ensure that students were actively engaged in online learning activities. Blackboard student activity reports were provided regularly by the Centre for Academic Technologies (CAT). These reports were then used to engage the CBE schools and departments to identify modules with relatively low student activity and to address appropriately.

The following are some of the key outputs relating to student performance in 2021:

- The overall UG module success rate was observed at 88,2% in 2021, a decline of 1,9 percentage points from 2020. However, 2020 may be deemed as an outlier, given the extraordinary success rates achieved in that year. An increase of 3 percentage points is evident when compared to 2019.
- Interestingly, although there was a decline in the overall UG module success rate, an increase was observed for first-time entering students by 2,3 percentage points from 2020 to 2021. A similar increase was also observed when compared to 2019.
- The UG dropout rate in Year 1 remains high but stable at 12%.
- Total graduate output for 2021 is forecasted at 5 488 comprising approximately 76% UG and 24% PG students. The overall graduation rate is expected to be 31% for 2021, based on forecasted UG and PG rates of 27% and 41%, respectively.
- An increase of 3% is forecasted in the graduation rate from 2020 to 2021, based on an expected increase of approximately 2% in the UG rate and a decline of about 5% in the PG rate. The non-trivial decline in the PG rate is largely due to decreases (forecasted) in the graduate output for postgraduate diplomas, master's and doctoral programmes.

PROGRAMME QUALIFICATION MIX

The CBE offers a rich mix of subsidised UG and PG programmes in disciplines related to the field of business and economics, across the NQF spectrum from Level 6 to 10. Further to this, several non-subsidised CEPs are offered, consisting of whole programmes, bridging programmes and short learning programmes (SLPs).

The following are key features of the CBE PQM:

- In 2021, the CBE offered 146 subsidised programmes consisting of 49 and 97 offerings at the UG and PG levels, respectively.
- The UG offering consisted of 11 diplomas, 20 advanced diplomas and 18 degrees.
- The PG offering consisted of 22 honours degrees, 4 postgraduate diplomas, 45 master's degrees (coursework and research) and 26 doctoral programmes.

- A total of 139 CEPs were offered in 2021, consisting of whole programmes, bridging programmes and SLPs.
- Apart from CEPs, specifically SLPs, having a growing focus on 4IR-related developments, the CBE schools and departments engaged in several academic initiatives aimed at the advancement of education in 4IR. The number of such initiatives increased by 33% from 18 in 2020 to 24 in 2021.
- The number of fully online programmes remained unchanged at nine in 2021.

Other programme-related aspects:

- The temporary transition globally, to a largely online academic environment due to the COVID-19 pandemic, saw a significant movement in the number of inbound and outbound students attending virtual academic events. This was evident in the CBE, as inbound students increased by 26% from 1 231 to 1 549 and outbound students grew by 42% from 2 005 to 2 847 from 2020 to 2021.
- The experiences of online teaching and learning in 2020 and 2021, provided an opportunity for CBE schools and departments to develop an increasingly blended mode of delivery of modules in contact-based programmes. This served the CBE well when the University took a decision to follow a hybrid approach to teaching and learning in the first semester of 2022.
- The University offers two enrichment modules for UG students, namely African Insights and Artificial Intelligence (AI) in 4IR. It is compulsory for a student to complete at least one of these modules, as a requirement for graduation. In 2021, the CBE recorded a significant growth in the completion rate of the African Insights module, but a decline in that of the Artificial Intelligence module.
- CBE schools and departments engage in regular review of programmes and modules, and their modes of delivery, to ensure quality and relevance. These reviews are overseen by the CBE Head of Quality Assurance.
- Discussions are at an advanced stage in the development of a generic (and flexible) BCom degree. Submission for approval is expected to be initiated in 2022.
- The experiences of 2020 and 2021 provided an impetus for teaching and learning innovation, as CBE staff members continued to explore and/or introduce new approaches, content and courses in the TLA environment.

UJENIUS STRATEGY

UJenius is an institutional initiative aimed at providing incentives and enrichment for top performing students. The number of CBE UJenius members increased by 8% from 464 in 2020 to 502 in 2021. Events and activities for UJenius students are expected to be arranged and hosted at school and department levels. Top performing students are usually acknowledged at special awards functions. Schools and departments will be requested to engage in more enrichment activities for UJenius members, which may be done in collaboration with PsyCaD.

TOWARDS TEACHING AND LEARNING FUTURE AGILITY

The last two years proved to be quite challenging for academic staff members. The heightened uncertainty and economic hardship attributable to the pandemic and other destabilising events in the country, imposed much strain on academic institutions in their endeavour to ensure a credible and sustainable teaching and learning environment.

The unwavering commitment of individual staff members, both academic and support, ensured that the CBE as a collective hold its own amidst the storm. Core academic and administrative functions were efficiently executed through appropriate working arrangements.

If anything, the CBE grew in resilience and in its ability to respond to changing conditions. Moreover, an innovative mindset emerged strongly, as staff members explored and implemented alternative approaches to teaching, learning and assessment, with more effective and efficient use of academic technologies.

The temporary transition to online teaching and learning provided an opportunity for staff members to develop the modules to be offered in future through a blended learning mode, that consist of an appropriate combination of in-person and online teaching and learning activities. This provides the kind of flexibility in teaching and learning that allows not only for greater adaptability to external factors but also for greater scope to explore and implement alternative strategies that foster more meaningful student engagement.

This shift to a more flexible approach to teaching and learning implies the need for more critical reflection on teaching pedagogies, assessment strategies and the kind of academic support that would be suitable in a blended learning environment.

Prof Sivan Chetty

Vice-Dean: Teaching and Learning
College of Business and Economics,
University of Johannesburg



Research and Innovation



Research and Innovation



Prof Kelvin Bwalya

Vice-Dean: Research, Innovation and Internationalisation
College of Business and Economics

OVERVIEW

Under the leadership of Prof Kelvin Joseph Bwalya, the Research, Innovation and Internationalisation Unit of the College aims to peddle both research excellence and global excellence and stature. The Unit also aims to increase both the research quantity and quality as knowledge generated to positively impact on society.

The College of Business and Economics has over the years grown in stature and has well-positioned itself to effectively contribute to solving societal problems. Despite the lockdown imposed in 2020/21, the productivity levels of the researchers in the College did not experience any downward trend and in fact improved. This has been explained by the increased time the researchers had at their disposal to further focus on their research. Further, the growth in collective excellence and stature and correspondingly higher research productivity is a result of careful strategic planning and mapping. The positive research development trajectory is sustained by the expectation for universal contribution in knowledge production for each of the academe.

The College of Business and Economics has over the years grown in stature and has well-positioned itself to effectively contribute to solving societal challenges

In cementing the intellectual footprint of the College, internationalisation efforts were pursued with vigour and enthusiasm. The College also saw a shift towards developing solid engagements and relationships with College alumni and visiting scholars. As a result, three new partnership agreements were signed with universities in France, Germany, Canada and the USA. A total of 294 (+8% year-on-year) visiting academics were recruited, positively contributing to the increase of the College's cadre of researchers and collaborators. Further, the number of postdoctoral researchers increased to 62 (+41%). The 2021 research outputs increased by a whopping +38% compared to that of 2020, reaching the 600 ROU mark. With a strategy to move away from conferences, research quality has significantly improved with approximately 95% of journal articles appearing in high-impact journals. There is also a significant increase in knowledge production, given the increased research capacity and capability. Forty academics have attained their doctoral degrees in 2021 and a total of 38 academics are now NRF-rated.

In 2021, the College conferred a total of 1 380 postgraduate qualifications. In total, 331 were postgraduate diplomas, 815 honours qualifications, 193 master's degrees (16%), and 41 doctorates. All in all, there has been an increase in the different qualifications conferred in 2021 as compared to 2020.

RESEARCH CAPACITY AND EXCELLENCE

RESEARCH OUTPUTS

The CBE submitted over 995 individual research output publications translating into over 613 ROUs. This is a significant increase given that in 2020, only 686 publications were realised. 2021 has seen an increase in the number of journal articles (81%), books and book chapters (11%) as compared to

conference proceedings (8%). This is the result of the College's strategic orientation to reduce overreliance on conference proceedings.

RESEARCH IMPACT

The College continues to do well in as far as impact is concerned. A total of 576 publications have been listed in Scopus outlets (+21% year-on-year) with 2 749 Scopus citations demonstrating a significant impact. Around 28,6% of the publications are listed in the top 10% of global journals as identified by SNIP.

POSTDOCTORAL RESEARCH FELLOWS

The number of Postdoctoral Research Fellows (PDRFs) has increased from 48 in 2020 to 62 in 2021. The research output units per PDRF has improved to 1.64 (+112%). The PDRF programme is a mentorship intervention, which aims to prepare academe of the future as well as researchers/knowledge producers who are poised to produce knowledge for human advancement.

PATENTS

Although the CBE has improved in as far as innovation is concerned, most of the innovation outputs have been in teaching innovation. Strategically, the College is pushing to increase its innovation index and produce patents as intellectual capital.

RESEARCH FUNDING

The CBE generated a total of R26 million in 2021, slightly short of the target (-8%). The reduction has been largely attributed to the drop in the international grant support from some R8 million to R4 million (-51%).

TOWARDS RESEARCH FUTURE-AGILITY

In a constant changing world, the College recognises the fact the future of flexible business organisations is an oxymoron and therefore has a research agenda that considers future scenarios. The College considers the investigation of contemporary and future topics such as applied data science, predictive analytics, consumer intelligence, future product differentiation, future world of work, and market intelligence. From 2020 onwards, the research endeavours in the College are guided by the following foci:

- **Scholarship of Teaching and Learning (SoTL):** A total of 5% of the outputs showed orientation to SoTL in the first year of SoTL being tracked in the College's ROUs.

- **Fourth Industrial Revolution (4IR):** Around 16% of the 2021 publication outputs have demonstrated engagement with the broader focus of the Fourth Industrial Revolution.
- **Decolonisation of knowledge:** Generation of knowledge informed by the local contextual setting is important. The generated knowledge can be augmented with the existing Global-North knowledge value systems.
- **Metaverse:** There has been wider recognition of the metaverse as an imaging conceptualisation that could impact the business world. Metaverse being at the centre of the semantic Web (Web 3.0) enabling interaction models of the virtual or augmented reality in 3D environments will enable the modelling of business entity interactions.

The College has intensified efforts to diversify its pool of expertise to have a connected eco-system of knowledge production competence. The College is home to 11 Distinguished Visiting Professors (DVPs) from all over the world. Of these, two are listed in the 2021 Clarivate Most Cited Researchers. The increasing number of visiting scholars enables the internal CBE researchers to have access to global networks, which could potentially bring in international funding and the realisation of groundbreaking research. The College is on course to train more academics to obtain doctorates to increase the confidence in knowledge production and postgraduate supervision.

GOING FORWARD

The College will continue its strategic push for its researchers to publish in Scopus- and DHET-recognised journals, especially paying attention to the journals' position in the SNIP ranking system. On postgraduate administration, enhanced monitoring of postgraduate progression and the postgraduate output mapping endeavour will culminate into an improved attainment of set targets. The College will push towards increasing its research innovation portfolio to generate patents as intellectual assets. It can arguably be stated that the College is in the right direction in as far as positioning itself as an epicentre of excellence for critical pan-African enquiry.

