



UNIVERSITY
OF
JOHANNESBURG

COLLEGE OF BUSINESS
AND ECONOMICS



Annual Report 2022

COLLEGE OF BUSINESS AND ECONOMICS

The Future
Reimagined

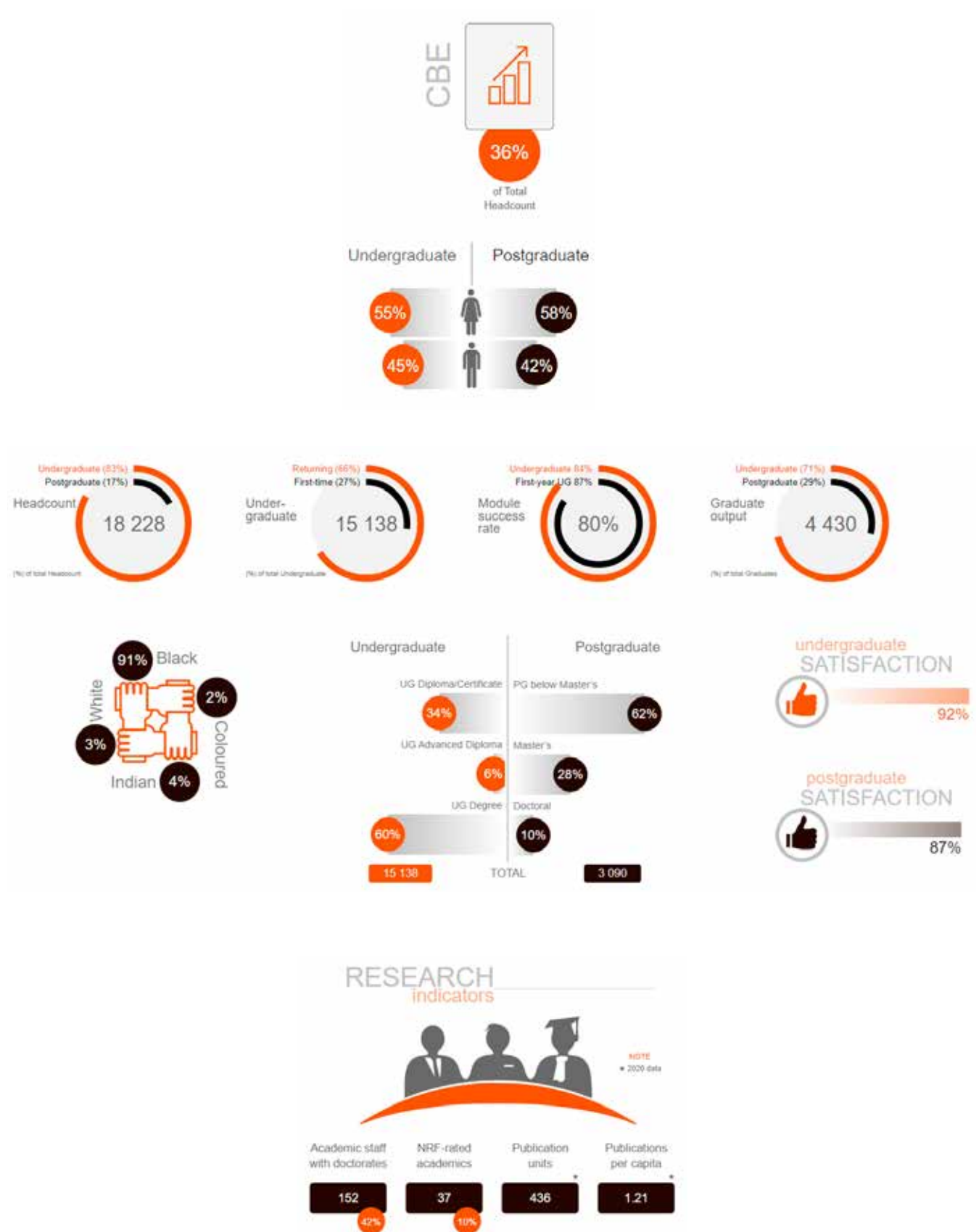
College of Business and Economics



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COLLEGE OF BUSINESS AND ECONOMICS (CBE) 2022 @ A GLANCE



Executive Summary

OVERVIEW

The new academic year in 2022 marked a welcome turning point, as we gradually emerged from a most intense pandemic period. We could offer face-to-face teaching, and the campus returned to life as staff and students slowly returned. It has been wonderful to come together again as a community and reconnect in person, while embedding the lessons from the pandemic on applying technology more effectively.



Prof Lungile Ntsalaze
Executive Dean
College of Business
and Economics

The College of Business and Economics (CBE) operates in an increasingly uncertain global context. The ongoing war in Ukraine and international political tensions threaten academic collaboration, and global supply chain disruptions continue, as the world recovers from the COVID-19 pandemic. High inflation has resulted in moves by the South African Reserve Bank to increase interest rates. The cost-of-living crisis is hurting our staff and students.

The last two years have seen a period of turbulence for the University of Johannesburg (UJ), South Africa, and the globe. Despite concerns early in the pandemic about whether the academic project would withstand the pressures, CBE's performance during this time has been strong.

This academic year marks the start of a transition at CBE. As the new Executive Dean since 01 January 2023, I write this report reflecting on an incredible year of research, events, and student support activities at CBE. I also feel enormous gratitude for the outstanding output from our researchers and scholars, and for the hard work and dedication of all our staff under the leadership of Professor Daneel van Lill, who has been at the helm since CBE's establishment in 2017.

While I invite you to join me in reflecting on this past year in the pages ahead, I hope you are also inspired to commit to helping chart our very bright future for CBE.

I gladly share highlights, primary stats from 2022, and narration, including our way forward for the future.

Talent Management

DEMOGRAPHIC PROFILE: ACADEMIC AND SUPPORT, INTERNATIONAL, DESIGNATED, QUALIFICATION PROFILE.

CBE attracts, recruits, and retains the best research, teaching, and professional staff responsible for offering excellent services to all our stakeholders. In its services, CBE had 514 employees comprised of 353 (69%) academic staff and 161 (31%) professional support staff. International staff members make up 17% of academics. Over 42% of our academic staff have doctoral qualifications. The number of staff with higher degrees is increasing due to research support initiatives made available to the CBE.

Regarding staff equity, the economically active population (EAP) is used as a benchmark to assist CBE in analysing the workforce to determine the degree of under or overrepresentation of different groups. Furthermore, the Sustainable Development Goals (SDGs), developed by the United Nations (UN) urge the world to ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making and promote equal pay for work of equal value. White females remain the highest represented group at 19% (exceeding their EAP by 15 percentage points). African males and females are significantly under-represented at 18% and 25% lower than their EAP by 26 and 11 percentage points, respectively. CBE has one staff member with a declared disability. This area, therefore, remains a critical challenge and focus for a more inclusive work environment.

STAFF DEVELOPMENT

Lifelong learning is at the heart of our academic project. CBE encourages staff to plan their development through Professional Development Plans. Several development programmes are available for colleagues, focusing on management, leadership, and support for early career researchers.

(Image below): One of our staff, Ms Boniswa Madikizela, attended the IWF Leadership Foundation's Executive Leadership training at Harvard Business School in May 2022. The Accelerated Academic Mentoring Programme (AAMP) supports the development of staff members to prepare them for leadership positions across campus. CBE has a majority involvement, with approximately 70 staff participating at different levels, with 15 registered for doctoral degrees. The programme fosters skills among staff with high potential who will bring excellence and diversity to senior leadership ranks. Other areas of leadership development include our intentional succession planning through appointments of deputy Heads of Department (HoDs), where they focus on holistic offering, strategic planning, and oversight for specific projects, and planning and supporting the HoD. The College career crafting workshop for newly appointed academics helps them plan their careers from an early stage and to familiarise themselves with promotion policies and processes—the UJ Centre for Academic Technologies (CAT) and UJ Library services presented support services available. Assistant lecturers are appointed to grow our future pool of lecturers and academic leaders.





Several workshops were also hosted, including a public lecture on conducting bibliometric analysis and a four-day workshop on writing empirical papers for top-tier journals by the Centre for Applied Data Science with Prof Samuel Fosso Wamba, a distinguished visiting Professor at CBE. Case study writing and teaching were among the implemented workshops to strengthen CBE's teaching for success. Cognisant of the heightened need for support while navigating the effects of COVID, more than hard skills training is needed; the Executive Dean launched the Support Staff, Reconnect Lunch **(Image above)**. The socio-psychological well-being of staff received dedicated attention. Staff members received wellness packs and a series of Self-Care & Self-Love seminars addressing topics such as Loss and Bereavement

Coping Skills, Stress and Burnout Coping Skills, Effective Communication and Conflict Management Skills in an Emotionally Disconnected World, and Emotional Intelligence (EQ) Development Skills **(Image below)**.

The development opportunities translate into tangible results. In addition, 13 staff members obtained their doctorates. In 2022, 12 promotions were concluded successfully. Of the total number of staff promoted, only 16.67% were black South Africans, 41.67% white South Africans, and 41.67% international employees.

Professors Crystal Hoole, Kevin Nell, David Poole, and Dominique Uwizeyimana delivered their inaugural lectures that marked a significant milestone in their academic careers. **(Image next page)**.





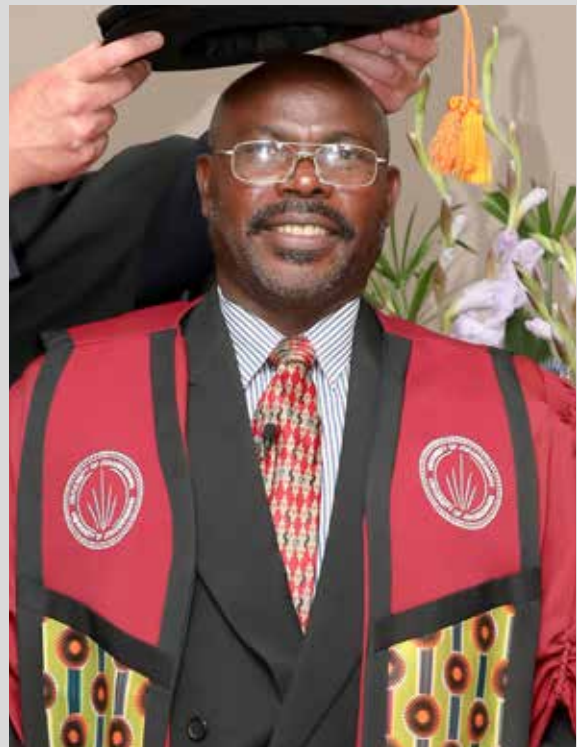
Prof Crystal Hoole, Head of the Department of Industrial Psychology and People Management, School of Management



Prof Kevin Nell, School of Economics



Prof David Poole, Department of Business Management, School of Management



Prof Dominique Uwizeyimana, Acting Director of the School of Public Management, Governance and Public Policy

CBE NRF-RATED RESEARCHERS

There were 37 NRF-rated researchers at the end of 2022, indicating an increase of nine rated researchers from 2021. Of these, ten were newly rated or retained their rating in 2022. Prof MT Ewing, Prof RN Nunkoo, and Prof CM Rogerson are B-rated researchers that enjoy recognition from their peers for the high quality and impact of their recent research outputs.