Prof Kelvin Bwalya

Vice-Dean: Research, Innovation,
and Internationalisation
College of Business and Economics,
University of Johannesburg



CBE Research Divisions

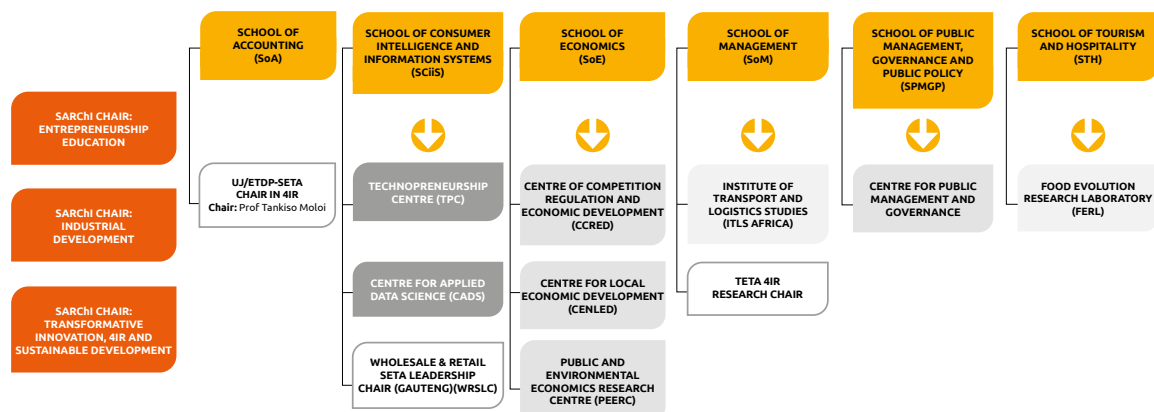
The College has organised its research infrastructure in units with segmented expertise to drive research excellence. These units are grouped into individual, departmental, school or externally funded research centres focusing on one or more themes. The number of research centres or chairs

demonstrate the extent to which the College has developed its research capacity and capability to better contribute to knowledge development and innovation. Through these centres or chairs, the College focuses on different knowledge themes and contributes to the overall good of the society.

We develop critical thinkers and problem solvers who address business, economic and societal challenges

Research Hubs @ a Glance

➤ 3 SARChI Chairs ➤ 6 Schools ➤ 6 Research Centres ➤ 3 Research Chairs ➤ 1 Institute ➤ 1 Research Laboratory



New Organogram 2022



SARCHI
SOUTH AFRICAN
RESEARCH CHAIR IN
ENTREPRENEURSHIP
EDUCATION



DHET–NRF SARChI Chair in Entrepreneurship Education

OVERVIEW

Prof Cecile Nieuwenhuizen, the grant holder and Chair of SARChI: Entrepreneurship Education (EE) looks back on a successful 2021. Prof Nieuwenhuizen set out to share expertise on post-school entrepreneurship education, which includes knowledge creation and all the conditions that influence the eco-systems in entrepreneurship. Knowledge creation on entrepreneurship research as such is grown and maintained by Prof Natanya Meyer, while the research on scholarship of teaching and learning within entrepreneurship education is promoted by Prof Thea Tselepis. Postdoctoral research fellows (PDRFs), visiting professors as well as research associates assisted with various dimensions of knowledge creation in four research focus areas. During 2021, the dynamic SARChI: EE team published 17 research units in international and accredited journals; the Chair was well represented on national and international platforms and promoted the agenda of interdisciplinary entrepreneurial competencies under student-preneurs as well.

TALENT MANAGEMENT AND CAPACITY BUILDING

Five doctoral students were supervised in SARChI: EE while three graduated in 2020/21. One master's student continued and is fully funded by the Chair. Two of the doctoral students completed joint degrees supervised in the Netherlands and in Scotland. Four doctoral students are also pursuing careers in academia and are therefore growing research skills and other academic skills (such as research assistance and lecturing) beyond only a doctoral qualification.

In addition, the Chair also embarked on supervision of honours and postgraduate diploma students in the Department of Business Management with topics related to entrepreneurship (eight students benefited in this regard).

Six research associates were appointed in 2021 and six visiting professors were appointed bringing the total appointed visiting professors to 11 in 2021. Two PDRFs were appointed to the Chair and all research related to the focus areas that were identified.



Prof Cecile Nieuwenhuizen

Chair: South African Research
Chair in Entrepreneurship Education
College of Business and Economics,
University of Johannesburg

Post-school entrepreneurship education is critical for growing developing economies. It creates skills and knowledge for conditions that influence entrepreneurship ecosystems.

Prof Natanya Meyer obtained a Y2-rating in 2021 and Prof Thea Tselepis obtained a C3-rating.

POLICY AND PUBLIC ENGAGEMENTS AND ACTIVITIES

A highlight on national level was a creativity workshop funded by SARCHI: EE for aspiring student-preneurs at a winter school in July. The keynote speaker on this day was Prof Marc Ventreska from Oxford University who reframed entrepreneurs as system builders.

Prof Nieuwenhuizen contributed to two Communities of Practice as part of the Entrepreneurship Development in Higher Education (EDHE): Entrepreneurship Research and the Entrepreneurial University Community of Practice (CoP).

Prof Meyer was appointed as the National Chair for the Community of Practice (CoP) for Entrepreneurship Research as part of the Entrepreneurship Development in Higher Education (EDHE) initiative and represents the Chair in this regard. Her first project was to launch a national call for research on Women Entrepreneurship and a special edition in the *Journal of Contemporary Management* will be published in this regard.

Prof Tselepis joined the CoP of Learning and Teaching of the Entrepreneurship Development in Higher Education (EDHE) initiative and took part in the yearly initiatives to represent the Chair and reported on the yearly Lekgotla on the interdisciplinary possibilities that design thinking offers entrepreneurship education.



Prof Natanya Meyer with members of EDHE at the yearly Lekgotla

RESEARCH ACTIVITIES

Research projects on inclusive entrepreneurship continued with publications on female entrepreneurship, social entrepreneurship and projects running on township entrepreneurship. Research on best practice on innovative teaching and learning on entrepreneurship education for interdisciplinary fields were continued and a textbook project was aligned accordingly. A project on entrepreneurship in the fields of science, technology, engineering and maths is part of this large endeavour under the leadership of Prof Nieuwenhuizen.

Projects that compare the entrepreneurial conditions framework on national and international level. These projects explore and correlate factors that play a role in small and medium businesses and explore and unpack eco-systems of change for the future in terms of entrepreneurship and the role of technology.



Prof Thea Tselepis at the yearly Lekgotla presenting a best practice model on Scholarship of Teaching and Learning in Entrepreneurship

SUSTAINABILITY, INNOVATION AND FOURTH INDUSTRIAL REVOLUTION (4IR)

Finally, the six visiting professors were appointed for expertise in 4IR as well as innovation in strategy, which was critical to promote an understanding of innovation in entrepreneurship from an international perspective in comparative studies. One distinguished visiting professor appointed under the GES 4.0; visiting/virtual academics was Prof Sascha Kraus. He was appointed to the UJ Catalytic Initiatives, linked to the Fourth Industrial Revolution to promote Entrepreneurship and Digital Transformation. Furthermore, projects on inclusive entrepreneurship are aligned with UN sustainability goals and involve some exciting research on frugal innovation in South Africa.

NATIONAL AND GLOBAL FOOTPRINT

On a global level, strategic networks and collaborations were established and new ones

were fostered in 2021. These include all the international collaborations with visiting professors and research associates from UK, USA, Germany, Poland, Hungary, and Nigeria. Throughout 2021, several workshops and master classes were presented abroad to share best practice relating to entrepreneurship development.

On national level, the Chair was well presented at the Entrepreneurship Development of Higher Education (EDHE) and other opportunities that were created by UJ that involved national bodies like NYDA and SEDA.

The Chair continues its work on a quest to create knowledge to promote post-school entrepreneurship in South Africa, which is informed by international practices, yet anchored in Africa!

Prof Cecile Nieuwenhuizen

Chair: South African Research Chair in Entrepreneurship Education
College of Business and Economics,
University of Johannesburg





SARChI
SOUTH AFRICAN RESEARCH
CHAIR IN INDUSTRIAL
DEVELOPMENT



DST/NRF South African Research Chair in Industrial Development

OVERVIEW

2021 was a highly productive year for the DST/NRF South African Research Chair in Industrial Development (SARChI-ID), with a range of fruitful collaborations, innovative and impactful research, and exciting new initiatives. Our activities centred around: (i) *Undertaking research* of high quality and impact, especially in the field of industrial development; (ii) *Building capacity*, through postgraduate supervision, additional training of our postgraduate students and capacity-building more widely (beyond the university); (iii) *Contributing to policy development and public engagement*, especially in the field of industrial development. We are delighted with the significant progress in all three areas during 2021.

A central focus of our activities in 2021 was the Community of Practice (CoP) in Industrialisation and Innovation, which supported extensive research collaborations driving inter-, trans- and multi-disciplinary research that contributes to a rigorous evidence basis for policy. Another major pillar of research and policy engagement has been the Industrial Development Think Tank (IDTT), which is a partnership between the Department of Trade, Industry and Competition (DTIC), SARChI-ID and the Centre for Competition, Regulation and Economic Development (CCRED), and is hosted at CCRED.

In terms of research, we have collectively published 43 peer-reviewed journal articles and 18 book chapters, as well as a number of working papers and other research outputs. Our collaborations have achieved a global footprint across African, European, South American, North American and Asian countries.

We hosted, co-hosted or partnered in several major engagement events, including: the First Young Scholars Conference on Structural Change and Industrial Policy in Africa; a Virtual Research Sprint 'Toward an African Narrative on Digital Sovereignty'; the 2021 TIPS Annual Forum themed 'Reconstruction and Recovery – Rethinking Inclusive Industrialisation in Response to COVID-19'; and the annual Rethinking Economics for Africa (REFA) Festival. This is in addition to a number of impactful seminars, webinars, colloquia, symposia, and book launches.

The Chair boasts a wide range of productive collaborations, innovative research with high impact and exciting new initiatives.



Prof Fiona Tregenna

Chair: DST/NRF South African Research Chair in Industrial Development
College of Business and Economics,
University of Johannesburg

TALENT MANAGEMENT AND CAPACITY BUILDING

During 2021, our staff complement in addition to Prof Fiona Tregenna comprised Senior Researcher, Prof Alexis Habiyaemye, Senior Manager, Dr Nicola King, Administrator, Mrs Koketso Manyane-Dlangamandla, and six research assistants. We have also affiliated one distinguished visiting professor, three visiting professors, two professors of practice, two visiting associate professors, 17 senior research associates and one research

associate. Among these are leading global scholars, and most of them also published journal articles and were engaged in SARChI-ID activities in various ways. We are delighted to have such a large and dynamic team with related research interests, making for vibrant exchange and development of ideas. We hosted in-person research visits from Dr Lorenza Monaco (Senior Research Associate) and Tobias Wuttke a visiting research student from Roskilde University in Denmark.

Prof Tregenna supervised six honours students, nine master's students, 14 doctoral students and nine postdoctoral research fellows during 2021. We were able to support our students with various additional training and development activities, both within and outside of UJ. Dr Clement Mulamba ran a Spatial Economics training course using R, and Catherine Garson ran a specialised writing workshop to develop our students' writing skills and ability to publish academically. The Industrial Development and Policy Seminar Series continued online on a weekly basis, which served a vital role in exchange of ideas and capacity building. We were thrilled that several of our students and postdocs presented their research at national and international conferences. We ran a new doctoral programme, PhD in Economics with Specialisation in Industrial Development, with a growing cohort of students.

POLICY AND PUBLIC ENGAGEMENTS AND ACTIVITIES

We hosted, co-hosted, or partnered in a number of successful public events during 2021. For example, we co-hosted a high-profile webinar on industrial policy in Africa with the United Nations Conference on Trade and Development (UNCTAD) and UCT. We co-hosted the launch of the book *Structural Transformation in South Africa: The Challenges of Inclusive Industrial Development in a Middle-Income Country*, which was addressed by the Minister of Finance and received wide media coverage. Also linked to this book, we co-hosted a symposium on 'Structural Transformation and Inclusive Industrial Development: The Relevance of South Africa's Challenges and Experience', with CCRED, on behalf of the IDTT. We also hosted book launches of the highly acclaimed book *How China Escaped Shock Therapy: The Market Reform Debate* by Isabella Weber, and *Towards a New Deal: A Political Economy of the Times of My Life* by former Minister of Trade and Industry, Rob Davies.