RECOGNITIONS, AWARDS, AND PRESTIGE APPOINTMENTS

CBE staff members have demonstrated exceptional contributions to the University and society. Unsurprisingly, endless awards and recognitions were bestowed on staff. CBE staff have been invited as keynote speakers at different events, won best paper awards at conferences, and were elected to the boards of learned societies.

Among the many exceptional awards and special recognitions the staff received this year were the following:



Dr Oliver Takawira: UJ Vice-Chancellor Award-Most Promising Young Teacher of the Year



Mr Lawrie Ndlovu: UJ Vice-Chancellor Distinguished Award: Service Beyond the Call of Duty



Ms Rodene Dye won the SABPP 2022 Award in the National Committee Leadership category



Prof Ben Marx: SAICA Difference Makers Awards as the most significant contributor to "Excellence in Education"



Ms. Lethiwe Nzama: Institute of Internal Auditors (SA) as Educator of the Year Award 2022



Dr Stella Bvuma: Nominated for a U21 award for the work that has furthered the U21 network's principles of internationalisation. She was also nominated for the International Woman of Stature 2023 in the Innovation and Technology category. Dr Bvuma also serves as Deputy Chairperson of the Board of Directors of the State Information Technology Agency, South Africa.



Prof Adri Drotskie: Nominated for the International Woman of Stature Award 2023 in the Woman in Education and Training category



Prof Chioma Okoro: Nominated for the International Woman of Stature Award 2023 in the Woman in Education and Training category and Guest Editor for the *International Journal of Construction Management*



Prof Musa Saurombe: Received the Positive Role Model Category Award for the Gauteng region during the 10th Gender Mainstreaming Awards. Also, a nominee for the International Women of Stature Award 2023 in the Education and Training category



Prof Chris Rogerson ranked #647 in the world and #8 in South Africa in the discipline of Social Sciences and Humanities



Prof Ahmed Mohammadali Haji: Panellist for the SAICA - IASB Chairman's event in August 2022



Prof Nelesh Dhanpat: Elected to the editorial board of the *African Journal of Employee Relations*



Dr. Stiehler-Mulder: Appointed the Gauteng W&R Leadership Chair by the Wholesale and Retail SETA



Prof Noleen Pisa: Appointed the Transport Education Training Authority 4IR Research Chair



Ms. Boitumelo Kuzwayo on being recognised as the ABASA (Advancement of Black Accountants of Southern Africa) 2022 Academic of the Year. This achievement follows her announcement as one of the Top 200 Young M&G South Africans for 2022 and a winner in the academic category for the same awards. She also won the Game Changer Category at the 2022 SAICA Top 35-under-35 Awards



Professor Tankiso Moloi: Chartered Institute of Management Accountants (CIMA) Research Award for Global Contribution and appointed as an honorary visiting professor at the Durban University of Technology, to the Namibian Presidential Task Team on the 4IR and as American Institute of Certified Public Accountants (AICPA)-CIMA Africa Regional Engagement Group Chair



Professors Fiona Tregenna and Arkebe Oqubay have been appointed to the African Continental Free Trade Area (AfCFTA) Trade and Industrial Development Advisory Council. The Council is endorsed by the recent Summit of Heads of State and Government and advises on trade integration and industrialisation across Africa. She was also appointed to the Board of the Human Sciences Research Council (HSRC), Editorial Board for HSRC Press, and Board of the *Journal of Globalization and Development* at the invitation of Nobel Prize Laureate Prof Joseph Stiglitz



Dr. Nicolaas Strydom: Finalist for the prestigious Coleman Prize for Best Ph.D. Thesis at Strathclyde Business School in Glasgow, Scotland - Supervisor: Prof Grietjie Verhoef. He was also elected to the Editorial Board of the *Business History* journal, which boasts an Impact Factor of 1.86



Dr. Riyad Moosa: Appointed to the Independent Regulatory Board for Auditors (IRBA) as a member of the Committee for Auditing Standards



Prof Erika Kraemer-Mbula: Membership of the Global Innovation Index (GII) Academic Network and appointed to the Namibian Presidential Task Team on the 4IR



Teaching & Learning

ENROLMENT AND STUDENT PROFILE

CBE serves over 18200 students and thus makes up 36% of the University's student headcount. In the light of the increasing prominence given to ensuring equality, diversity, and inclusion, CBE remains committed to attracting and admitting students from all backgrounds.

Undergraduate (UG) students constitute the majority at 83%, with an increasing proportion of students from under-resourced schools. Simultaneously, the number of students with an Admission Point Score (APS) of at least 35 increased significantly. The student profile in terms of demographics was black (91%), coloured (2%), Indian (4%), and white (3%). The increasing participation of female students in our programmes at undergraduate and postgraduate (PG) levels is a testament to CBE's commitment to ensuring equitable access to tertiary education for women. The University's strong international reputation, commitment to academic excellence, and global orientation attract students from across the globe. CBE enrolled over 1360 international students.

UNDERGRADUATE AND POSTGRADUATE GRADUATES

Most of those that graduated also suffered a severe disruption to their education journey due to Covid and are to be congratulated for doing so well in difficult circumstances. The College has graduated a total of 4430 students. Graduation numbers constitute a 13.8% decline in the graduate output from the previous year. The trend, as mentioned above, mirrors the movement in enrolment numbers. The most significant decrease was at the undergraduate level, mainly in Marketing Management, Information and Knowledge Management, and Business Management qualifications.

In 2022, CBE had 1270 graduates at the postgraduate level: a total of 110 for honours and other postgraduate studies, 130 master's, and 30 doctorates. Over 23% of doctorates were awarded to South African black candidates. Of the master's degrees, 23.1% were completed in two years (the number has declined from 28.3% in the previous year). A percentage of 43.3 of the doctoral degrees were completed in four years (a decline from 59.1% 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.

STUDENT ACCESS AND SUCCESS AND STUDENT SUPPORT

Promoting student performance and providing opportunities for the holistic development of potential graduates lies at the heart of the CBE's academic project. Mental health support will remain a priority in the coming years. Through its schools and departments, the CBE engaged in several measures to provide a holistic learning experience for students. Apart from specific school/departmental initiatives, critical efforts, mainly aimed at UG students, included:

- The significant role played by the CBE in the institutional First year and Senior Student Experience programmes aimed at supporting undergraduate student learning.
- CBE participation in the Integrated Student Success Initiative (ISSI) primarily supports student learning in priority modules.
- An investment of just over R10 million for operational and strategic tutor funding.
- Free access to e-textbooks for eight priority modules in the CBE as part of the UJ-funded e-textbook initiative for undergraduate students.
- The CBE Student Peer Mentoring Programme supported first-year students transitioning into a university environment.
- The CBE Student Personal Development Programme aimed at inculcating critical pervasive skills and attributes in first-year students.
- A shift in teaching pedagogy aimed at introducing more practical or real-world experiences into the classroom through scenarios, case studies, and projects. Moreover, Work-integrated Education (WIE) features programmes with a strong practical orientation, such as marketing, tourism and hospitality, accounting, and business management.

Despite ongoing initiatives to improve student performance, the end-of-year results were still below expectations. The overall UG module (credit) success rate (MSR) for 2022 was 83,9%. This success rate is significantly lower than the 2021 MSR of 88,2% (dropped by 4,3 percentage points). It is also lower than the rates attained in the years before the Covid-19 pandemic. The MSR averaged 86,4% over the last five years, impacted by the distinctly lower rate achieved in 2022. The deterioration in student performance is also evident in the decline of 3,2% in the MSR for first time entering UG students from 89,9% in 2021 to 86,7% in 2022.

Several engagements and student surveys revealed that poor student attendance and inadequate engagement in learning activities resulted in less-than-desirable student performance for the first semester of 2022. Typical difficulties relate to socio-economic factors, finance, a sense of isolation stemming from operating in an online environment in past years, not being well-prepared for the demands of university studies, lack of a campus life/culture, transport issues, and security concerns. Several recommendations emerged in response to these findings, and discussions on implementing such recommendations are yet to occur. The student satisfaction survey in 2022 revealed a

consistently high rate. There was a 92% satisfaction score for undergraduate and 87% for postgraduate students.

Our students also received recognition for their excellence in diverse areas. Madelie Olivey was selected by Minister Ebrahim Patel of Trade and Industry to serve on the Financial Reporting Standards Council. First-year student and gymnast Caitlin Rooskrantz won gold at the 2022 FIG Artistic Gymnastics World Cup in Cairo, Egypt and Ms Pranisha Rama secured first place in the 3MT Competition.

UJENIUS RECRUITMENT

CBE's participation in the UJenius Club, which provides incentives and enrichment opportunities for top-performing students, is increasing. CBE UJenius members increased by increased by 30,7% from 502 members in 2021 to 656 in 2022 The number of UJenius members in the CBE. Events and activities for UJenius students are expected to be arranged and hosted at school and department levels. Schools and departments will be requested to engage in more enrichment activities for UJenius members, which may be done in collaboration with PsyCaD.



First-year student and gymnast Caitlin Rooskrantz



Ms Pranisha Rama secured first place in the 3MT Competition

PROGRAMMES

NEW PROGRAMMES, CEPS, QUALITY MANAGEMENT, INNOVATIONS, AND NEW INITIATIVES, ENSURING RELEVANT QUALITY REVIEWS, ADDRESSING ISSUES ABOUT ATTRIBUTES OF GRADUATES AND EMPLOYABILITY OF GRADUATES

The rapidly changing world of work requires economic participants to have the kind of mental agility that would allow them to learn new skills, adapt to new developments swiftly, and to be able to find creative solutions to problems that arise in varying contexts. In this regard, CBE introduced three qualifications: Bachelor of Commerce Flexible, Master of Information Systems, and PhD (Development and Innovation), all approved by the Senate. SAICA accredited the online BCom Accountancy Programme for purposes of the Associate General Accountant AGA(SA) designation. Continuing education is an integral part of CBE, with an outstanding track record of enabling non-traditional students from across the country to pursue their academic and professional ambitions. Continuing Education Programmes (CEPs) consist of whole programmes, bridging programmes, and predominantly Short Learning Programmes (SLPs). Recent developments indicate an increased focus of SLPs on 4IR-related aspects. There were 66 active CEPs in 2022 compared to 69 in 2021. The total enrolment in CEPs, including registrations for non-degree purposes, master's and doctoral preregistrations, and occasional registrations, was 7 851 in 2022, close to 4% above the 7 563 for 2021. In 2022, the CBE had 13 whole programmes on its books, presented entirely online, compared to nine in 2021.

Further enhancement of the teaching and learning environment was through ongoing innovations undertaken by staff members. Several initiatives across the CBE in 2022 involved developing and introducing innovative approaches, new content, and courses relating to 4IR in the teaching and learning environment. Twenty-three key initiatives were piloted, implemented, or were at an advanced stage of development in 2022. Furthermore, eight workshops were held to encourage innovative teaching and learning and develop essential skills and insights in teaching and learning. Eight workshops were held in 2022 for academic staff members.

The University also offered two enrichment modules for UG students: African Insights (AIOM)

and Artificial Intelligence in 4IR (AIFIR). These modules are essential in expanding the relevance of learning for employability purposes in a nationally responsive and globally relevant manner. A student must complete at least one of these modules for graduation. In 2022, 2 305 students completed the AIFIR module, compared to 1 616 in 2021. In the case of the AIOM module, 1 287 completed it in 2022 compared to 1 378 in 2021. The total completion over the last three years was 5 824 and 4 487 for AIFIR and AIOM, respectively.

The University seeks to equip all its students with the skills and knowledge to succeed in future study or employment. As such, the CBE also offers a non-compulsory Student Personal Development Programme aimed at first-year undergraduate students. It was piloted in the Department of Accountancy in 2021 and then rolled out to the wider CBE in 2022. In 2022, 1 237 students completed the programme. Students who did not complete the programme will be nudged to do so in their second and third years of study. In addition, CBE provides course content that is cutting-edge, unique, and highly relevant to the marketplace. This is confirmed through various prominent areas of study within CBE. The results for the 2023 Times Higher Education (THE) World University Rankings by Subject placed Psychology at #2 and Business and Economics at #4 in South Africa, with both climbing one level up in their previous years' bands. There are other ranking systems, such as the Global Ranking of Academic Subjects of Shanghai Ranking, where CBE's Hospitality & Tourism Management has climbed globally from #18 to #9 in a recent publication. UJ retained its position as #1 in South Africa and Africa for the field of Marketing Management.

Furthermore, the quality of our teaching is also recognised by various professional bodies that follow rigorous accreditation and review processes. These include the South African Institute of Chartered Accountants, Chartered Institute of Management Accountants, Financial Planning Institute of Southern Africa, Health Professions Council of South Africa, SA Board for People Practices, International Coaching Affiliation, and Certified Financial Analyst Institute. UJ is the first university in South Africa to offer the CGMA Finance Leadership Program™. The CGMA Finance Leadership Program™ (FLP) enables students to complete the coveted Chartered Institutes of Management Accountants (CIMA) qualifications in a more structured and cost-effective way.



Research and Innovation – Footprint and Impact

RESEARCH OUTPUTS

The scale of the CBE research activities is substantial, involving a considerable number of active researchers with a total of 675 research output units from 1.131 publications, indicating a publications per capita rate of 3.15. There was a growth in journal and conference outputs, which also reflects the post-COVID ability to travel again. Most notably, journal articles exceeded the 500-mark barrier for the first time. There was also a significant increase in SOTL publications overall, which reflects how CBE researchers reflected on their teaching and learning experiences during and after COVID. One hundred seventy-six publications had COVID in their titles.

Opening our doors for collaborations dedicated to rigorous research leads to long-lasting connections and scholarly insights that translate to long-term policy impacts. The recently launched Oxford Handbook of the South African Economy edited

by Arkebe Oqubay (Professor of Practice), Fiona Tregenna (DST/NRF South African Research Chair in Industrial Development), and Imraan Valodia (WITS Dean: Faculty of Commerce, Law, and Management) was among notable publications. The President of the Republic of South Africa, His Excellency Cyril Ramaphosa, gave the keynote address at the book's launch, the first comprehensive handbook on the South African economy.

RESEARCH IMPACT

CBE research reflects how CBE actively engaged in social and economic matters important to South Africa: economic performance, risk, COVID, technology, the youth, and tourism.

CBE research continues to be original, rigorous, and impactful, as evidenced by improvements in the impact metrics. The number of Scopus-listed publications increased to 658 (+14.24%), Scopus-listed publications in collaboration with

international scholars increased to 46% (+3.60%), and Scopus citations are standing at 7,582 (+16.52%). Publications in the Top 10% of global journals (SNIP) increased by 14.38% to 31%.

These positive developments are not surprising, considering that several highly cited researchers

are affiliated with the College. The Highly Cited Researchers list prepared by Clarivate Analytics recognises researchers that are in the top 1% of their respective fields; the College boasts affiliations with the following:



Prof Samuel Fosso Wamba, a Distinguished Visiting Professor in the Department of Applied Information Systems (CBE) and a Professor at TBS Education, France



Prof Sascha Kraus, a Distinguished Visiting Professor in the Department of Business Management (CBE) and a Professor of Management at the Free University of Bozen-Bolzano, Italy



Prof Arnold Bakker, a Distinguished Visiting Professor in the Department of Industrial Psychology and People Management (CBE) and a Professor of Work and Organisational Psychology at Erasmus University Rotterdam



Prof Nripendra Rana, a Distinguished Visiting Professor in the Department of Marketing Management (CBE) and a Professor in Marketing at the College of Business and Economics at Qatar University, Doha



Prof Robin Nunkoo, a Distinguished Visiting Professor in the School of Tourism and Hospitality (CBE) based at the University of Mauritius.

POSTDOCTORAL RESEARCH FELLOWS (PDRFS)

There has been considerable growth in PDRFs over the past years, accompanied by a corresponding increase in the number of output units produced. In 2022, The number of PDRFs increased from 12

in 2017 to 50 in 2022. Their average output per capita increased from 0.8 in 2020 to 1.1 in 2021. The University supports the appointment of high-performing PDRFs as senior PDRFs.

Drs Adekanmbi, Shava, and Hassan received PDRF excellence awards within CBE.



Dr Foluso Adekanmbi, a senior PDRF in the Department of Industrial Psychology and People Management under Prof Wilfred Ukpere, published more than 30 accredited articles within three years



Dr Elvin Shava, a senior PDRF in the School of Public Management, Governance, and Public Policy under Prof Shikha Vyas-Doorgapersad, published 12 accredited articles and three accredited book chapters



Dr Adewale Hassan, a PDRF in the School of Public Management, Governance, and Public Policy, has published 23 accredited research articles under the supervision of Prof Danie Meyer

RESEARCH STRUCTURES

The CBE houses an institute, a laboratory, seven centres, three chairs, and three SARCHI chairs dedicated to research and community development:

1. The **Institute for Transport and Logistics Studies (ITLS)(Africa)**, located within the 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. To maximise the impact of transport and supply chain research on 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.
2. The **Food Evolution Research Laboratory (FERL)** contributes to combatting malnutrition among children in South Africa. FERL, in collaboration with SavitriBhai Phule Pune University and the Gokhale Institute of Politics and Economics,

India, conducted a study on "Livelihood transition, poverty and childcare transition and its effect on child undernutrition in the tribal/peri-urban regions of India and South Africa". FERL and the Department of Basic Education collaborate on the National Nutrition School Programme (NSNP). In partnership with the Centre for Social Development in Africa (CSDA) at UJ, FERL conducted a study on "The Effects of COVID-19 on in-school Nutrition". A virtual symposium addressed "Work-Life-Food Balance".

3. The **Centre of Local Economic Development (CENLED)** has a scholarly book series. Various international scholars and associates of CENLED, incorporating the PASCAL (Place, Social Capital, and Learning Regions) International Observatory, have contributed chapters to the latest scholarly book published in 2022. Promoting sustainable local economic development initiatives: Case studies covers various national and international LED cases, focusing on arts and culture, youth development, small- and micro-enterprises, the green economy, the circular economy, the importance of the

informal sector and resettlement. It unlocks the potential of a substantial agenda for university researchers to support innovative attempts to find new ways to achieve just, sustainable LED initiatives and build global consciousness and empathy in progressing towards a sustainable world.

4. The **Centre for Competition, Regulation and Economic Development (CCRED)** undertakes rigorous research in industrial development, competition and economic regulation, and regional value chains. The aim is to produce knowledge demonstrating the links between inequality and the economy's structure and identifying opportunities for structural transformation for broader economic participation in South Africa and the region. CCRED further delivers education, training, and capacity-building support to empower professionals and institutions responsible for policy-making and implementation in these fields. It includes specialist advice to competition authorities and regulators in competition enforcement and economic development. The Centre collaborates with leading experts in these fields through strategic partnerships with foremost institutions and universities to ensure global relevance.

5. The **Centre for Public Management and Governance** offers two well-established flagship 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 hosts national and global research associates, senior research associates and a distinguished visiting professor, Prof M de Vries (Netherlands). The Centre has international partnerships and engages with organisations such as the South African Local Government Association (SALGA) and the National School of Government (NSG).

6. The **Public and Environment Economic Research Centre (PEERC)** focuses on essential, applied, strategic research in environmental economics. Governments and development agencies have recognised the critical role of environmental assets for sustainable development. This increased focus on a healthy environment has shifted the fiscal debates worldwide to policies that promote the effective incorporation of environmental concerns into development decision-making.

7. The **Technopreneurship Centre** is a creativity and innovation hub that addresses industries' most pressing unresolved challenges, researched and solved by our students, supported by exceptional academics. The Centre fosters collaboration among students and industry partners to build technologies through hackathons. Students structure real-life innovative solutions in intelligent software systems, video games, mobile applications (apps), and other technological solutions that address business, economic and societal challenges required by industries, local communities, and the government.

8. The **Centre for Applied Data Science (CADS)** is the expression of the passion of the CBE to embed data science into the teaching, research, and community efforts of the college. CADS has established strong national and international partnerships, including TBS Education in France and Sol Plaatje University in South Africa, to enhance its research, teaching, and learning efforts. In 2022, CADS organised the Artificial Intelligence (AI) Day event, which brought together researchers, educators, and practitioners to showcase their ideas and praxis in AI. The event coincided with the official launch of CADS, which was marked by addresses from the outgoing VC, Prof. Marwala, and the current DVC, Prof. Sinha. CADS currently offers two PG qualifications, the Master of Applied Data Science (MADS) and the Doctor of Philosophy (DPhil) in Applied Data Science, with plans to expand its portfolio of programmes to include more PG and UG programmes in the future.

9. The **Centre for Work Performance** aims to spearhead applied research in the world of work and broader society. We combine theory and practice that embrace applied research in the workplace and communities to contribute to organisational sustainability, broader economic upliftment, growth, and competitiveness. Therefore, the Centre structures activities around five focus areas: Sustainable leadership, Meaningful work and Well-being, 4IR Talent management, Strategic Rewards Management, and Contemporary HR Solutions to deliver empirical research and practice-based research, talent development interventions, training and consultation and community enrichment.

10. The **UJ/ETDP-Seta Chair in 4IR** conducts fourth industrial revolution research-related projects on behalf of the education, training, and

development practices SETA (ETDP-SETA). The Chair conceptualised and set up the 4IR hubs in the 10 TVET Colleges, a Department of Higher Education and Training, Science, and Innovation initiative. Training solutions are developed by actioning the research outcomes' identified gaps. In this regard, the Chair creates short learning programmes. In 2022, the TVET colleges' finance staff and unemployed youth in Gauteng enrolled.