SARChI-ID partnered in the 'Rethinking Economics for Africa Festival: 2021' held in conjunction with the Rethinking Economics for Africa (REFA) chapters, the Institute for Economic Justice (IJE), and Friedrich Ebert Stiftung (FES). The aim of the festival was to bring together academics, students, activists, policymakers and researchers into a conversation about the present and future of economic thinking, teaching and policy in Africa, and South Africa in particular. The festival was titled 'Economics and the COVID-19 crises. We continued to partner with Trade and Industry Policy Strategies (TIPS) to co-host the TIPS Annual Forum 2021 titled 'Reconstruction and Recovery: Rethinking Inclusive Industrialisation in Response to COVID-19'. This conference saw the presentation of high-quality papers, including from some of our own students.

Prof Tregenna was deeply involved in a number of disseminations, policy engagement, service and leadership activities related to economic policy during 2021. She delivered more than 40 major public presentations, including a number of high-profile keynote addresses. These keynotes ranged from addresses at prestigious academic events, to high-profile events hosted by various United Nations and other international institutions. As a member of the Presidential Economic Advisory Council, she advised President Cyril Ramaphosa on economic policy. She served on various boards, councils and panels, including as a part-time member of the Competition Tribunal, a member of the Panel of Experts on Data Analytics, the Scientific Committee of the African Programme on Rethinking Development Economics (Aporde), and boards such as the National Institute for the Humanities and Social Sciences (NIHSS), the Human Sciences Research Council (HSRC), the Institute for Economic Justice (IEJ) and the Gauteng City-Region Observatory (GCRO). As an elected member of the Academy of Science of South Africa (ASSAf), she served on four ASSAf bodies during 2021: the Standing Committee on Science for the Reduction of Poverty and Inequality; the Steering Committee on the Just Transition; the Membership Advisory Committee for Humanities and Social Sciences; and the Peer Review Panel: Economics and Business Management. She also served on the editorial boards of various international journals and book series. She participated in closed economic colloquia and spoke at many policy events. She was also interviewed by television, radio, electronic and print media during 2021.

RESEARCH ACTIVITIES

Researchers at SARCHI Industrial Development produced many outputs during 2021, including from our postdocs and international research associates. Our team collectively published 43 journal articles and 18 book chapters. We also produced a research report for the Department of Science and Innovation (DSI), titled *Innovation and socio-economic development challenges in South Africa: An overview of indicators and trends*.

2021 saw the launch of our Working Paper series and Policy Brief series intended to disseminate research and to stimulate rigorous policy debate and identify collaborative policy-orientated solutions through new knowledge. Twelve working papers and four policy briefs were published during 2021.

2021 also saw the publication of two major volumes co-edited by Prof Tregenna and published by Oxford University Press: *The Oxford Handbook of the South African Economy* (co-edited by Oqubay, Tregenna and Valodia), and *Structural Transformation in South Africa: The Challenges of Inclusive Industrial Development in a Middle-Income Country* (co-edited by Andreoni, Mondliwa, Roberts and Tregenna).



Prof Arkebe Oqubay
Professor of Practice

SUSTAINABILITY, INNOVATION AND FOURTH INDUSTRIAL REVOLUTION (4IR)

Many of our activities – in research, capacity building, and public and policy engagement – are centred around these themes of sustainability, innovation and the 4IR. We approach issues of sustainability largely in relation to green industrialisation and green industrial policy: what feasible development pathways can meet the dual objectives of industrialisation and environmental sustainability? Innovation and the 4IR were animating themes of a number of activities during

2021, including primary surveys, research papers, the digital research sprint, and various public events. Many of these initiatives engage with the relationships between innovation, technological upgrading and industrial development; and with the patterns, possibilities, and prospects of 4IR technologies for industrialisation, growth and development.

Our NRF-funded project, the Community of Practice in Industrialisation and Innovation, explored how innovation contributes to industrialisation, inclusive growth and development in South Africa, Africa and developing countries more widely. CoP research was organised around seven research themes:

- Sub-sectoral dimensions of industrialisation and deindustrialisation internationally.
- The effects of the 4IR on South African manufacturing firms, and firm-level and policy responses.
- Innovation and performance of small and micro manufacturing firms.
- Learning, capabilities and industrialisation.
- Climate change, industrial development, a just transition and green industrial policy.
- Developmental outcomes of innovation, industrialisation and structural change.
- Urban and spatial aspects of innovation and industrialisation.

We worked on three primary surveys during 2021, producing valuable new data as a basis for research and policy. Firstly, a survey on digitalisation in South African manufacturing firms, which was completed in partnership with the IDTT, with research papers using the data currently in progress. Secondly, we undertook preparatory work towards the second wave of our survey on innovation among micro and small manufacturing enterprises in Johannesburg, for which we will be going into the field in early 2022. Thirdly, we continued with our ‘deep dive’ research in the adoption and impact of 4IR technologies among firms in selected sectors of the South African economy. While these three surveys utilise different methodologies and levels of analysis, they all shed light on related issues of innovation, 4IR technologies, upgrading, and performance among South African firms.

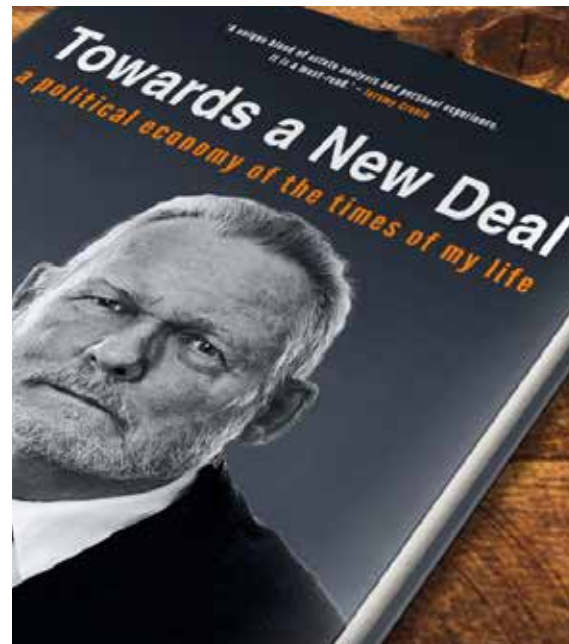
With our visiting professor Padmashree Gehl Sampath, we ran an exciting *Research Sprint on Digital Sovereignty in Africa*, in collaboration with the Alexander von Humboldt Institute for Internet and Society, with funding from the Mercator Foundation. The Research Sprint is hosted within the framework of the Ethics of Digitalisation project run by the Alexander von Humboldt

Institute for Internet and Society, the Leibniz Institute for Media Research | Hans-Bredow-Institut, the Berkman Klein Center for Internet and Society at Harvard University, and the Global Network of Internet and Society Research Centers. From a large number of impressive applications, we selected 25 fellows who participated in the sprint, a vibrant mix of academics and practitioners from 14 African countries, across a wide range of disciplines and focus areas. The project advanced dialogue and action at the intersection of science, politics, digital economy, and civil society broadly.

NATIONAL AND GLOBAL FOOTPRINT

Our national and global footprints have expanded significantly during 2021, through various new initiatives. Many of the research, engagement and capacity building activities mentioned above also contributed to our and UJ's national and international footprint.

In addition to these, in collaboration with the Young Scholars Initiative, we were the lead organiser of the 'First Young Scholars Conference on Structural Change and Industrial Policy in Africa'. This event was held over two days, with twelve sessions running in parallel, and saw 39 young scholars from around the continent and



beyond presenting their research. Twelve leading international scholars served as discussants and provided feedback in each session. The conference opened with a keynote address from Prof Arkebe Oqubay and closed with a panel discussion between Prof Carlos Lopes (UCT), Dr Karima Bounemra Ben Soltane (UN-IDEP) and Prof Léonce Ndikumana (UMass Amherst).

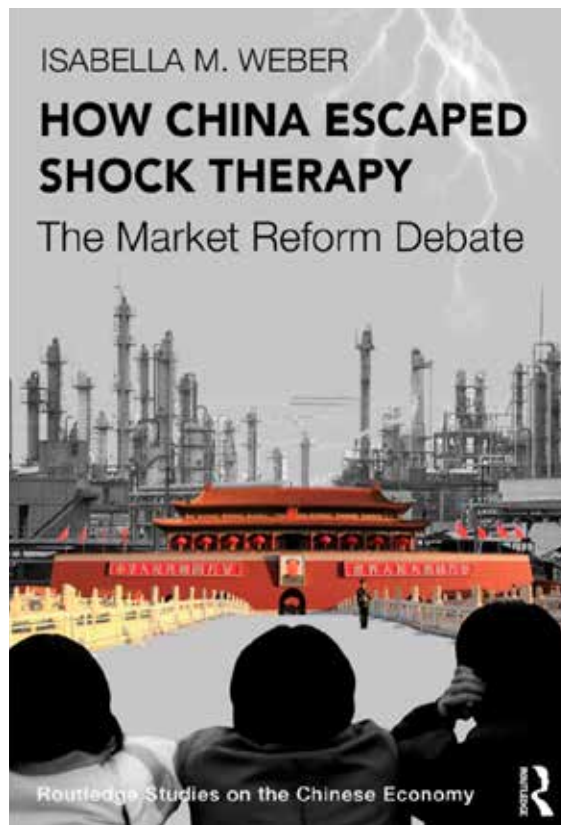
We were part of launching the 'African Industrial Policy in the 21st Century' (AIP21) network, which held two events during 2021. This network brings together leading academics and policy experts to discuss new directions for industrial development and policy in Africa.

We also hosted the Thandika Mkandawire Prize for Outstanding Scholarship in African Political Economy and Economic Development, and the Prize for Young Scholars. The prizes are to be awarded annually to recognise outstanding research papers by African scholars and we look forward to the 2022 submissions.

Building on the successes of 2021, we are excited about prospects for 2022. Strengthening and expanding our collaborations and innovative activities towards impactful research, policy influence, stimulating public debates, building networks and collaborations, and building strong capacity both at UJ and beyond.

Prof Fiona Tregenna

Chair: DST/NRF South African Research Chair in Industrial Development
College of Business and Economics,
University of Johannesburg





SARChI
SOUTH AFRICAN
RESEARCH CHAIR IN
TRANSFORMATIVE
INNOVATION, 4 IR
AND SUSTAINABLE
DEVELOPMENT



DST/NRF/Newton Fund Trilateral Research Chair in Transformative Innovation, the Fourth Industrial Revolution (4IR) and Sustainable Development

OVERVIEW

2021 has been another turbulent year, confirming the importance of reorienting our systems towards low-carbon and social inclusion. The work of the Trilateral Chair has become more relevant than ever before. The Chair embraces its academic responsibility to respond to societal challenges. We are uniquely positioned to provide valuable knowledge to inform the evolving realities of a world in crisis. Several of our members have contributed to the COVID-19 recovery debates by participating in public events, developing research outputs (including the production of an edited volume dedicated to this theme), and directly advising policy processes. Within our team, a year of disruption has become a year of partnerships and growth for our community. We have continued to focus on building the capacity of our students and early career scholars. We have also gained visibility on social media platforms. The Chair has served as a space for active intellectual and policy engagement, with new virtual platforms for our members to interact and learn from each other while remaining connected to current affairs.

TALENT MANAGEMENT AND CAPACITY BUILDING

TALENT MANAGEMENT

2021 saw new members joining the Chair's core team as well as new students, postgraduate fellows and visiting scholars. The Chair's partners at UJ, the African Centre for Technology Studies (Kenya) and the Science and Policy Research Unit, University of Sussex, (UK), developed multiple joint training activities throughout the year, strengthening their collaboration and deepening their partnership.