11. The **Wholesale and Retail Seta Leadership Chair (Gauteng) (WRS LC)** conducts exceptional national and internationally relevant research. It equips retail professionals and academics with the knowledge and skills to meet the demands of the 4th industrial revolution. Research is aligned with the national imperative to encourage more postgraduate studies and to increase research outputs through accredited research articles, books, book chapters and conference proceedings.

12. The **TETA 4IR Research Chair** conducts evidence-based research for a better understanding of the future of the transport sector's skills needs. In addition, it contributes to transforming the industry by training transport sector employees in 4IR technologies, improving societal mobility solutions and increasing the employability of transport trainees. Ultimately, these outcomes will support policy responsiveness and the six TETA strategic pillars.

RESEARCH FUNDING

Much of the CBE's research activity is funded by the National Research Foundation (NRF) and competitively won research grants. Research income rose to R30 million in 2022, an increase of 16.8% compared to 2021. Revenue for research projects with a contract stipulating the deliverables grew by more than 58%. This growth was particularly noteworthy given the continued disruption to research experienced across the University due to the pandemic.

Selected research funding highlights in the past year include:

- Dr Stiehler-Mulder secured R2.3 million from the Wholesale and Retail SETA for youth skills development and professionalisation of the retail industry.
- CCRED secured R8.97 million from the Department of Trade and Industry to support the Industrial Development Think Tank (IDTT) in better understanding the challenges of industrialisation.
- Prof Chioma Okoro secured BankSeta funding of R3.87 million for students undertaking research in Technology, Digitisation and Innovation, and Management and Leadership Development within the Department of Finance and Investment Management.
- Professors Tregenna and Visiting Professor Padmashree Gehl Sampath (Harvard University) secured a significant international research grant of R11,5 million from the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH for the project: Accelerating Vaccine Production in Africa.



Partnerships, Stakeholder and Community Engagement

JOINT, EXCHANGE, AND STUDY ABROAD PROGRAMMES (INCLUDING VIRTUAL)

CBE engaged in various strategic endeavours on internationalisation. Collaboration in hosting conferences and applications for funding with international partners allows students to present their work and participate in exchange programmes. The partnerships with CBE range from institution to institution. A debate series for doctoral students in collaboration with the SARCHI-Trilateral Research Chair in Transformative Innovation (TRCTI) on Energy and Innovation policy in the energy sector, between Prof. David Walwyn (Visiting Professor) and Prof. Rasmus Lema (GES 4.0 Visiting Professor) was held. Thirty CBE students participated in the Africa by Bus initiative to Namibia to be exposed to foreign markets, international businesses, and different African cultures and, secondly, to align their knowledge with the Free African Trade Policy. In 2022, there was a formidable flow of inbound

and outbound staff and student activity – the CBE mobility target was exceeded by 14 times. Nkosingiphile Mkhize was awarded a Fulbright Foreign Student Program scholarship, one of the most prestigious programmes globally.

COMMUNITY ENGAGEMENT PROJECTS

CBE staff participate in different media platforms disseminating their knowledge covering various topics in economics, digital technologies, public finances, etc.

The School of Tourism and Hospitality (STH) launched an Extended Reality (XR) Lab in 2022. The XR facility is established through the Food Evolution Research Laboratory (FERL), a virtual research laboratory located within STH, in collaboration with the Metaverse Research Unit at the University. FERL specifically focuses on the evolution of food and research to enhance people's lifestyles in communities that recognise the importance of health and nutrition.



Prof Fiona Tregenna



Prof Erika Kraemer Mbula



Prof Talita Greyling

In Global Academic Citizenship and Leadership, Prof Fiona Tregenna is a member of the Task Force on Employment, a global Initiative for Policy Dialogue (IPD), residing with Columbia University and the Japan International Cooperation Agency (JICA), chaired by Prof Stiglitz. Prof Erika Kraemer Mbula participated in a conference on policy dialogue on the informal economy in Africa. The conference included government officials, representatives

of the African Union Commission, employers', workers' organisations, development agencies, informal economy actors, academics, and civil society organisations (a national and international audience). Prof Talita Greyling, in partnership with the Erasmus University Rotterdam, has been conducting public research on the happiness and emotions of countries participating in the FIFA World Cup Qatar 2022™.



Alumni and stakeholder engagements and external funding

On 27 May 2022, CBE attended the launch of the UJ Zimbabwean Alumni Chapter in Harare, Zimbabwe. The first Alumni Chapter to be launched in Africa in collaboration with the UJ Internationalisation Division, UJ Alumni Division, and the President of the UJ Convocation. An estimated 973 CBE graduates from Zimbabwe walked the UJ stage, and reconnection with these alumni opened an alma mater and friends' network to explore mutually beneficial collaboration opportunities.

CBE also supports its accountancy graduates in preparing for the Initial Test of Competence (ITC), the first professional assessment by the South African Institute of Chartered Accountants. CBE is the most significant contributor of residential and distance-learning universities of African students to the Accounting Profession, contributing an astonishing 21% of the total number of first-time African candidates who have passed across the 18 SAICA-accredited universities. The University pass rate for first-time African candidates is 27% higher than the national average.

The Dignitas awards, hosted by the Council, honour individuals for their outstanding contributions to the higher education sector, and UJ alumni for their contributions to the growth and advancement of the institution. In 2022, Ms Mamello Matikinca-Ngwenya, CBE alumni, received this award for her

ambition and excellence as one of the youngest chief economists in South Africa's history.

Fitness for global excellence and stature requires the College to be financially stable, generate external income, and increase third-stream income. In addition to research funding, CBE has contributed about R326m (41%) of the University's third-stream revenue. The funds come from different sources, including offering non-subsidised programmes, consultancy, donations, internal transfers, etc. Third-stream income is mainly used to fund the appointment of additional staff, bursaries, building international relations, marketing, and for causes such as research support.

CBE stakeholder management extends to other stakeholders that continue to make a name for themselves, such as Mr. Ajen Sita (Ernst & Young Africa CEO and Professor of Practice), who was awarded the Leader in Business Award at the SAICA Difference Makers Awards, and Ms Monica Singer, Professor of Practice, for achieving the Woman in Web 3 Award at the Women in Tech Africa Awards. She was appointed to the Global Digital Asset and Cryptocurrency (DCA) Association's Advisory Board. CBE successfully nominated Mr. Mteto Nyati, a South African visionary, for a PhD Honoris Causa (IT Management) for his outstanding contribution to the South African business sector and humanity.



Mr. Ajen Sita



Ms Monica Singer

Transformation

The College takes transformation very seriously, along with the different themes of the University's Transformation Division. The advancement of employment equity, including women and people with disabilities, remains a key focus. In 2022, 65.56% of all staff were black, and 54.67% were women. CBE is committed to a recruitment plan

that will improve equity representation at all levels to reflect the demographics of South Africa. Talent management and CBE's prominent participation in development programmes like AAMP will strengthen the efforts for a representative pool of leaders ready to take responsibility.

Faculty Governance and Risk Management

CBE has robust and well-functioning governance structures to ensure the academic integrity of critical decision-making. Notwithstanding, all staff have a responsibility towards governance. This function is enhanced by the institutionalisation of the Head: Quality Assurance office. Several governance structures are in place to ensure academic oversight and programme quality. These committees comprise the College Leadership Team, Higher Degrees Committee, Teaching and Learning Committee, Research Ethics Committee, and Decolonisation Committee. Decisions are ratified and taken at the Board of College, and further inputs are made at the Programme Working Committee.

Effective risk management is at the core of good governance. CBE has a flexible risk management

process with the risk register revisited frequently and seeking to mitigate potential or identified risks. The dynamic nature of risk management is reflected in the year-on-year changes to the University Risk Register noted below. There were several risks identified during the year. This included employee burnout, the consequences of staff/student mental well-being associated with the pandemic, the integrity of online assessment, and deepened the need for student financial support. Appropriate responses were implemented, such as the Dean's Support Staff Reconnect Lunch, Self-Care & Self-Love seminars, secretaries acknowledgement **(Image below)**, students' wellness series, academic integrity campaigns, and CBE putting aside student financial support.



Finance and Resource Management

CBE manages its finances transparently and prudently. This is fundamental to long-term sustainability, together with efforts that generate additional income, contributing to the University's resources.

CBE's financial position remains stable, and we have

maintained reasonably strong income streams to support the academic project and the institutional objectives. CBE is well-placed to be still able to invest in its strategic priorities, including helping students who are academically deserving but who carry historic debt.

Environmental sustainability

An unstable climate, increasing carbon emissions, and accelerating biodiversity loss require urgent action. CBE is building on the experience of the pandemic and the potential shift to more environmentally sustainable working practices. We are an increasingly all-digital office committed to continually improving our paper use.

Research shows that the most effective way to reduce the climate impact of diet is to consume less meat and dairy and eat more plant-based foods. Through the School of Tourism and Hospitality operations, CBE makes vegetarian food options available at most outlets. The Food Evolution Research Laboratory is involved in research projects that influence thinking, choices, and health, nutrition, and food waste management decisions. Our Programme Qualification Mix includes curricula on sustainability and how to account for environmental rehabilitation.

THE WAY AHEAD

The 2022 achievements of CBE are attributable to the hard work, dedication, and resilience of all staff members, students, and the rest of our stakeholders. Even with the achievements, there are challenges ahead. Presently the CBE needs to establish a stable leadership team where all vacant posts are filled on a more permanent basis, which will build on the College's previous successes to address current challenges.

Graduate output and module success rates are down, and academically deserving students need help to fund their studies.

We will work collectively as one CBE to provide a humane environment in which everyone can contribute and flourish and where differences are

valued while we stay devoted to the following strategic commitments:

- Attract and admit students from all backgrounds with outstanding academic potential.
- Raise funds to support the best students and other CBE strategic initiatives to ensure financial sustainability.
- Attract, recruit, and retain high-quality staff.
- Work towards an increasingly diverse staff profile that reflects the demographics of South Africa in senior academic and leadership positions.
- Invest in tools with digital capabilities for responsive decision-making and timeous interventions and streamlining administrative processes.
- Promote and enable ambitious research of exceptional quality, while providing experienced researchers and visiting scholars' opportunities to contribute towards capacity building.
- Engage with the public, industry, and policymakers to inform our research and teaching to produce graduates equipped to leverage emerging digital technologies for societal impact.

At the core of the UN's 2030 Agenda for Sustainable Development is a set of 17 interlinked Sustainable Development Goals (SDGs). The holistic, interdisciplinary approach of CBE's research programme will underscore the ability to integrate expertise and knowledge across multiple disciplines to address goals and illuminate their interconnections through establishing research themes based on SDGs.

I look forward to another full year of significant events and impactful research.



Teaching and Learning

Prof Sivan Chetty

Vice Dean: Teaching and Learning
College of Business and Economics

OVERVIEW

Entry into the 2022 academic year was shrouded with much uncertainty. The devastating and lingering effects of the Covid-19 pandemic on an inherently fragile economy cast a shadow on the hopes and aspirations of South Africans across the demographic sphere. The first quarter of 2022 recorded an unemployment rate of 34,5%. Despite some decrease in the overall unemployment rate over the year, youth unemployment (15-24 years) remained obstinately high and stood at almost 60% by the third quarter of 2022. At the same time, graduate unemployment registered at 11%. An environment such as this makes it incumbent on the CBE to contribute meaningfully towards youth employability. Unfortunately, heightened economic insecurity intensified socio-economic hardships that transmitted unequivocally into the academic environment, through inadequate student attendance and participation in learning activities. Ultimately, overall academic performance was adversely impacted.

In line with the institutional decision, the CBE embarked on a hybrid approach to teaching and learning in the first semester of



2022. This meant the delivery of just over 500 (first semester and year) modules in close to 140 mainstream programmes to a population of over 18 000 students across the College through a combination of in-person and online engagements, involving in-person (on-campus) student attendance on a rotational basis (to comply with the Covid-19 protocol on venue utilisation). Fortunately, this did not impact much on the postgraduate domain due to smaller student numbers and research modules involving supervision of dissertations and theses. Arrangements had to be made, particularly for undergraduate modules.

The CBE is a multifaceted ecosystem consisting of six schools through which 12 departments present modules in different disciplines that vary in terms of theory, quantitative content, practical work, teaching pedagogy, assessment and learning activities. Given this complexity, the hybrid approach to teaching and learning placed an enormous burden on academic staff in ensuring a well-coordinated effort to a smooth and timely completion of the academic period.

Unfortunately, despite the painstaking effort of staff, poor student attendance and inadequate engagement in learning activities resulted in less-than-desirable student performance in the first semester of 2022. This led to several meetings with various stakeholders and focus group discussions to understand why students did not engage adequately with their learning environment. Although departments were sensitised to the multiple issues raised by staff and students, various factors remained outside the College's control. Despite ongoing initiatives to improve student performance, the end-of-year results were still below expectations.

ENROLMENT AND STUDENT PROFILE

Total headcount enrolment in subsidised programmes stood at 18 228 students in 2022, representing 99,4% of the planned target and reflecting nearly half a percent growth from 2021. A decline at an annual average rate of 0,8% is evident over the five years from 2018 to 2022. The trend in enrolment is mainly in line with the institutional enrolment plan for subsidised programmes. If the 7 851 students in non-formal programmes are considered, then the CBE's total enrolment would have been just over 26 000 students in 2022.

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

- Undergraduate (UG) headcount enrolment at 15 138 students represented 99,6% of the planned

2022 target and grew by 0,5% from 2021. There was an annual average decline of 1,3% over the five years from 2018 to 2022.

- Postgraduate (PG) headcount enrolment at 3 090 students represented 98,3% of the planned 2022 target and grew by 0,3% from 2021. There was an annual average increase of 1,7% over the five years from 2018 to 2022.
- The relative shares of PG and UG students to total enrolment were virtually the same in 2021 and 2022 at 83% (UG) and 17% (PG). There has been a noticeable increase in the proportion of PG students over the five years, from 15% in 2018 to 17% in 2022.
- First-time-entering undergraduate enrolment was recorded at 4 021 students in 2022, representing 98,1% of the planned target, compared to 98,8% in 2021.
- The proportion of UG first-time-entering students with admission point scores (APS) of 35 or more (excluding Life Orientation) increased from 21,8% in 2021 to 33,5% in 2022.
- The proportion of UG first-time-entering students from the lowest South African quintile schools (quintiles 1 and 2) increased from 26% in 2021 to 29,4% in 2022.
- The proportion of UG first-time-entering students from high-performing South African quintile schools (quintile 5) dropped from 35,6% in 2021 to 29,5% in 2022.
- International enrolment stood at 1 362 students in 2022, representing 98,2% of the planned target and 7,5% of total enrolment. There was a decrease of 4,4% from 2021, as well as an annual average decline of 0,6% over the last five years. International UG enrolment in 2022 was 96,1% (966) of the planned target and declined by 5,4% from 2021. International PG enrolment in 2022 was at 103,7% (396) of the planned target and dropped by 1,7% from 2021.

STUDENT ACCESS, SUCCESS, AND SUPPORT

As indicated above, the CBE provides opportunities for just over 26 000 students for some form of higher education through formal (subsidised) and non-formal (non-subsidised) academic programmes. Considering subsidised programmes, the CBE catered for approximately 37% of the total UJ enrolment in 2022. Alternative entry and articulation opportunities are critical to the CBE in broadening access to higher education. To this end, the CBE enables many students to enter university or to articulate higher qualifications via extended programmes, bridging programmes,

advanced diplomas, short-learning programmes, and recognition of prior learning (RPL). These opportunities provide alternative access or articulation and are designed to prepare students properly for university studies.

Promoting student performance and providing opportunities for the holistic development of potential graduates lies at the heart of the CBE academic project. Through its schools and departments, the College engaged in several measures aimed at providing a holistic learning experience for students.

Key measures mainly aimed at UG students include:

- **First-year and senior student experience** – The CBE plays a significant role in institutional initiatives to support undergraduate student learning. Soon after the First Year Seminar (orientation), various opportunities are provided by the Academic Development Centre (ADC), Centre for Academic Technologies (CAT), and the Library Information Centre for students to develop the kinds of skills needed to cope with the demands of university studies.
- **Integrated Student Success Initiative (ISSI)** – In its current format, the ISSI focused on priority modules and was scaled down in 2022, given the development of a new approach focusing on student progress in a qualification. This new approach is expected to be used to identify appropriate interventions aimed at student success for implementation in 2023.
- **Operational and strategic tutor funding** – With an average tutor budget of R8 818 961 and a strategic tutor fund allocation of R1 187 670, the total financing for tutor support was just over R10 million in 2022. Unfortunately, this total was underspent by close to R670 000. Attempts were made during the year to redeploy funds from potentially underspending environments to those in need. However, these efforts did not yield much success. Notwithstanding the underspending, the total spending of R9,33 million is a substantial investment in tutorial support and works out to an average of R512 per student on subsidised programmes in the CBE. Most of the tutorial support was for UG programmes, so the amount per UG student would be much higher.
- **UJ-funded e-textbook initiative for undergraduate students** – This is an institutional effort to provide electronic access to textbooks in priority areas, considering module success rates and enrolment size. In 2022, a total of 8 modules involving six books in the CBE were supported through this initiative.

- **CBE Student Peer Mentoring Programme** – This initiative aims to support first-year students in transitioning to a university environment. Given the lessons learned during the Covid-19 pandemic in 2020 and 2021, it was decided to include a standing online component in the Peer Mentoring Programme. Work commenced in 2022 and will be rolled out more substantially in 2023.
- **Student Personal Development Programme** – This programme, aimed at first-year UG students, was piloted in the Department of Accountancy in 2021 and then rolled out to the wider CBE in 2022. In 2022, 1 237 students completed the programme. Students who did not complete the programme will be nudged to do so in their second and third years of study.
- **Work-integrated Education (WIE)** – WIE features programmes with a strong practical orientation, such as marketing, tourism and hospitality, accounting, and business management.
- **UJenius Club** – UJenius is an institutional initiative to provide incentives and enrichment opportunities for top-performing students. The number of UJenius members in the CBE increased by 30,7% from 502 members in 2021 to 656 in 2022. The 2022 membership consisted of 257 first-year and 399 senior students. 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.
- **School/departmental initiatives** – Schools and departments provide discipline-specific support for student learning through in-person and online endeavours.
- **Monitoring of student performance** – Whilst departmental heads and school directors are expected to play a pivotal role in monitoring student progress, discussions also occur within structures such as the College Leadership Team (CLT) and the CBE Teaching and Learning Committee (CLT). CAT monitors students' levels of online activity, and weekly Blackboard Activity Reports are generated.

The Vice Dean: Teaching and Learning analyses these reports and sends them to the school directors for consideration and action where needed. Specific concerns around student performance are flagged and discussed through special meetings led by the Vice Dean: Teaching and Learning. This occurred when concerns were raised about student performance in the first semester of 2022. This is elaborated on below.

The following are some of the essential outputs relating to student performance in 2022:

- The overall UG module (credit) success rate (MSR) for 2022 was 83,9%. This is significantly lower than the 2021 MSR of 88,2% (by 4,3 percentage points). It is also lower than the rates attained in the immediate years before the Covid-19 pandemic. The MSR averaged 86,4% over the last five years, which was clearly impacted by the distinctly lower rate in 2022. The signs of a decline in student performance were already identified in the first semester of 2022. This prompted extensive discussions involving various stakeholders. This is elaborated below.
- The deterioration in student performance is also evident in the decline in the MSR for the first-time-entering UG students by 3,2 percentage points from 89,9% in 2021 to 86,7% in 2022. The MSR for this student category averaged 87,4% over the last five years.
- The UG dropout rate by year two averaged 11,3% for the cohorts from 2018 to 2021. The overall dropout rate by year two averaged slightly higher at 11,8% for cohorts over the same period.
- The overall graduate output for 2022 is 4 429 students, which is 13,9% less than in 2021. This decline is evident for UG and PG programmes of 15,6% and 9,2%, respectively. The CBE has yielded an average total graduate output of 5 170 students per year over the last five years.
- The overall graduation rate for 2022 is lower at 24,3% compared to 28,3% for 2021. Lower graduation rates are evident for both UG and PG programmes, from 24,9% to 20,9% and from 45,4% to 41,1%, respectively. The overall graduation rate averaged 28,4% over the period 2018 to 2022.

The poor student performance in the first semester of 2022 led to a series of engagements involving the College Leadership Team (CLT) and other stakeholders, namely the Academic Development Centre (ADC), PsyCad, and the Centre for Academic Technologies (CAT). The primary reasons presented for the poor performance included the following:

- Inadequate engagement with online and in-person learning opportunities.
- Poor class and tutorial attendance.
- Inadequate preparation for assessments.
- Behavioural and mindset issues stemming from school.
- Challenges with adjusting from online learning to in-person or hybrid learning.
- Language issues.
- Students are not taking responsibility for their learning.
- Low student self-esteem and confidence.

- Transport costs and other socio-economic issues that impact class attendance.
- Absence of campus culture.

There was a shared view that the following two factors are critical to student performance:

- Student mindset and level of engagement.
- A vibrant campus culture that promotes a sense of identity and belonging.

As we advance, it is emphasised that students should be encouraged to take advantage of the several support services provided by ADC, PsyCad and CAT. However, eliciting the 'students' voice' was also crucial through a CBE-wide survey and focus group interviews. Prof Adri Drotskie, Director of the School of Management, undertook to coordinate this latter initiative. In the end, she surveyed the views of both students and staff through focus group discussions facilitated by lecturers at school/departmental levels.