The work of the Trilateral Chair has become more relevant than ever before and embraces its academic responsibility to respond to societal challenges.



Prof Erika Kraemer-Mbula

Chair: DST/NRF/Newton Fund Trilateral
Research Chair in Transformative Innovation,
the Fourth Industrial Revolution (4IR) and
Sustainable Development
College of Business and Economics,
University of Johannesburg



Prof Keun Lee



Dr Maty Konte



Prof Rasmus Lema



Prof Edward Lorenz

The Chair expanded its core team in 2021, by appointing three new members at UJ: Lerato Mofokeng (Senior Administrator), Nabila Noor-Mahomed (Projects Coordinator), and Professor Rebecca Hanlin (Senior Researcher).



Prof Rebecca Hanlin

Prof Rebecca Hanlin has over 20 years of experience working and researching in Africa, especially Kenya and Tanzania. Her work sits at the intersection of innovation and sustainable development. Research interests include inclusive innovation and the development of technological capabilities in Africa, strengthening scientific research capacity, and applying innovation systems concepts in emerging economies. Prof Hanlin has worked in health innovation and, more recently, renewable energies (solar, wind and biogas). She has been a key driver of AfricaLics (African Network for Economics of Learning, Innovation, and Competence Building Systems), the largest network in the continent supporting African scholars, especially early career researchers, to produce research in the field of innovation studies that is at the global frontier and is relevant to resolving developmental challenges of African communities.

In 2021, the Chair welcomed three new doctoral students, Busisiwe Ntuli, Yaw Adu-Gyamfi and Tebogo Ramaoka, and one postdoctoral research fellow, Dr Marc Guei. This raised our doctoral student population to 12 at UJ, and 15 in total

across the three partner institutions. The Chair has a vibrant network of 17 visiting scholars (including visiting professors, professors of practice and research associates) – please see our website for a full list of members. In 2021, we appointed four prestigious visiting scholars under the Global Stature and Excellence track dedicated to the Fourth Industrial Revolution (GES 4.0) at UJ: Distinguished Visiting Professor Edward Lorenz, Visiting Professor Keun Lee, Visiting Professor Rasmus Lema, as well as Senior Research Associate Dr Maty Konte. These scholars play a leading role in supporting the Chair’s research outputs and capacity building on the Fourth Industrial Revolution.

We also appointed Visiting Associate Professor Rob Byrne, Visiting Associate Professor Lucy Baker, Professor of Practice Shawn Cunningham, and Senior Research Associate Dr Bertha Vallejo. Ms Robyn Williams and Dr Larry Onyango have become active researchers in several of our projects.

CAPACITY BUILDING

The Chair aims to increase its postgraduate cohort and advance its contribution to the field. In 2021, it opened two new postgraduate programmes offered at UJ:

- MPhil with specialisation in Innovation and Development
- DPhil with Specialisation in Innovation and Development

These new interdisciplinary programmes are currently open for admissions. They are the first of their kind to be offered at any South African higher education institution (and the DPhil is the first of its kind in sub-Saharan Africa) and is set to deliver cutting-edge research that will inform innovation policy and the scholarly field of innovation and development. The programme will train the next generation of scholars, practitioners, and policymakers to further study and promote innovation relevant to their communities.

In 2021, we collaborated with AfricaLics in providing training for our doctoral students. We developed a programme that extended the 7th AfricaLics PhD Academy with contributions by scholars from the Chair. These sessions were designed to ensure Academy participants engage interactively with the different theoretical frameworks and thematic areas promoted by the Chair's research programme. The Chair's visiting scholars also provided important methods training to the participants; filling a gap that is lacking at most of their home universities. This was the first of what we expect to become a regular engagement in AfricaLics activities, broadening our reach and knowledge of the Chair and so cultivating the pipeline of students for the Chair.

The Trilateral Chair partnered with the IDEA League (an alliance among five leading European universities of technology), and five African universities, including UJ, in designing and delivering the Water, Energy, Food and Environment (WEFE) Nexus Autumn School. The School offered students the possibility of gaining a comprehensive understanding of the interconnections between water, energy, food, and the environment, and developing new ideas for sustainable solutions. It took place online over 10 days and through 28 sessions, in October 2021. Three doctoral students of the Chair participated in the School, and a module was delivered by Prof Kraemer-Mbula.

PhD student Wondia Mireille Yeo had this to say about the experience: "The WEFE Nexus School was enriching, and I enjoyed discovering assessment and management tools and learning about practical case studies".

The Trilateral Chair has developed multiple platforms for students and PDRFs to engage among themselves as well as with senior scholars. These platforms have been essential for the Chair's members to share ideas, as well as for mentorship and capacity building.

- The Brown Bag sessions launched in April 2021; they are informal lunchtime presentations to present work in progress, ongoing research projects, project proposals and article ideas.
- The Conversation with Authors series, started in 2020, has been a valuable platform for critical engagement. We invite inspiring authors and emerging scholars to present their own original research papers.
- The Reading Club is a student-led initiative. In the sessions, students discuss theory and methods, providing a forum for learning, networking and sharing.

Several of our students and early career researchers attended a Postgraduate Writing Retreat on 2-6 August 2021. The retreat went through the multiple steps and themes of writing a dissertation and journal articles. Each session zoomed in on a particular theme, such as the research proposal, research design and methodology, thesis writing, and publishing and presentations. The retreat was attended by two PhD students and two PDRFs. Doctoral students Gaboile Mabeba and Tebogo Ramaoka completed a three-month online Research Methodology Course delivered by UJ's College of Business and Economics.

POLICY AND PUBLIC ENGAGEMENT AND ACTIVITIES

In line with our commitment to the 'usability' or the 'societal value' of research, one of the Chair's goals is to conduct research that is policy-relevant. Some examples of projects that have had a policy impact include:

- **The development of a Sector Development Plan for the micro-digester industry in South Africa.**

The South African National Energy Development Institute (SANEDI) commissioned a study to review the state of the micro-digester industry in South Africa as part of its Working for Energy Programme, which has an objective "to provide sustainable clean energy solutions to rural and low-income urban communities with special emphasis on job creation, skills development, and community enterprise development". The Trilateral Chair collaborated with UJ Process Energy and Environmental Technology Station (UJ-PEETS) to provide a series of inputs to assist them in conducting the feasibility report and the development of a sector development plan for these micro-digesters. The Trilateral Chair has coordinated a series of online discussions in October and November 2021 in the form of action dialogues, engaging government, academia, SMMEs, industry partners, and community stakeholders to provide input and channel the next steps for the sector. The Sector Development Plan for the micro-digester sector in South Africa will be completed in early 2022. The Chair has been requested to take the lead in writing the plan.

- **Building a Community of Practice in Transformative Innovation Policy (TIP)**

Transformative Innovation Policy (TIP) proposes a new approach to support innovation that

addresses societal and environmental challenges. Since South Africa became a founding member of the Transformative Innovation Policy Consortium (TIPC) in 2017, a Community of Practice has been growing. The Trilateral Chair, the Department of Science and Innovation (DSI), the Centre for Science, Technology, and Innovation Indicators (CeSTII/HSRC), and the Transformative Innovation Policy Consortium (TIPC) have been collaborating in a 'policy experimentation lab' to support the design of policy projects oriented to 'transformative change'. Policy experiments have been initiated in areas such as water and sanitation, renewable energy, entrepreneurship, human settlements, and pre-school education.

As part of this work, we collaborated to convene a colloquium on 13-15 October 2021, themed 'Transformative Innovation Policy: Perspectives from South Africa'. The colloquium aimed to broaden and deepen the community of practice in the South African context and identify a common language for using and implementing the Transformative Innovation Policy. Moving forward, TIP SA will continue to work on broadening and deepening the national conversations around Transformative Innovation Policy. A concrete output from this activity has been the commissioning of a further phase of TIP work in South Africa, supported by the DSI.

- **UNESCO/SADC Science, technology and Innovation Policy Training Programme for High-Level STI Officials**

The training programme was delivered through the UNESCO Chair on African Integration and Innovation, at the Tshwane University of Technology, Pretoria, South Africa, in collaboration with SADC and UNESCO. Prof Kraemer-Mbula delivered modules on STI and Inclusive Development and the Fourth Industrial Revolution (October-November 2021). This training contributes to enhancing the knowledge of successive cohorts of parliamentarians and high-level officials across the African continent in the nature and policy implications of the systems of innovation approach to development.

- **"On the Pulse" Twitter Livestream**

In November 2021, the Chair launched a new series "On the Pulse" on Twitter Spaces. These are short audio sessions that target a wider audience to discuss current affairs related to innovation and development. The sessions have engaged with topics such as 'The South African Municipal Elections mean for Science, Technology and Innovation Policy'; and 'Unpacking South Africa's energy crisis and Eskom'. These sessions provide an alternative means for public engagement and contributing to current affairs and debates.

RESEARCH ACTIVITIES IN SUSTAINABILITY, INNOVATION AND THE FOURTH INDUSTRIAL REVOLUTION (4IR)

The Chair's entire programme is designed at the intersection of these three areas: innovation, 4IR and sustainability. As such, all our activities contribute to generating knowledge and building capabilities in this nexus. Some of our research activities speak more directly to the Fourth Industrial Revolution and the SDGs, which are outlined below:

- Firm-level survey on frontier technology adoption in South Africa. There is a lack of information on the patterns of adoption and use of frontier technologies in productive sectors in South Africa. The Chair is collaborating with the United Nations Conference on Trade and Development (UNCTAD) in a project named Frontier Technology Adoption, conducting a survey to capture firms' deployment and the use of new technologies across three countries (South Africa, Tunisia and Ghana). The survey explores what sectors and firms are adopting frontier technologies, which parts of different value chains and how extensively they are diffused in the economy. The results will inform innovation and technology policies aiming to promote the use, adoption and adaptation of frontier technologies in South Africa. This survey is expected to lead to at least eight submitted publications in 2022. This work will feed into ongoing discussions in UNCTAD on the impact of frontier – including 4IR – technologies on international and regional trade.
- During 2020, the Trilateral Chair collaborated with the Mapungubwe Institute for Strategic Reflection (MISTRA) to produce an edited volume that was published in January 2021, called *Leap 4.0: African Perspectives on the Fourth Industrial Revolution*, co-edited by Zamanzima Mazibuko-Makena and Prof Kraemer-Mbula as a collaborative effort with MISTRA. The book seeks to identify the challenges and opportunities the 4IR presents to South Africa and the rest of the African continent, especially to workers and marginalised sectors of society. It has been debated in policy fora such as the Science Forum South Africa in December 2021. The book has been reviewed in the South African Journal of International Affairs and was the subject of a seminar at the AfricaLics network which garnered over 30 participants from across the continent.
- Innovation in the informal economy. The Trilateral Chair collaborates with the United Nations Development Programme (UNDP)



Ms Lerato Mofokeng



Ms Nabila Noor-Mahomed



Wondia Mireille Yeo

in its global efforts to support innovation in the informal economy. In addition, the Chair continues to lead the thematic area Informal Sector Innovation under the Open African Innovation Research (Open AIR) network, which has produced a range of new research outputs. We have been fortunate to host five Queen Elizabeth Scholars (QES) contributing to this area of work with a specific focus on SDG5 (Gender Equality). As a result of this work, our QES scholars produced five publications in 2021.

- Survey on “An Alternative Approach for Measuring Innovation”. The Trilateral Chair is collaborating with the Access to Knowledge for Development Center (A2K4D) at the School of Business at the American University in Cairo and the University of Strathmore in Kenya, to conduct parallel surveys in Egypt Kenya and South Africa, focusing on innovation practices of small and medium enterprises. This work is done with the support of the Open African Innovation Research (Open AIR) network. The survey will lead to around five publications in 2022.

NATIONAL AND GLOBAL FOOTPRINT

The Trilateral Chair is an international partnership, and we rely on our national and global networks to become a leading research unit on innovation and development in Africa. In 2021, the Chair collectively produced a total of 43 publications, including books, journal articles and book chapters.

We developed formal agreements with the Human Sciences Research Council (SA), the British government’s Foreign, Commonwealth and Development Office, Utrecht University (the Netherlands), Strathmore University (Kenya), University of Cape Town (SA), the American University of Cairo (Egypt), among others.

Prof Kraemer-Mbula was elected President of Global Network for Economics of Learning,

Innovation, and Competence Building Systems (Globelics) and Prof Lema was elected Vice-President. In addition, Prof Kraemer-Mbula was appointed member of the International Advisory Group for the Future Research Assessment Programme, by UKRI.

The Chair has also been involved in several international projects such as:

- The Evaluation of the Newton Fund – in collaboration with Technopolis Ltd (UK).
- Political Economy Analysis of Africa’s Sciences Granting Councils – in collaboration with the University College London, and the University of Rwanda.

In September 2021, the Chair was awarded a project under the Innovation for African Universities (IAU) programme, which will run until September 2022. This programme follows a new model bringing together universities in the United Kingdom (UK) and Sub-Saharan Africa (SSA) to engage, interact and learn from one another with the aim of developing mutually beneficial partnerships that strengthen the capacity and capability of higher education systems in both locations. The project is entitled ‘Transforming Climate Innovation Ecosystems through Inclusive Transdisciplinarity (TransCIIT)’. The three Trilateral Chair partners (UJ, ACTS and the University of Sussex) started implementing the project in 2021, in collaboration with the Jaramogi Oginga Odinga University of Science and Technology (JOOUST) and the Kenya Climate Innovation Center.

Prof Erika Kraemer-Mbula

Chair: DST/NRF/Newton Fund Trilateral Research Chair in Transformative Innovation, the Fourth Industrial Revolution (4IR) and Sustainable Development College of Business and Economics, University of Johannesburg



CCRED
**CENTRE FOR COMPETITION,
REGULATION AND
ECONOMIC DEVELOPMENT**



Centre of Competition and Economic Development (CCRED)

OVERVIEW

The Centre for Competition, Regulation and Economic Development (CCRED) at the University of Johannesburg works to build a knowledge base through rigorous research on key issues of competition, regulation and the conduct of large firms, as it relates to regional development in Southern and East Africa. CCRED applies this knowledge to provide expert advice, training and capacity building for competition authorities, economic regulators and governments.

Key highlights for the year under review include the publication and launch of the edited volume on *Structural Transformation in South Africa: The Challenges of Inclusive Industrial Development in a Middle-Income Country*; hosting of the 6th edition of the African Competition and Economic Regulation (ACER) Week; and participation in various international and local conferences, symposia and seminars geared towards informing policy debates. This is in addition to continuing a strong publication record based on ongoing research programmes. This report draws attention to some of the achievements for the period under review.

TALENT MANAGEMENT AND CAPACITY BUILDING

CCRED places a premium on personal and professional development of its staff and attracting the best available talent to align with the vision of research excellence and impact. In 2021, CCRED welcomed 4 master's and doctoral level researchers to the organisation, which brings the total of highly skilled scholars directly working on research projects at the Centre to 13. The model that underpins the talent management and capacity building approach comprises three elements.

Firstly, CCRED has a rigorous recruitment process that ensures its talent acquisition procedure delivers high calibre candidates who share the core values of the centre and the university, have the foundational competencies to excel over time, and can contribute effectively to a dynamic and challenging research environment. An important

CCRED applies knowledge to provide expert advice, training and capacity building for competition authorities, economic regulators and governments.



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College of Business and Economics,
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part of the talent pipeline is CCRED's graduate trainee programme targeted at those who have undertaken or have recently completed a master's degree to gain practical research experience. The programme has been very successful in that a number of trainees have subsequently been appointed as associate researchers.

Secondly, staff promotion is an integral part of the talent management process in CCRED, and this year saw members of the team promoted to the positions of associate professor, assistant lecturer and researcher.

Finally, CCRED has an established PhD Fellowship programme geared towards growing young research talent. This is in acknowledgement of the need to build senior research capacity and skills, especially in increasing the number of people completing doctorates. CCRED currently has one PhD candidates on the programme.

POLICY AND PUBLIC ENGAGEMENTS AND ACTIVITIES

CCRED views its policy and public engagement activities as a key plank in its capacity building strategy. The main activities included the hosting of the flagship African Competition and Economic Regulation (ACER) week, delivering the fourth year of the MCom in Competition and Economic Regulation, the launch of the book on Structural Transformation in South Africa, and participation in several policy outreach events.

CCRED partnered with the Competition Authority of Kenya (CAK) to host the 6th Annual Competition and Economic Regulation Week (ACER), which was hosted fully online for the first time, from 20-29 September 2021. The ACER Week combined three online Professional Training Programmes (PTPs), including Competition Economics and Policy, Legal Principles in Competition and Consumer Protection, and Advanced Masterclasses on Competition. The 6th ACER Week attracted over 130 practitioners and 12 competition authorities across South, East and Central Africa.

The MCom in Competition and Economic Regulation is in its fourth year and continues to attract attention from various academic institutions across the country and other African countries in the region. In 2021, the programme had 17 candidates from countries such as Zimbabwe, Malawi, Zambia, Namibia, Eswatini, Mauritius and South Africa.

The *Structural Transformation in South Africa: The Challenges of Inclusive Industrial Development in a Middle-Income Country* edited volume published by Oxford University Press was launched on 21 September 2021. Minister Godongwana gave the keynote address on the 'Policy Challenges of Economic Transformation' with various media outlets present. This was followed by a panel discussion on the key insights from the book. The panel included Richard Kozul-Wright (UNCTAD), Trudi Makhaya (Presidency) and Fiona Tregenna (SARChI-ID, UJ).

CCRED staff participated in policy-oriented outreach events, including as participants, presenters, panellists, and facilitators. Highlights include staff presenting papers at the Innovation and Inclusive Industrialization in Agro-processing (IIAP) Conference; International Initiative for Promoting Political Economy (IIPPE) Conference; Symposium on Structural Transformation and Inclusive Industrial Development: The Relevance of South Africa's Challenges and Experience; and Competition Commission's 15th Annual Competition, Economics and Policy Conference. Staff were panellists at the African Trade Policy Centre (ATPC) of the United Nations Economic Commission for Africa (ECA) and Business Unity South Africa (BUSA) conference on Leveraging the AfCFTA to Boost Women's Economic Empowerment (Panel on Competition Policy and the gender dimension); panellist (and chapter contributor) for the book launch, *Handbook on Urban Food Security in the Global South*, hosted by the Balsillie School of International Affairs (Centre for International Governance Innovation, the University of Waterloo, and Wilfrid Laurier University, Canada). A staff member facilitated the session by the South African Reserve Bank presenting on the Monetary Policy Review and Career Opportunities to School of Economics students at UJ.

RESEARCH ACTIVITIES, SUSTAINABILITY, INNOVATION AND FOURTH INDUSTRIAL REVOLUTION (4IR)

In line with CCRED's strategic objective of being a locus of knowledge on competition, regulation and industrial development, several research programmes are under way, in broad themes encompassing industrial policy and structural transformation, competition and barriers to entry, and regional value chains.

CCRED's flagship research programme, the Industrial Development Think Tank (IDTT), was established in 2017 as a collaboration between the Department of Trade, Industry and Competition (the DTIC) and the University of Johannesburg represented by CCRED and DSI/NRF South African Research Chair in Industrial Development (SARCH-ID). This research programme focuses on structural transformation and industrial development in the South African economy and 2021/22 year marked the fifth cycle of work. One of the core themes related to the 4IR in this year's research programme has been a study on determinants of digital technology adoption in South African manufacturing, including the links to digital skills development needs. This work also features a comparative analysis of the implications for digital skills with Brazil, Argentina, and Uruguay. CCRED also produced work on rethinking the role of competition laws linked to a coherent industrial policy during this period.

In keeping with the theme on industrial policy and structural transformation, CCRED also provided research inputs in support of the DTIC's development of the Agriculture and Agro-processing Masterplan (AAMP), including on questions pertaining to industrial financing, supermarket and supplier development programmes, exports, and benchmarking. CCRED completed work on a comparative study of South Africa and Tanzania on innovation and inclusive industrialisation and agro-processing through a research collaboration funded with the University of Edinburgh in Scotland as part of the Global Challenges Research Fund (GCRF) – Inclusive Societies Initiative funded by the Economic and Social Research Council.

On the competition front, CCRED is part of a research collaboration between the University of the Witwatersrand's Institute for Social and Economic Research (WISER) as part of the Omidyar-funded research project around competition policies in Africa. CCRED also conducted a study focused on measuring the impact of competition policy enforcement in Southern and East Africa. The key parameters for the study included price and non-price effects, SME participation, regional spread and rivalry entry, market access as well as investment and employment. CCRED has continued to develop the African Market Observatory as an initiative to understand how markets are working for small-scale food producers and consumers, within and across national borders, by collating and analysing up-to-date pricing data. Competition

authorities, especially regional institutions, are key partners in this initiative.

From a value chains perspective, CCRED collaborated with Oxfam South Africa in a study funded by the Netherlands Ministry of Foreign Affairs aimed at enhancing the participation and empowerment of women in value chains, drawing on the Centre's strategic competence in agricultural value chains.

NATIONAL AND GLOBAL FOOTPRINT

CCRED has established an international and local standing in its key fields of expertise. Productive partnerships with international and local partners aimed at broadening its research linkages, the reach of its work, and the international profile of its publications continues to be a strong focus. In 2021, CCRED has continued to pursue international and local research and teaching partnerships with various institutions as the basis for long-term partnerships, including with the following organisations:

NATIONAL FOOTPRINT

- Department of Trade, Industry and Competition (DTIC), South Africa.
- Nelson Mandela School of Politics and Governance, (UCT).
- Oxfam South Africa.
- Wits University Southern Centre for Inequality Studies (SCIS).

INTERNATIONAL FOOTPRINT

- The Common Market for Eastern and Southern Africa (COMESA).
- Copenhagen Business School (CBS) Denmark.
- Centre for Competition Policy (CCP), University of East Anglia, United Kingdom.
- United Nations University Institute for Development Economics Research (UNU – WIDER).

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PEERC
PUBLIC AND
ENVIRONMENTAL ECONOMICS
RESEARCH CENTRE



Public and Environmental Economic Research Centre (PEERC)

OVERVIEW

The Public and Environmental Economics Research Centre (PEERC) was established in 2016 to play a role in filling a potential gap in the current economic discourse by aligning the fields of public economics and environmental economics. Environmental issues are currently at the forefront of the policy discourse, as the world battles with issues of global warming and climate change. Most of the remedies to environmental issues and externalities are public policy instruments, such as tax policy and regulation. As such, PEERC attempts to mobilise the key skills and resources in both fields towards identifying and remedying environmental issues through public policy. While this is the primary premise of the research centre, PEERC endeavours to be at the forefront of both the public economics and environmental economics fields. PEERC is currently governed by a board of directors, with Dr Sydney Mufamadi as its chairperson. The daily operations at the Research Centre are overseen by its Director, Mr Jugal Mahabir.



Jugal Mahabir

Director: Public and Environmental Economic Research Centre (PEERC), School of Economics
College of Business and Economics (CBE),
University of Johannesburg

TALENT MANAGEMENT AND CAPACITY BUILDING

GRADUATES

PEERC's core staff and research associates are actively supervising honours, master's, and doctoral students in the fields of public and environmental economics towards developing the next generation of researchers and policy makers in these fields. Since inception, PEERC has graduated three doctoral students, five master's students and several honours students.