A comprehensive data set was obtained from the lecturers who facilitated focus group discussions in class, and from students who completed Google forms. A total of 300 Google forms were received with data that resulted in 1 700 lines of input. The findings from the student input revealed typical difficulties relating to socio-economic factors, finance, a sense of isolation stemming from operating in an online environment in past years, not being well prepared for the demands of university studies, lack of a campus life/culture, transport issues and security concerns.

Several recommendations emerged in response to the findings, such as the use of technology as an enabler for online learning on campus; orientation workshops at the start of each year of study; workshops on basic skills; extending the role of tutors to assist in life skills and personal support; student societies in different fields of interest; lecturers taking on the role of facilitators and mentors; incorporation of more practical/experiential learning into curricula; provision of more learning spaces for students to study on campus; and ultimately ensuring a safe and healthy campus environment that would give students a sense of security. Discussions on the implementation of these recommendations are yet to take place.

TEACHING AND LEARNING INNOVATIONS IN 2022

Several initiatives across the CBE were undertaken in 2022, involving the development and/or introduction of innovative approaches, new content and courses relating to 4IR in the teaching and learning environment. Below are some of the key initiatives undertaken in 2022. They are projects that have either been implemented in 2022 or are at an advanced stage of development.

- Student Personal Development Programme (PDP) – Piloted in the Department of Accountancy in 2021 and rolled out to the CBE first-year students in 2022.
- CIMA Online Short-Learning Programmes (CGMA-SLP) in the Department of Accountancy – The CIMA SLPs were approved at Senate in January 2022 and piloted between April and August 2022, followed by two intakes (July and October 2022).
- Development of multilingual glossaries for Auditing and Internal Control in the Department of Commercial Accounting – The project, involving translations into isiZulu and Se Sotho sa Leboa, was implemented in the latter part of the first semester of 2022.
- Case study writing and teaching in the CBE – Three workshops were presented in 2023, and work has commenced to convert these to a short-learning programme.
- Academic Integrity Project in the School of Management – A campaign promoting academic integrity was undertaken in 2022.
- Business simulation in the Department of Business Management – This was developed and introduced for honours and advanced diploma programmes in 2022.
- TRACE Project in the Department of Business Management – This entailed the development of online tools with TRACE. The project concluded in 2022, with data now being collected to evaluate the initiative's impact.
- JSE Challenge for Accounting Students in the Department of Business Management – Students participated in an online trading simulation hosted by the Johannesburg Stock Exchange. In 2022 seven student teams from the Commerce 100 module were in the top 50 trading teams from universities across South Africa.
- Video-based personal entrepreneurial development in the School of Management, in collaboration with AIS – This approach entails teaching through story-telling in entrepreneurship modules.
- Research proposal writing toolkit in the Department of Business Management – The Toolkit supports PG students in writing a research proposal.
- IBE Teaching and Learning Innovation Project in the Department of Business Management – A teaching handbook was developed by lecturers collaborating on intercultural business ethics and innovation (South Africa, China and Switzerland).
- KPMG Boardroom Challenge in the Department of Business Management – After taking the challenge into an online virtual setting during Covid, it was hosted again in 2022 with great success, helping students to achieve their learning outcomes and develop business acumen.
- Digital Literacy Awareness in the Department of Business Management – Workshops on digital literacy were conducted for first-year students.
- The utilisation of social media for assessments in the Department of Business Management – This initiative involved the use of social media for practical assessments in entrepreneurship modules. Training for Facebook, Instagram, and WhatsApp for business was done in partnership with a social enterprise, Siyafunda CTC.
- Chatbot WhatsApp in the Department of Finance and Investment Management – The App was designed and developed in 2022 and will be launched in 2023.
- Ethics Game in the Department of Finance and Investment Management – Development of the Game commenced in 2022 and is currently being finalised. Students will be able to learn the rules and regulations of the Department and University through this game.
- Pro-Inspector Game Project in the Department of Finance and Investment Management – The game prototype was piloted in 2022, and students' experiences with its ease of use and practical usefulness in teaching property inspections were established. The data has been analysed, and the write-up is being completed.
- Financial Literacy Game in the Department of Finance and Investment Management – This game is currently in the final stages of development.
- Supply Chain Simulation in the Department of Transport and Supply Chain Management – This software is utilised in the honours-level supply chain modules. Supply chain scenarios are simulated into projects, and students are requested to solve real-life supply chain problems.
- Gamification in the Department of Transport and Supply Chain Management is used in the Advanced Diploma module, Applied Logistics Processors and Practices. Scenarios are simulated into projects, and students are requested to solve

real-life supply chain problems.

- Short courses on 4IR in the Department of Information and Knowledge Management – An SLP entitled Knowledge Economy in the 4IR was developed to focus on the application of 4IR tools and technologies in the field of information and knowledge management, with a specific emphasis on knowledge sharing as a fundamental teaching construct within the information and knowledge management pedagogy.
- Multilingual Virtual Assistant in the Department of Marketing Management – This App is aimed at assisting marketing research students in English and Isizulu. The project is currently in the testing phase for English data and is migrating Isizulu data to the Virtual Assistant. The project is expected to be completed by the end of 2023.
- McGraw Hill Connect in the Department of Marketing Management. This initiative involves using a Smartbook as an adaptive learning and reading tool that personalises content for a student's unique needs. It is offered through the McGraw Hill Connect platform.

STAFF TRAINING AND DEVELOPMENT IN THE AREA OF TEACHING AND LEARNING

Several workshops/webinars were held in 2022 for academic staff in the context of teaching and learning:

- Reflections on the experiences of 2020 and 2021, facilitated by Sivan Chetty – presentations by CBE schools/departments – 04 May 2022, online.
- Data and Care: Technology-Supported Teaching and Learning, presented by Joshi Hemali – 25 May 2022, online.
- Case Study Workshop 1: Introduction to Case Study Writing and Teaching, presented online by Adri Drotskie – 20 July 2022.
- The Business and Management Collection Support for Teaching and Learning, presented by HS Talks – 26 July 2022, online.
- Case Study Workshop 2: Case Study Teaching, presented by Adri Drotskie – 03 August 2022, online.
- Recognition of Prior Learning – Meaning, Rationale, and Evaluation, presented by Gloria Castrillon and Kibbie Naidoo – 17 August 2022, at the School of Tourism and Hospitality.
- Work-integrated Education presented by Roelien Brink – 31 August 2022, online.
- Case Study Workshop 3: Case Study Writing, presented by Adri Drotskie – 14 September 2022, online.

PROGRAMME QUALIFICATION MIX

The CBE's programme mix is based on the various fields of specialisation that characterise its constituent schools and departments. It offers a comprehensive suite of accredited qualifications in disciplines related to business and economics across the NQF spectrum from Level 6 to 10. In addition, it caters for continuing professional development, skills enhancement, and access to further studies through a range of continuing education programmes (CEPs), comprising whole programmes, bridging programmes, and short learning programmes (SLPs). Recent developments indicate an increased focus of SLPs on 4IR-related aspects.

Considering the number of programmes in the CBE programme qualifications mix (PQM), phase-out qualifications for a given year are included (for which pipeline students were still registered). However, programmes at each qualification level were clustered according to a standard programme name and qualification descriptor as far as possible. Furthermore, only active programmes each year are considered for this report.

The following are some key features of the CBE PQM in respect of subsidised programmes:

- In 2022, the CBE presented 138 subsidised programmes compared to 148 in 2021. The CBE per year presented an average of 146 programmes over the last five years.
- The 138 programmes that were active in 2022 consisted of 46 at the UG level and 92 at the PG level.
- The UG portfolio comprised 13 diplomas, 13 advanced diplomas and 20 degrees.
- The PG portfolio comprised 23 honours, five postgraduate diplomas, 41 master's degrees (coursework and research) and 23 doctoral programmes.

The following are significant features of CEPs, including online programmes.

- There were 66 active CEPs in 2022 compared to 69 in 2021.
- The total enrolment in CEPs, including registrations for non-degree purposes, master's and doctoral preregistrations, and occasional registrations, was 7 851 in 2022, close to 4% above the 7 563 for 2021.
- CEPs consist of whole programmes, bridging programmes, and predominantly SLPs. Recent developments indicate an increased focus of SLPs on 4IR-related aspects.
- In 2022, the CBE had 13 whole programmes on its

books, presented entirely online, compared to nine in 2021.

Other programme-related aspects:

- CBE schools and departments regularly review programmes and modules and their delivery modes to ensure quality and relevance. The CBE Head of Quality Assurance oversees these reviews.
- New programmes and amendments to existing ones are scrutinised by the CBE Programme Committee and go through a rigorous internal approval process.
- Significant progress has been made with the flexible BCom Degree. Senate approval for the programme was obtained in the second semester of 2022. It was then submitted to DHET for PQM clearance in December 2022. This application was successful, as DHET informed the University in January 2023 that the programme complied with the necessary guidelines for PQM clearance in both contact and distance modes.
- The hybrid approach to teaching and learning present challenges relating to the time and effort involved in coordinating teaching and assessment activities. However, the experience of online teaching and learning in 2020 and 2021 did help to ease the process somewhat. The transition to complete in-person instruction in the second semester presented some difficulty, as staff and students attempted to re-orientate themselves to contact-based teaching, learning and assessment. These experiences have provided greater prominence to blended learning as a mode of delivery.
- The University offers two enrichment modules for UG students: African Insights (AIOM) and Artificial Intelligence in 4IR (AIFIR). A student must complete at least one of these modules for graduation. In 2022, 2 305 students completed the AIFIR module, compared to 1 616 in 2021. In the case of the AIOM module, 1 287 completed it in 2022 compared to 1 378 in 2021. The total completion over the last three years was 5 824 and 4 487 for AIFIR and AIOM, respectively.

THE WAY AHEAD

If anything, recent years have shown that both local and global developments inevitably impact the academic environment. Failure to adapt to social, economic, political, and technological changes will lead to the demise of higher education as we know it. Amidst a sea of change, the CBE fleet remains steadfast in its path of excellence in teaching and learning to deliver graduates with the knowledge and the thinking skills needed to make sense of and respond to the challenges associated with the dynamic and complex world of business and economics.

The CBE cannot afford to become complacent about what and how it delivers education. In contributing to the holistic development of future graduates, it needs to be ahead of the curve in critical areas relating to teaching and learning. As such, it needs to constantly explore creative ways of addressing the dimensions of time, space, and matter (content) to be at the forefront of teaching and learning locally and globally.

The following are of strategic importance as we advance:

- Currently, programmes are reviewed periodically. This may not be adequate for an environment that is changing rapidly. Hence, a process should be put in place to allow for continuous critical reflection and review of programmes in terms of content and how they are packaged. This also entails an ongoing review of the overall CBE PQM.
- The delivery of teaching in terms of time and space should be reviewed with a view to finding creative and flexible delivery modes to cater to the shifting demands and lifestyles of an evolving student demographic.
- There should be an increased focus on providing an enriching university experience for students beyond the curriculum.
- There should be critical reflection on how we assess students, monitor their performance, and support them during their academic journey.