PEERC was selected to participate in the Graduate Placement Employment Programme run by the Water Research Commission (WRC). The aim of the programme is to equip young graduates with the skills and knowledge needed for the workplace. Senior researchers at PEERC were chosen to provide mentorship to graduates, while they are given the opportunity to work on various research projects.

SCHOLARSHIPS

Owing to an increase in funding, PEERC made three scholarships available for three master's students. These three students are completing their qualifications via externally funded projects, with their dissertations linked to the outcomes of these projects. Using this approach, the students' research directly fits into current public policy issues and students engage with key policy makers and external researchers in the South African policy environment.

RESEARCH ASSOCIATES

The Centre strives to attract internationally recognised researchers. Currently, some of the Centre's research associates include researchers from the University of Gothenburg in Sweden and the University of Edinburgh in Scotland.

POLICY AND PUBLIC ENGAGEMENTS AND ACTIVITIES

PEERC continues to engage directly in policy discourse. Over the past year, PEERC's Director, Mr Jugal Mahabir, was a special panellist at the 2020 Budget Forum, chaired by the Minister of Finance. The Centre also played a role in the Department of Water and Sanitation's revision of the pricing strategy for water use charges. This included engaging and providing advice in several meetings and workshops, as well as undertaking research on a section of the revised strategy.

RESEARCH ACTIVITIES

PROJECTS/GRANTS

Water Research Commission

PEERC is currently involved in three projects for the Water Research Commission (WRC). These are:

- Further evidence on the debate to shake off the South African water pricing system.
- Revision of the pricing strategy for water use charges – Classification of social and commercial infrastructure.
- An analysis of the economic efficiency of municipal short-term responses to water supply crises in South Africa.

SOUTH AFRICAN CITIES NETWORK

PEERC forms part of the South African Cities Network's panel of researchers. The researchers and associates at PEERC will work closely with the SACN on future projects

EUROPEAN UNION

PEERC was one of the five co-applicants who were involved in the "Putting People in Peoples Parliament" initiative. The project contributes to building a more capable and accountable state through leveraging mechanisms for direct political participation of the public to increase the capacity and performance of legislatures to fulfil their constitutional mandates to oversee executive performance, develop law and respond to the public.

The aim of the programme is to equip young graduates with the skills and knowledge needed for the workplace.

SOUTH AFRICAN MARITIME SAFETY AUTHORITY

PEERC completed a project for the South African Maritime Safety Authority (SAMSA) looking at the impact of the international maritime organisation's 0,5% global sulphur limit on South African trade and the economy.

SUSTAINABILITY, INNOVATION AND FOURTH INDUSTRIAL REVOLUTION (4IR)

The research centre is currently engaged in new and innovative research looking at the possibility of introducing dynamic pricing into the South African water pricing system. This entails examining the possibility for water tariffs charged by municipalities to adjust to changes in the supply of water, i.e. current water supply in reservoirs. In implementing such a system, the use of new and innovative technologies becomes key in monitoring water levels in reservoirs and monitoring household water usage for pricing purposes.

NATIONAL AND GLOBAL FOOTPRINT

PEERC has published in national and international academic journals during the 2021 academic year.

COLLABORATIONS/PARTNERSHIPS

PEERC researchers and associates worked on building numerous partnerships with national and international organisations. These include:

- African Association of Environmental Economics
- South African Local Government Association
- University of Dar es Salaam, Tanzania
- University of Washington, United States of America
- University of Gothenberg, Sweden
- Makerere University, Uganda

Jugal Mahabir

Director: Public and Environmental Economic Research Centre (PEERC),
School of Economics
College of Business and Economics (CBE),
University of Johannesburg



CENLED
CENTRE FOR LOCAL
ECONOMIC DEVELOPMENT



Centre for Local and Economic Development (CENLED)

OVERVIEW

CENLED was established in 2008, primarily for capacity building in the local economic development sphere.

In accordance with the vision, mission, core values, principles of corporate governance, and the legal and management framework of the University, CENLED:

- Provides leadership and excellence in local economic and human settlement development and entrepreneurship.
- Promotes the placement of qualified people in the field of local economic and human settlement development.
- Promotes local economic and human settlement development as distinct, recognised, and self-governing professions.
- Promotes entrepreneurship through formal qualifications, short learning programmes and other interventions at post-school educational institutions and other organisations.
- Builds partnerships with communities.
- Contributes to South Africa's and Africa's economic wellbeing.

CENLED is the driving force in establishing a career path for local economic development (LED) professionals and the professional body for economic development practitioners, the Economic Development Council of South Africa (EDCSA), which was established with the support of the Department of Trade and Industry (the DTI). CENLED has partnered with the International Economic Development Council (IEDC), which supports the professionalisation of economic development practitioners, and the IEDC recognises the EDCSA professional designation of certified economic developers.

CENLED incorporates the PASCAL International Observatory (Africa). The PASCAL International Observatory is a global network of practitioners and researchers from higher education, regional government, the private sector and non-governmental organisations, which fosters collaboration and innovation in regional development – economic, workforce, social and cultural. The PASCAL network actively integrates policy, practice and research to strengthen communities and promote prosperity. PASCAL associates consult on regional development,



Dr Marius Venter

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CENLED is the driving force in establishing a career path for local economic development (LED) professionals.

operate a web-based knowledge exchange forum, host international conferences, conduct original research, and publish materials on innovative regional development practices from around the world.

PASCAL originated following a conference organised by the Organization for Cooperation and Development (OECD), which examined the role of learning cities in regional development. Learning cities/regions arise when individuals and organisations intentionally coordinate learning with economic and community development. The PASCAL network connects researchers and practitioners across four sectors: higher education, regional government, the private (for-profit) sector and non-governmental (not-for-profit) sector.

PASCAL serves as a pipeline that produces public benefits, with at least three inputs at the front end: human talent, physical resources, and knowledge-sharing systems. By coordinating these inputs, the conditions for productivity and innovation are created. At the other end, PASCAL looks for outcomes and impacts that are beneficial for all within the region. PASCAL wants to increase the range of contributors as well as the number of beneficiaries. If communities are thinking in terms of regional development, they have a great opportunity to learn from similarly engaged regions around the world and from a variety of existing networks that can aid in those efforts.

POLICY AND PUBLIC ENGAGEMENTS AND ACTIVITIES

SOL PLAATJE LED STRATEGY REVIEW.

- During January 2020, a contract to the value of R1 million was concluded to review their LED strategy. The review process was concluded in February 2021 and a draft LED strategy was presented to the Director: LED for Council approval.

LIMPOPO DEPARTMENT OF ECONOMIC DEVELOPMENT AND TOURISM.

- A contract to the value of R800 000 was secured to capacitate 160 municipal officials and councillors in four LED short learning programmes. In total, 108 certificates were issued to successful candidates.

ONLINE HIGHER CERTIFICATE IN LED

- The online Higher Certificate in LED was piloted in 2020 and 2021 with 47 students. 22 successfully completed the qualification.
- An international virtual webinar on LED was organised and hosted in partnership with the School of Public Management, Governance and Public Policy. Themes included the formal and informal sector, the role of LED in inclusive growth development, the coordination, planning and role players in LED, an enabling environment, and best practice principles for success. The webinar was well attended by national and international scholars.

ACHIEVEMENTS

CENLED's director achieved certification as "Professional Municipal Manager", awarded by the Institute of Local Government Management; was appointed to the Board of Advisors of the Economic Innovation Institute for Africa (EIIA); was elected as a council member of the Economic Society of South Africa (ESSA); served as an official member of the Community of Practice for Entrepreneurial Universities and lastly was appointed as a senior member of the Pan-African Scientific Research Council.

RESEARCH

CENLED contributed five credits towards the CBE research output. This included scholarly articles published in accredited journals and a scholarly book in the CENLED scholarly book series. The book, *Learning for a Better Future: Perspectives on Higher Education, Cities, Business & Civil Society*, heightens the relevance in regard to the implementation of the sustainable development goals (SDGs) of the United Nations (UN) to be achieved by 2030. The book carries forward a dual context and relevance: to South African social, educational, economic and cultural development, and the broader international context and action directed at how lifelong learning for all can be fostered in communities as a foundation for a just, human-centred, sustainable world. <https://doi.org/10.4102/aosis.2021.BK214>.

SUSTAINABILITY, INNOVATION, AND FOURTH INDUSTRIAL REVOLUTION (4IR)

- USDP Project: The South Africa/United Kingdom Doctoral Project.
- The Minister of Higher Education and Training approved and signed the 'Staffing South Africa's Universities' Framework (SSAUF) in January 2015.
- In March 2017, the Minister approved and signed a Ministerial Statement on the Implementation of the University Capacity Development Programme through Effective Management and Utilisation of the University Capacity Development Grant 2018-2020.
- The SSAUF has been incorporated as the staff development component part of the University Capacity Development Programme (UCDP).
- The main purpose of the project is to support academics and professional staff at South African universities to undertake and complete doctoral studies within a period of four years or less.
- Secondary purposes are the development of supervisory capacity at universities; and the promotion of capacity development collaborations between universities, including with universities outside of South Africa.
- CENLED secured R1 144 000 from the British Council during 2021 and established a doctoral training academy in partnership with the University of Glasgow (U21 partner) and the University of Zululand. Eight doctoral students enrolled in 2021 as second-year students.
- In this project, only permanent university staff members were recruited in the following research fields: local development; entrepreneurship; Sustainable Development Goals 1, 2 and 4; education and Fourth Industrial Revolution technologies that will support municipalities in local development to improve the quality of lives of communities.
- An innovative collaborative supervisory model was developed. In terms of this model, the supervisors from the three universities are working in teams, and include an experienced supervisor, co-supervisor and early career researcher or novice supervisor to supervise a team of three to four doctoral candidates, to ensure that supervisory capacity is developed.

NATIONAL AND GLOBAL FOOTPRINT

CENLED commands access to a pool of broad skills sets made available through collaborative partnerships with key role players, including academic institutions, government and the private sector.

ACADEMIC INSTITUTIONS

- University of Glasgow
- Philippines Normal University
- University of Rwanda
- University of KwaZulu-Natal
- University of the Western Cape
- University of Zululand

GOVERNMENT AND PROVINCIAL DEPARTMENTS

- Department of Cooperative Governance and Traditional Affairs
- Department of Small Business Development
- Limpopo Department of Economic Development and Tourism

OTHER ORGANISATIONS

- International Economic Development Council (IEDC)
- Local Government Sector Education and Training Authority
- South African Local Government Association
- PASCAL International Observatory centres in New York, Australia, Europe
- PIMA

Dr Marius Venter

Director: Centre for Local and Economic Development (CENLED),
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University of Johannesburg



**CENTRE FOR PUBLIC
MANAGEMENT AND
GOVERNANCE**



Centre for Public Management and Governance

OVERVIEW

The Centre for Public Management and Governance, hereafter referred to as the Centre, is housed within the School of Public Management, Governance and Public Policy. The Centre offers two distance education continuing education programmes (CEPs), namely the Higher and the Advanced Certificate in Local Governance and Management. These programmes are integrated academic and professional distance education programmes designed for students, working professionals and elected local political leaders offered through online technology-enhanced distance learning. There are challenges to overcome such as a viable fees model without the benefit of subsidies for students and forging an excellent reputation in the CEP space, which takes time and a solid track record. However, the advantages are many, such as the articulation of our CEPs to the second year of the subsidised BA degree and our reputation in the local government sector in terms of capacitating employees and facilitating employment for politicians after the expiry of an elected five-year term in rural areas.

TALENT MANAGEMENT AND CAPACITY BUILDING

The Centre has one permanent staff member, Prof Vain Jarbandhan, the Director of the Centre. Ms Lynell van Heerden, who is a contract employee, is the Centre administrator. The Centre has two tutors who assist students with challenges in terms of accessing their content on Blackboard.