Research And Innovation

Prof Hossana Twinomurizi

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



OVERVIEW

Figure 1, particularly highlighted in green, presents an overview of the 2022 Research Excellence Framework. In terms of impact, the number of Scopus-listed publications increased to 658 (+14.24%), Scopus-listed publications in collaboration with international scholars increased to 46% (+3.60%), Scopus citations are standing at 7,582 (+16.52%). Publications in the Top 10% of global journals (SNIP) increased by 14.38% to 31%.

Research Framework	2021	2022	Change	
Journal	479.6	548.5675	↑	14%
Book	18.5	14.3333	↓	-23%
Chapter	52.36	35.8269	↓	-32%
Proceeding	45.98	63.4613	↑	38%
4IR	98.8	123.1394	↑	25%
SOTL	28.79	72.4288	↑	152%
Scopus	576	658	↑	14%
DOAJ	84	166	↑	98%
IBSS	49	36	↓	-27%
WoS	7	9	↑	29%
DHET	25	25	↑	0%
SNIP	29.7	31	↑	4%
Scopus (International colab) - %age	44.4	46	↑	4%
Scopus (4IR)	77	161	↑	109%
Scopus (Citations)	6507	7582	↑	17%

Figure 1: CBE Research Framework

The increase in the number of journal articles (+14.38%) and more significant growth in conference proceedings (+38.02%) points to the post-COVID return to travel and the continuous increase in the quality of our research outputs. Most notably, our journal articles exceeded the 500-mark barrier for the first time!

There was also a significant increase in SOTL publications (+151.58), which reflects how CBE researchers published their reflections on their teaching and learning experiences during and after COVID. One hundred seventy-six publications had COVID in their titles.

Figure 2 represents a word cloud of all the 2022 CBE research, reflecting how CBE actively engaged in social and economic matters important to South Africa, economic performance, risk, COVID, technology, youth and tourism.

C-rated: 26

Images top left to right: Prof F Adekambi, Prof I Botha, Prof KJ Bwalya
Prof S Dhliwayo, Prof JH Eita, Prof GA Goldman,
Prof C Hill, Dr V Kalitanyi, Prof C Marnewick



Images top left to right: Dr JC Mba, Prof DF Meyer, Prof STM Moloi,
Dr OM Mosweu, Prof M Mpinganjira, Prof JW Muteba Mwamba,
Prof N Ngepah, Prof KN Njenga, Prof S Roberts,
Prof JM Rogerson, Prof A Thomas, Prof FM Tregenna



Images top left to right: Prof TJ Tselepis, Prof H Twinomurinzi, Prof DE Uwizeyimana, Prof G Verhoef and Prof LG White



Postdoctoral Research Fellows



Y-rated: 8

Images top left to right: Dr JK Giddy, Dr M Kante, Dr ET Maziriri,
Prof N Meyer, Prof D Nel-Sanders, Dr MI Raborife,
Dr C Schachtebeck and Prof BD Simo Kengne



The CBE Postdoctoral Research Fellows also contribute to the CBE research output and we annually hosts a 3-minute poster presentation where the postdoctoral research fellows showcase their achievements.



Glasgow Caledonian University, Scotland, CBE Graduation

POSTGRADUATE STUDENTS

GRADUATION 2022

In 2022, the College conferred a total of 1 397 postgraduate qualifications. In total, 357 were postgraduate diplomas, 817 honours qualifications, 180 master's degrees, and 43 doctorates. All in all, there was a drop in the different qualifications conferred in 2022 compared to 2021.

DOCTORAL CANDIDATES FORUM

The College hosts doctoral candidates' forums and think tank networking events to support and connect with the students.

(Image next page: middle).

CBE HONOURS RESEARCH DEVELOPMENT

The College annually hosts an Honours research workshop and Poster Presentations event for the top three posters per department.

(Image next page: bottom).

INTERNATIONALISATION

The University of Johannesburg, Division of Internationalisation, initiated the Africa by Bus Project with the aim of developing and upskilling

UJ students to understand, communicate and interact with the Africa continent's diverse economies and cultures. **(Image next page: top).**

As part of the University's Pan-African agenda and continental collaboration initiatives, the College of Business and Economics (CBE) participated in the Africa by Bus project. A delegation of four staff members and 36 students travelled to Windhoek, Namibia in September 2022. The tour to Namibia was inspired by "accelerating intra-African trade and boosting Africa's trading position in the global market by strengthening Africa's common voice and policy space in global trade negotiations". The aim of the tour was to firstly, expose CBE students to foreign markets, international businesses, and different African cultures and secondly, to align our students' knowledge with the Free African Trade policy.

THE WAY AHEAD

The College will build on efforts to improve the research culture, focusing on quality and quantity. The newly created Centre for Applied Data Science has established a learning analytics competence area, which will be leveraged to understand and better shape postgraduate monitoring to improve the throughput.





CBE Research Hubs



SARChI
SOUTH AFRICAN
RESEARCH CHAIR IN
ENTREPRENEURSHIP
EDUCATION



The South African Research Chair Initiative (Sarchi) in Entrepreneurship Education

Prof Cecile Nieuwenhuizen

Chair: SARChI in Entrepreneurship Education
College of Business and Economics

OVERVIEW

The South African Research Chair Initiative (SARChI): Entrepreneurship Education was established to build capacity and create knowledge on post-school entrepreneurship education. The Chair's success in 2022 was driven by the core team of three female professors, Cecile Nieuwenhuizen, Natanya Meyer and Thea Tselepis who collaborated nationally and internationally. Khethukuthula Gumede is the administrator of the SARChI. Each team member contributed uniquely, resulting in a synergistic whole to achieve various successful projects and outputs. In this report, the highlights are shared as they relate to the objectives and specialisation of the core members. The highlights include the following:

TALENT MANAGEMENT AND CAPACITY BUILDING

All core members are involved in postgraduate and postdoctoral supervision, represent the Chair at various national and international events and are involved in some operational aspects. Members of the Chair supervised more than 25 postgraduate students during 2022, including honours, postgraduate diplomas, master's, and doctoral students. Prof Natanya Meyer and Prof Thea Tselepis teach entrepreneurship modules to undergraduate students and develop programmes and materials to promote entrepreneurship and business development.

POLICY AND PUBLIC ENGAGEMENTS AND ACTIVITIES

With teams of authors from various universities, Prof Nieuwenhuizen contributed as editor and author to 52 books and re-worked the fifth edition of Entrepreneurship, a South African perspective with Prof Tselepis as co-editor, to include more African case studies as well as more examples on local entrepreneurship for interdisciplinary disciplines. Prof Nieuwenhuizen also represented the Chair as a member of the Community of Practice (CoP), an initiative by the National Entrepreneurship



Development of Higher Education (EDHE) platform.

In 2022 Prof Meyer became a co-researcher, author, and presenter of the South African National Global Entrepreneurship Monitor (GEM). This annual report is the biggest globally and includes over 50 countries. She reached thousands of viewers, listeners, and readers through various events and presentations in 2022. Prof Meyer is also the Chair of the Research Community of Practice of Entrepreneurship in Higher Education (EDHE). In 2022, she presented research findings to an audience of 500+ at their annual conference.

Prof Thea Tselepis collaborated with the SETA retail chair on a research project linked to an entrepreneurial mindset. The report was presented at the annual SETA conference. She is also a member of the CoP of Learning and Teaching initiated by EDHE. A teaching methodology on incubation applied in an international collaboration was shared on the EDHE annual Lekgotla.

RESEARCH ACTIVITIES

Most of the research conducted by the core team members is focused on post-school entrepreneurship. In 2022 the team (core team, postdocs and visiting professors) produced 48 peer-reviewed articles, up from 38 in 2021 and 20 in 2020. Scholarship of teaching and learning, as well as publications on 4IR, were amongst the publications.

Ten international visiting professors are appointed to the Chair, who assist in creating knowledge.





Prof S Kraus



Dr Niel Kruger

These professors are from the USA, Poland, Hungary, Pakistan, Germany, and Nigeria.

Among these visiting professors is a distinguished visiting professor appointed to the Chair, namely Prof Sascha Kraus. An outstanding achievement celebrated by UJ and the Chair was Prof Kraus' acknowledgement for his achievement as a Clarivate "Highly Cited Researcher" in Economics and Business in 2022.

SUSTAINABILITY, INNOVATION AND FOURTH INDUSTRIAL REVOLUTION (4IR)

All the objectives in the Chair are aligned to promote entrepreneurship education/awareness/training and development to contribute to job creation and equality. In this regard, Sustainable Development Goals (SDGs) are considered in the planning and execution of research and community engagement projects. The various initiatives in this report testify to the interdisciplinary approaches to promote innovation in the 4IR.

The SARChI also hosts one Postdoctoral Research Fellow, Dr Niel Kruger, who is actively involved in teaching and research components. He is also a team member of UJ Invent, a technology transfer company wholly owned by UJ. UJ Invent takes over from the Technology Transfer Office when Intellectual Property can be commercialised, using a spin-off company or where the technology readiness levels are high enough. UJ Invent's strategy aims to create an ecosystem where entrepreneurs and innovators can thrive, because there is a pipeline of executable technologies (product feasibility), pushing technology into a marketplace that is ready to respond to the offering. After all, it also ensures that there is a viable business case, all within the university's strengths while embracing the 4IR and the UN's Sustainable Development Goals (SDGs).



NATIONAL AND GLOBAL FOOTPRINT

A highlight for the Chair was the achievement of Prof Cecile Nieuwenhuizen, who received a Doctor Honoris Causa in Entrepreneurship for her contributions to entrepreneurship education and development from the Krakow University of Economics (Poland). She also continues to offer a dual PhD qualification with Vrije University (Netherlands). Moreover, Prof Nieuwenhuizen mentors various staff and students at UJ as supervisor and advisor. This prestigious event in Poland celebrated her national and international contributions to entrepreneurship education and development

Prof Natanya Meyer collaborated on various international levels. She is a guest editor of three global special issues for publication published in 2023, focusing on entrepreneurship and digital platforms. She also presented a guest lecture on entrepreneurial ecosystems in person at the Free University of Bozen-Bolzano (Italy).

Prof Thea Tselepis offered initiatives on entrepreneurial thinking in 2022 that included groups from a South African and German consortium, students from other African countries, and an international contribution to the "Success program" on how to design enterprising teaching portfolios. A highlight was a funded programme to promote student entrepreneurship development in collaboration with California State University, Northridge



Prof Natanya Meyer



Prof Thea Tselepis

THE WAY AHEAD

The Chair continues its work to create knowledge for and as entrepreneurs!