Capacity building programmes undertaken in 2021 included the training of Centre staff in the use of Blackboard, MAMS, and HEDA.

POLICY AND PUBLIC ENGAGEMENTS AND ACTIVITIES

Prof Vain Jarbandhan was invited to the launch of the National School of Government of the National Implementation Framework Towards the Professionalisation of the Public Service on 15 February 2021. The key speaker at this



Prof Vain Jarbandhan

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The Centre has an excellent reputation in the local government sector for employees' skills development.

event was then Minister of Public Service and Administration, Dr Senzo Mchunu. The meeting focused on the accepting the draft document of the Professionalisation of the Public Service, which would soon be adopted as government policy. On 9 February 2021, Senior Research Associate in the Centre, Dr Michael Addaney, participated in the webinar arranged by the School. The title of the webinar was 'Governments' response to COVID-19 and policy for economic recovery'. Dr Michael Addaney also published an expert piece in the *Washington Post* titled, 'Will Chinese funding help strengthen Africa's climate change response? It's complicated'. Belt and road-linked projects could boost infrastructure development and industrialisation.

Furthermore, on 16 February 2021, Prof Jarbandhan attended the Sound Policymaking for Sustainable Development webinar series, hosted by the United Nations Secretariat. Prof Jarbandhan attended the School of Public Management and Administration (SPMA, Tuks) workshop, entitled 'Deepening Public Sector Reforms. Are we making Progress?' The keynote speaker was Prof Twana Kupe, the VC of Tuks.

On 2 December 2021, Prof Jarbandhan presented a paper entitled, 'Foster Public Sector Accountability to the Gauteng Provincial Legislature of the overarching theme of A New Working Normal'.

The School of Public Management, Governance and Public Policy was invited by Humanitarian Affairs, Asia, in conjunction with the United Nations to select fifteen outstanding students to participate in the webinar series, titled 'Lead as a Global Citizen'. The webinar was developed to offer young global citizens, as leaders in the 21st century, the opportunity to interact with like-minded students from across the globe. Moreover, the webinar series was cognisant of the impact of the COVID-19 pandemic on young people, where many were feeling insecure in their educational journey. With the risk of the pandemic heightening global inequalities, the webinar series aimed to identify students with excellent potential to lead so that their aspirations to connect, contribute and lead would not go unrecognised.

To have the students' voices to be heard, the webinar focused on Sustainable Development Goal 4: Ensuring inclusive and quality education for all and promote lifelong learning, of which global citizenship is a major aspiration.

Given the School's ongoing relationship with Humanitarian Affairs, 15 of our outstanding students with the potential to lead were identified for this virtual event. The main goal of this webinar

series was to prepare students for a global career. The Centre managed to register the students and to provide liaison with Dr Janice Leong at Humanitarian Affairs.

RESEARCH ACTIVITIES

The following research activities were undertaken.

CONFERENCE PRESENTATION

- Jarbandhan, DB and Majam, T. 2021. Data driven human resource management in the Fourth Industrial Revolution (4IR). The strategic use of HR data and data analytics for a capable South African Public Service. IASIA Conference. July 26 – 30, 2021: Bela Bela, Limpopo.
- Marutulle, N. 2021. Smart cities and development: are South African cities ready? School of Public Management and Administration, University of Pretoria. 13th Annual SPMA International e-Conference on Public Administration and Management. 28 and 29 October 2021.

PUBLICATION IN ACCREDITED JOURNALS

- Jarbandhan, DB. 2021. Ethical Public Sector Leadership and Good Governance: Implications for the Fourth Industrial Revolution (4IR). *Administratio Publica*, Vol 29, Issue 2. August 2021.
- M Addaney & EC Lubaale. 2021. An Unintended Legacy: The External Policy Responses of the USA and European Union to Conflict. *Minerals in Africa Laws Journal, MDPI*, 2021.
- Rita Adjei, Michael Addaney, and Leslie Danquah. 2021. The ecological footprint and environmental sustainability of students at a public university in Ghana: developing ecologically sustainable practices. *International Journal of Sustainability in Higher Education* 22(8) DOI 10.1108/IJSHE-08-2020-0318.
- R Fambayasi & M Addaney. 2021. Cascading impacts of climate change and the rights of children in Africa: A reflection on the principle of intergenerational equity. *African Human Rights Law Journal*, 2021.
- Auriacombe, CJ and Basheka, B. 2021. Towards a framework for anti-corruption and improved procurement governance in Uganda: the role of administrative efficiency. *Administratio Publica*. DHET Accredited.
- The Centre facilitated the conference participation of Dr Majam and Prof Jarbandhan at the IASIA International Conference. The title of the paper was, Data driven human resource management in the Fourth Industrial Revolution (4IR). The strategic use of HR data and data analytics for a capable South African Public

Service. IASIA Conference. July 26-30, 2021: Bela Bela, Limpopo.

BOOK CHAPTER CONTRIBUTION

- Jarbandhan, DB. 2021. Fourth Industrial Revolution and Human Resource Management (Chapter 4) in *Human Resource Management in Government* edited by Van der Westhuizen, E.J.

FORTHCOMING BOOK CONTRIBUTIONS

- A book co-edited by Dr M Addaney and Prof Vain Jarbandhan, titled, *Public Policy and Governance Responses to Climate Change in Africa*. An edited volume to be published by Palgrave Macmillan (Springer Nature). Abstracts and full chapters have been received for consideration. The book will be released in semester two of 2022.
- Sustainability, Innovation and Fourth Industrial Revolution (4IR).
- A book chapter by Prof Jarbandhan titled, *Fourth Industrial Revolution and Human Resource Management* (Chapter 4) in *Human Resource Management in Government* edited by Van der Westhuizen, E.J. was published by Juta & Co.

NATIONAL AND GLOBAL FOOTPRINT

The Centre continued to work with partners at the Kabale University in Uganda and with initiatives with the University of Energy and Natural Resources at Dormaa, Ghana. The Centre has already set plans afoot to partner with universities in Africa, China, and the United Kingdom in 2022.

Prof Vain Jarbandhan

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**TECHNOPRENEURSHIP
CENTRE**



Technopreneurship Centre

OVERVIEW

Technopreneurship Centre (TPC) is an ideation and innovation hub where industries and society's most pressing unresolved challenges can be addressed, researched, and solved by our students, supported by exceptional academics and industry experts. The Centre is the first of its own kind within the University, which is open not only for information technology individuals but to everyone despite of their educational background and to those who want to contribute to the success of this initiative. Looking at 2021, despite of the COVID-19 pandemic, it was the most successful and busiest year. In 2021, TPC has established its own industry advisory board consisting of six key members with different expertise. Various successful innovation hackathons and datathons were hosted by TPC including the Data Science hackathon in collaboration with NEMISA, an entity which was under the authority of Honourable Minister Stella Ndabeni-Abrahams but now under Honourable Minister Khumbudzo Ntshavheni. The Head of Technopreneurship Centre was invited to judge and mentor in various innovation platforms. We held various activities and emerged victorious in many hackathon competitions, including international competition for the first time since inception. Some of the activities centred around our innovation hackathons with the aim to develop Innovation and Entrepreneurship ecosystem through which we hosted and participated in 15 innovation hackathons and won 11 of them, including scooping two big awards for Best Solution in AI for Big Data and Healthcare hosted by Hacklab Foundation in Ghana, Accra.

The Centre is an ideation and innovation hub where industries and society's most pressing unresolved challenges are explored and addressed.



Mr Ronny Mabokela

Head: Technopreneurship Centre,
School of Consumer Intelligence
and Information Systems
College of Business and Economics,
University of Johannesburg

TALENT MANAGEMENT AND CAPACITY BUILDING

The team is large, versatile, and dynamic. We have key industry partners, collaborators, students, experts, innovators, hackers with different interesting skills and backgrounds that are necessary for the success of the development of ideas, innovative solution, and the Centre at large.

In 2021, Head of Centre, Mr Ronny Mabokela, together with 4 TPC Ambassadors, Mr Emmaual Mbuya, Ms Buhle Mpala, Mr Eugene Ndlovu and Mr Chadrack Mulamba, developed a process-call to invite our students from different faculties to

join the Centre. Many of the innovators, hackers, tech savvy, disruptors, young talent responded and were taken through a process of assessment to be onboarded. Our key people and partners in the Centre include the Head of Centre, student assistants, TPC Ambassadors, a considerable number of student developers, coders and hackers, casual mentors, and coaches from various industries such as Microsoft, Huawei, Geekulcha and CISCO. Regular mentors for our students are Dr Patric Ndayizigamiye (UJ), Prof Njenga Kennedy (UJ), Mr Mixo Ngobeni, Mr Muzi Ntombela, Dr Oluwapelumi Giwa, Mrs Tebogo Bokaba (UJ), Ms Sina Legong, Ms Keitumetsi Tsotetsi, Mr Steve Jump, Mr Risuna Maluleke and several international partners, such as Mr Foster Awintiti Akugri, Mrs O Manor, Mrs Victoria Mehran. Many undergraduate students and several honours, master's and doctoral students are hosted in the Centre.

POLICY AND PUBLIC ENGAGEMENTS AND ACTIVITIES

In 2020 and 2021, Mr Ronny Mabokela (Head of Centre) was also interviewed by UJFM radio, electronic and print media regarding innovation, hackathons and how they fit in within the UJ and national policies. He was deeply involved several public webinars which advises and assists inventors in developing strategies for the protection of intellectual property (IP) protection and technology commercialisation, drafting the relevant legal agreements, managing the patenting of inventions and the registration of trademarks, establishing start-up companies, and acquiring equity in established companies after commercial due diligence. He also worked closely with UJ Technology Transfer Office (TTO) and Pan-African Information Communication Technology Association (PAICTA) in advising students regarding commercially viable ideas and solutions. He also participated in many public innovation hackathons providing final judgement of youth solutions and mentoring of the youth including international platforms like Falling Wall Labs.

The Centre hosted several innovation hackathons and webinars around 4IR-related technologies. Some collaborations with impactful partners include:

- Data Science Hackathon in partnership with NEMISA in February 2021.

- TPC in collaboration with PAICTA hosted the webinar about Technopreneurship: A vehicle for future start-ups – key panel members Prof Mpho Raborife.
- A public seminar on collaboration with PAICTA about Technopreneurship: The role of women in tech start-ups.
- Four UJ TPC teams participated in Ghana, Hacklab Hackathon in 2021 where we won two Best Solutions in AI for Big Data and Healthcare.
- We hosted yet another NEMISA Datathon in November 2021 and TPC team Elites was declared the first runner-up.
- We participated in the MTN Business Hackathon & TADhack hackathon in September 2021 where Ms Lerato Tlhako, second-year BIT student was declared best Female Innovator of the Year 2021.
- We participated in the 4 series of 21 Empire Partner Foundation hackathons where three of our teams emerged victorious: 3 x first prize, and 1 x second prize in 2021.
- We participated in the Geekulcha hackathon and in the Start-up Biz Hack 2021 we took the first prize.

RESEARCH ACTIVITIES

Although, our students together with partners do conduct research to build innovations and solutions as well as looking at the impact of hackathon for skills development, the research gathered of all these contributions are currently in progress. However, there are planned publications in collaboration with department of applied information systems to publish a paper on the impact of hackathons as well as technopreneurship as a strategy to accelerate innovation and digital skills. In collaboration with Ghana, Hacklab Foundation, we will look at a framework for sustainable incubation and digital skills development

SUSTAINABILITY, INNOVATION AND FOURTH INDUSTRIAL REVOLUTION (4IR)

The Centre currently sustains itself through prizes won in the hackathons. We also receive enormous support from the School of Consumer Intelligence and Information Systems. We are currently looking for funding to sustain the Centre long term and are using the knowledge of our advisory board members to assist in financial stability. Regarding operational stability, the Centre is

well-equipped with set processes to conduct the functions mandated to deliver. Through innovation hackathons, our students have managed to innovate solutions that are commercially viable and have been taken through to TTO incubation and Hacklab Foundation accelerators programmes. Projects range from agriculture to healthcare with specific reference to Agric-Ecco – solution that helps farmers to connect with key buyers and improve their livelihood of their crops. This solution uses modern 4IR technologies such as AI and IoT.

NATIONAL AND GLOBAL FOOTPRINT

Mr Mabokela has participated in various international events, including mentorship and judging of solutions in the Hacklab Foundation (Ghana) and Falling Wall Lab Challenge (Germany). The success of the Technopreneurship Centre has been recognised in various media platforms (i.e. UJ Communication, Beetroots, ITWeb, Brainstorm

magazine etc.) including social media reactions. We hosted two national NEMISA hackathons, including two of Geekulcha hackathons as well as MTN and TADhack hackathons, which seek to address the unemployment, COVID-19 related challenges, societal and socioeconomic issues. We hosted an online seminar on cyber security in the 4IR with the CSIR. Mr Mabokea was appointed by MICT SITA and Young Africa Institute for entrepreneurship as a board member for 4IR education and youth development. He participated in several innovation hackathons as a judge and mentor.

Mr Ronny Mabokela

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**INSTITUTE OF TRANSPORT
AND LOGISTICS STUDIES
(AFRICA)**



Institute for Transport and Logistics Studies (ITLS) (Africa)

OVERVIEW

The Department of Transport and Supply Chain Management was established in 1968 and is widely recognised for its education, training and research in the fields of transport economics, logistics and supply chain management. The Institute of Transport and Logistics Studies (Africa) was created within the Department of Transport and Supply Chain Management at the University of Johannesburg in response to industry's need for independent, unbiased, relevant and up-to-date research. In 2007, ITLS (Africa) partnered with the Institute of Transport and Logistics Studies at the University of Sydney, as part of a plan to enhance collaboration between the universities, advance information sharing and dissemination and build research ties. In 2018, the MOU with ITLS at the University of Sydney was extended for a further five years. To maximise the impact of transport and supply chain research on the South African society and economy, ITLS (Africa) provides specialist high-level research services for both the private and public sectors, focusing on the most urgent research priorities in the country. ITLS (Africa) has at its core the skills, experience and network as well as a long history of providing research excellence to both the public and private sectors, in topics ranging from policy and government strategy to various customised transport solutions in all modes of transport.



Prof Jackie Walters

Director: Institute for Transport and Logistics Studies (ITLS) (Africa),
Department of Transport and Supply Chain Management,
School of Management
College of Business and Economics,
University of Johannesburg

The Institute of Transport and Logistics Studies (Africa) was created within the Department of Transport and Supply Chain Management at the University of Johannesburg in response to industry's need for independent, unbiased, relevant and up-to-date research.

TALENT MANAGEMENT AND CAPACITY BUILDING

At the end of 2021, Prof Jackie Walters, the founding director of ITLS (Africa) stepped down as the Director and Prof Noleen Pisa was appointed as the Director from January 2022. In addition, Prof Adri Drotskie was appointed as the Chair of the institute's board and takes over from Prof Daneel Van Lill in January 2022.

ITLS (Africa) houses the department's postgraduate studies. In 2021, the institute hosted 4 postdoctoral fellows as part of its drive for talent management and capacity development. The PDRFs were:

- Dr Adedotun Joseph Adenigbo: Dr Adenigbo's thesis focused on Air Cargo Traffic at Lagos and Accra airports. He is currently working towards research publications in air cargo logistics.
- Dr Chengete Chakamera: Dr Chakamera's research interest is in transport and logistics. He has several publications in international peer-reviewed journals. He is an experienced supervisor of postgraduate students and is an accomplished academic, a researcher and a seasoned consultant.
- Dr Liberty Sheu Mapamba: Dr Mapamba holds a PhD in Development and Management Engineering from North-West University. His current research focuses on a multidisciplinary approach to building organisational and supply chain resilience in transitional situations, focusing on the transition to 4IR and the low carbon global economy.
- Dr Mandla Mvubu: Dr Mvubu holds a PhD from UKZN. His PhD research focused on supply chain risk management in the South African third-party logistics (3PL) industry. His current research focuses on the implementation of artificial intelligence (AI) technologies in warehousing.

Two coursework master's student and one full research master's student graduated in 2021. In addition, two doctoral, one full research and one coursework master's student submitted their thesis for examination in 2021. Currently, there are 18 coursework master's; 10 full research master's and 12 doctoral students enrolled.

POLICY AND PUBLIC ENGAGEMENTS AND ACTIVITIES

ITLS (Africa) hosted a number of TransportSIG events during the course of 2021 in order to provide appropriate forums for transport, logistics and supply chain information exchange and debate. These events have been very well attended with an average attendance of between 120 and 180 delegates per session. Owing to COVID-19, the 2020/2021 sessions were all held virtually. In addition, since the sessions were streamed on the Zoom platform, delegates could watch proceedings on YouTube.

RESEARCH ACTIVITIES

ITLS (Africa) does research in a number of key areas. Internal research projects range from ongoing surveys to determine trends in the transport, logistics and supply chain management fields, to one-off specialist research projects aimed at addressing the most important current research requirements in transport and logistics in South and southern Africa. In addition to its internal research activities, ITLS (Africa) undertakes commissioned research on behalf of stakeholders in the transport, logistics and supply chain sectors. In 2021, the institute and in particular, Prof Noleen Pisa, were awarded the Transport Education Training Authority (TETA): 4IR Research Chair. The Chair will conduct evidence-based research towards a better understanding of the future of the transport sector's skills needs. In addition, it will contribute to transforming the sector by training transport sector employees in 4IR technologies; by improving societal mobility solutions and by increasing the employability of transport trainees.

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FERL
FOOD EVOLUTION
RESEARCH LABORATORY



Food Evolution Research LABORATORY (FERL)

OVERVIEW

The Food Evolution Research Laboratory (FERL) has continued to establish its presence and impact in its work through interdisciplinary and collaborative initiatives within UJ, as well as with other academic and industry stakeholders. The research conducted by FERL is aligned to the UN's Sustainable Development Goals (SDGs) of zero hunger, good health, and wellbeing as well as responsible consumption and production.

TALENT MANAGEMENT AND CAPACITY BUILDING

The FERL organisational structure includes one Director, two postdoctoral research fellows (PDRF) and research assistants. FERL aims to train and develop young researchers in the field of nutrition and healthy lifestyles. In 2021, the FERL trained and mentored four research assistants in fieldwork in communities and schools. The FERL and Savitribai Phule Pune University, India (Interdisciplinary School of Health Sciences), hosted a five-day workshop on 'Systematic Review and Meta-analysis' under the broad theme of 'Nutrition Transition in South Africa and India'. One PDRF, one senior research associate and four research assistants participated in the workshop.

POLICY AND PUBLIC ENGAGEMENTS AND ACTIVITIES

Through the webinar platform and social media (Instagram), the following engagements were hosted:

- Putting Youth First: The essentials of nutrition and physical activity (15 June 2021).
- Plant-Based Diets and your Carbon Footprint (21 September 2021). Published in UJ News and Events.
- FERL and NSSA Annual Symposium titled: 'Our actions are our future - Leading to a sustainable food system', hosted by FERL (26 October 2021), in recognition of World Food Day and National Nutrition Obesity Week (NNOW).



Dr Hema Kesa

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College of Business and Economics,
University of Johannesburg

The research conducted by FERL is aligned to the UN's Sustainable Development Goals (SDGs) of zero hunger, good health, and wellbeing as well as responsible consumption and production.

RESEARCH ACTIVITIES

- Nutrition Transition and Food Away from Home (FAFH): Livelihood transition, poverty and childcare transition and its effect on child undernutrition in the tribal regions of India and South Africa.
- School Feeding Programmes (Public and Private Schools)
 - Food Waste Management in National School Nutrition Programme (NSNP)
 - Unilever/Department of Basic Education Project
- Indigenous Crops (Phase 1 completed): Indigenous foods consumption in the Gauteng Region and potential impact on the local prevalence of non-communicable diseases. Phase two of the project will focus on food preparation of sorghum and pearl millet in SA.
- Consumer acceptability and characterisation of a 3D printed snack from fractionated wheat and decolourised Moringa leaf. This is a project conducted in collaboration with the Faculty of Science.
- Food Waste Management: Schools, Retailers, Hotels, Restaurants, Hospitals.
- Fruit Peels Project: Ongoing.
- Innovation and Technology (VR & AR): The use of extended reality (XR) in understanding food choices and food environments (GES 4.0 Funded).

SUSTAINABILITY, INNOVATION AND FOURTH INDUSTRIAL REVOLUTION (4IR)

- New SLP offered by FERL: Approved courses to be offered in 2022.
 - Healthy Cooking Operations (will include vegetarianism, sustainable cooking, hygiene and safety in the kitchen). To be offered online.
 - Food Preservation for the Hospitality Industry. To be offered online.
- Innovation and 4IR
 - Healthy Eating Routine app (HER): FERL launched H.E.R, a nutrition mobile application for students in institutions of higher learning that will be registered as a UJ Community Engagement project and will form part of the First Year Experience in 2022.
 - FERL to launch Virtual Reality Lab for Food and Nutrition Projects.
 - D Food Printing projects.
- Patent: Kewuyemi, Y.O., Kesa, H., & Adebo, O. Food Ink. Pending patent application (Invention ID: DIS-2021-175). (Applied in 2021, awaiting approval).

NATIONAL AND GLOBAL FOOTPRINT

NATIONAL

- Department of Basic Education: School Nutrition Feeding projects
- DOH: Obesity Project
- Chefs with Compassion: Food Waste and Sustainability
- Empact Group Food Services: Food Waste Management
- Unilever: Analysis of Knorr products in the National School Nutrition Programme

INTERNATIONAL

- Penn State University, USA and the Centre for Food and Nutrition Research, Institut Paul Bocuse, Lyon, France. Project collaboration on School feeding programmes and International study on the Impact of COVID-19 on Food and Nutrition Security.
- Sawatribhai Pune Pule University, India: Nutrition Transition – Obesity.
- Maasai Mara University, Narok, Kenya: Innovation in Hotels (SA and Kenya).
- Institute of Medical Research and Medicinal Plants Studies in Cameroon: Indigenous Foods and Nutrition.
- Institut de Recherche pour le Développement (IRD), France: African interdisciplinary laboratory in sustainable, nutrition-sensitive marine aquaculture (LIMAQUA) research project.

ACCOLADES

Young Talent Award at the World Tourism Forum in Lucerne. FERL's master's student, Ms Gifty Koufie attained first place among her global peers on the Young Talent Programme.

Dr Hema Kesa

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Our Purpose

TO DEVELOP CRITICAL THINKERS AND PROBLEM SOLVERS WHO ADDRESS BUSINESS, ECONOMIC AND SOCIETAL CHALLENGES.

This means that we seek ways to use technology to be better informed, healthier, safer, behave better, connect faster, and learn and educate more people than ever before. In so doing, we ensure that the “Black Box” will not appear as mysterious as first feared.

Our Goals

- To streamline teaching and learning excellence and improve student success.
- To increase people excellence through attracting, developing, and promoting the right talents and people wellbeing.
- To increase research excellence in output, impact, and NRF rated researchers.
- To increase and improve sustainable relations, collaborations and partnerships.
- To achieve financial sustainability. The institution is taking the lead across Africa in the 4th Industrial Revolution.

Editor and Layout: Dr R.R. Toerien

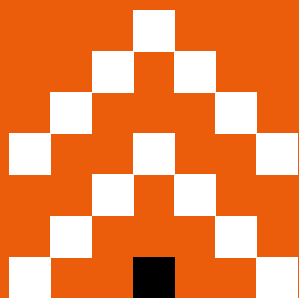
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