SARChI
SOUTH AFRICAN RESEARCH
CHAIR IN INDUSTRIAL
DEVELOPMENT



DSI/NRF South African Research Chair in Industrial Development

Prof Fiona Tregenna

Chair: DSI/NRF SARCHI in Industrial Development
College of Business and Economics

OVERVIEW

2022 was another exciting and productive year for the DSI/NRF South African Research Chair in Industrial Development (SARCHI-ID), extending and building on our previous range of fruitful collaborations, innovative and impactful research, and new initiatives. Our activities have centred on the following:

- Undertaking research of high quality and impact.
- Building capacity through postgraduate supervision, additional training of our postgraduate students and broad capacity-building beyond the university.
- Policy development and public engagement contributions.

Central themes of our work during 2022 have included: structural change, industrialisation, deindustrialisation, the fourth industrial revolution (4IR), innovation, technology intensity and technological upgrading, the green transition, trade, regional integration, political economy, and industrial policy. The domains of the work have ranged from the locality of Johannesburg to national, regional, continental, and global.

A key focus of our activities was the *Community of Practice (CoP) in Industrialisation and Innovation*, which supported extensive research collaborations driving inter-, trans-, and multi-disciplinary research that creates new knowledge and contributes to a rigorous evidence basis for policy, which we completed at the end of 2022. Another 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. For the first time, we became a partner in the *Industrial Policy for Policy Makers (IPPM)* programme to build capacity among policy makers across Africa.

In terms of research, our team has collectively published 41 peer-reviewed journal articles and one book, as well as several book chapters, working papers and other research outputs. Our collaborations have achieved a global footprint



across African, European, South American, North American, and Asian countries. Our research explored topics such as: digitalisation in the skills landscape, dynamics of 4IR technology adoption in manufacturing, green industrialisation and green industrial policy, trade integration across Africa, and innovation in small and micro enterprises in Johannesburg.

We hosted, co-hosted, or partnered in several major engagement events, including the *Second Young Scholars Conference on Structural Change and Industrial Policy in Africa*; the *Industrial Policy for Policy Makers (IPPM)* programme; the 2022 *TIPS Annual Forum* themed "Towards a Just Transition"; the *Rethinking Economics for Africa (REFA)* Festival; an international workshop on the topic "Green Industrialisation in Africa: The Critical Issues", and several public lectures. This is in addition to many impactful seminars, webinars, colloquia, symposia, and book launches, one of which featured President Cyril Ramaphosa as the keynote speaker.





TALENT MANAGEMENT AND CAPACITY BUILDING

During 2022, our staff complement, in addition to Prof Fiona Tregenna, comprised Senior Researcher Prof Alexis Habiyaemye, Administrator Mrs Koketso Manyane-Dlangamandla, Senior Manager Dr Nicola King (until August), Project Manager Gill Scott (from May), and several research assistants.

We also have affiliated with us three distinguished visiting professors, five visiting professors, two professors of practice, two visiting associate professors, 24 senior research associates and two research associates. Among these are leading global scholars, most of whom also published journal articles and were engaged in SARCHI-ID activities in various ways. We are proud to have such a large and dynamic team with interconnected research interests, making for vibrant exchange and development of ideas. We hosted in-person visits from Prof Antonio Andreoni, Prof Arkebe Oqubay, Prof Padmashree Gehl Sampath, Prof Lindsay Whitfield, and Nigisty Gebrechristos in 2022.

In 2022, student registrations comprised 11 postdoctoral research fellows, 16 doctoral students, nine master's and eight honours students; two postdoctoral research fellows and four master's and three honours students completed their programmes. Dr Paulo Morceiro was appointed as a Senior Postdoctoral Research Fellow. We were able to support our students with various additional training and development activities, both within and outside of UJ. The Industrial Development

and Policy Seminar Series continued to provide opportunities for students, postdocs, and staff to present their research in a seminar format, which served a vital role in the exchange of ideas and capacity building.

We organised training and capacity-building workshops for our students and postdocs, such as one in which five of our postdoctoral research fellows and PhD students presented their work for discussion and feedback from Profs Antonio Andreoni and Fiona Tregenna. Students and postdoctoral fellows were encouraged and financially supported to take advantage of suitable external capacity development opportunities. For example, students and postdoctoral fellows attended an Autumn School for Postgrad Students; some participated in a writing and publishing retreat to overcome obstacles to academic writing, and others attended external econometrics training.

We were thrilled that several of our students and postdocs presented their research at national and international conferences. Furthermore, several of our students and postdocs were recognised through international achievements and opportunities. For example, PhD student Santos Bila was selected for the highly competitive "2022 IMF Youth Fellowship", while Master's student Nokwanda Mathenjwa travelled to the United States through her selection as a "2022 Mandela Washington Fellow".

We continued to run the doctoral programme "PhD in Economics with Specialisation in Industrial Development", with increased enrolment in 2022.

POLICY AND PUBLIC ENGAGEMENTS AND ACTIVITIES

We hosted, co-hosted, or partnered in several successful public events during 2022. For example, we hosted a hybrid public lecture on *Digitalisation and Development: Evolving policy approaches*, with presentations by Prof Antonio Andreoni (Head of Research at UCL Institute for Innovation and Public Purpose), and Prof Padmashree Gehl Sampath (Director of Global Access in Action at Harvard University's Berkman Klein Centre for Internet and Society), both of whom are affiliated with the SARCHI-ID as visiting professors. The discussant was Mr Hardin Ratshisusu (Deputy Commissioner, Competition Commission of South Africa).

We also co-hosted two hybrid public lecture events on green industrialisation in Africa. One of these was together with the African Programme on Rethinking Development Economics (APORDE), looking at challenges and opportunities, with lectures by two leading global experts and UJ affiliated visiting professors, Profs Lindsay Whitfield and Antonio Andreoni, opened by Ms Zukiswa Kimani (Chief Director of Industrial Policy at the DTIC). The other (jointly with CCRED) was addressed by leading experts Prof Carlos Lopes (Nelson Mandela School of Public Governance, UCT) and Dr Tilman Altenburg (German Development Institute).

We were proud to host, together with the Southern Centre for Inequality Studies at the University of the Witwatersrand (Wits), the launch of the *Oxford Handbook of the South African Economy* edited by professors Arkebe Oqubay, Imraan Valodia and Fiona Tregenna. President Cyril Ramaphosa delivered the keynote address, and the Vice-Chancellors of UJ and Wits (the two institutions with which the editors are affiliated) also spoke with the book editors.

We also hosted a book discussion with author Professor Horman Chitonge about his book titled *Industrial Policy and the Transformation of the Colonial Economy in Africa: The Zambian Experience*. Prof Fiona Tregenna was the facilitator, with Dr Judith Fessehaie as the discussant.

Once again, SARCHI-ID partnered in the *Rethinking Economics for Africa Festival* held in 2022 in conjunction with the Rethinking Economics for Africa (REFA), the Institute for Economic Justice (IEJ), the Friedrich Ebert Stiftung (FES), the Southern Centre for Inequality Studies and Wits. The festival aims 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, particularly South Africa.





We partnered again in 2022 at the *TIPS Annual Forum*. The theme Towards a Just Transition is aimed at considering how industrial policy can support and drive structural transformation so that South Africa's move to a low-carbon economy is inclusive and equitable, ensuring social protection for affected communities and workers. The Forum is organised by Trade & Industry Policy Strategies (TIPS), with the UK Partnering for Accelerated Climate Transitions (UK PACT), and in association with the DTIC.

For the first time in 2022, SARCHI-ID partnered in the Industrial Policy for Policy Makers (IPPM) programme, a partnership between the United Nations Industrial Development Organization (UNIDO), APORDE, the South African Department of Trade, Industry and Competition (DTIC), and Trade & Industrial Policy Strategies (TIPS). This effective programme is aimed at mid/senior government officials from across Africa, helping to build capacity among policy makers. The theme for 2022 was "Green Agricultural and Industrial Development in Africa".

Prof Tregenna continued to be deeply involved in many disseminations, policy engagement, service and leadership activities related to the economic policy during 2022. She delivered over 35 major invited public presentations, including many high-profile keynote addresses. These keynotes ranged from talks at prestigious academic events to high-profile events hosted by various United Nations (UN) and other international institutions. Several of these were broadcast live on television or live streamed on multiple platforms internationally.

In addition, she delivered many other academic and training presentations nationally and internationally, participated in closed economic colloquia and spoke at many policy events, and was interviewed by television, radio, electronic and print media during 2022.

As a Presidential Economic Advisory Council member, she advised President Cyril Ramaphosa on economic policy and attended several meetings with government and policy institutions and international bodies. She was appointed to and served on the AfCFTA (African Continental Free Trade Area) Trade and Industrial Advisory Council. She advised on trade, industrialisation, and integration on the African continent.

She served on various boards, councils, and panels during 2022, including, for example, the boards of the Gauteng City-Region Observatory (GCRO); the Human Sciences Research Council (HSRC) as well as sitting on its Research Committee; the National Institute for the Humanities and Social Sciences (NIHSS) as well as being a member of its Finance Committee and Academic and International Committee; and the Institute for Economic Justice (IEJ). She was appointed by the Minister of Higher Education, Science and Technology to the Higher Education, Science, and Innovation (HESI) Think Tank. She serves on the Advisory Council for the IDEAs (International Development Economics Associates) network's Advanced Certificate Programme on Research in Political Economy, the Steering Committee of the Industrial Policy Think Tank (IDTT; and the Rethinking Economics for Africa (REFA) festival steering committee.

She also serves on the Steering Committee of the African Heterodox Economics Network, an initiative aimed at strengthening the heterodox economics movement in Africa and enhancing links and collaboration between various groups and individuals in this field across Africa; on the organising committee of the African Industrial Policy for the 21st Century (AIP21) network. She was appointed to the National Research Foundation (NRF) Reviews and Evaluations Standing Panel and is a member of the Scientific Committee of the African Programme on Rethinking Development Economics (APORDE), in which she is also a lecturer. As an elected member of the Academy of Science of South Africa (ASSAF), she served on four ASSAF bodies in 2022: 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 editorial boards of various international journals and two international academic book series: 'New Scholarship in Political Economy' and 'Critical Frontiers in International Development Studies with Oxford University Press, and one South African educational book series (HSRC Press).

RESEARCH ACTIVITIES

Researchers at SARChI-ID produced many outputs during 2022, including from our postdocs and international research associates. Our team published 41 journal articles, chapters, and one book.

We expanded our Working Paper and Policy Brief series that we launched in 2021 to disseminate research, stimulate policy debate and identify collaborative policy-orientated solutions through new knowledge.

Research by our team members was recognised through various awards and grants. For example, Dr Elvis Avenyo (Senior Research Associate) and Prof Tregenna won the "Overall Best Conference Paper Award" for their paper presented at the 2022 African Economic Conference (AEC), jointly organised by the African Development Bank (AfDB), the Economic Commission for Africa (ECA), and the United Nations Development Programme (UNDP).

The sections below give a flavour of some of our 2022 research projects.

SUSTAINABILITY, INNOVATION AND FOURTH INDUSTRIAL REVOLUTION (4IR)

Many of our activities – research, capacity building, and public and policy engagement – are centred on sustainability, innovation and the 4IR. We approach sustainability issues around green industrialisation and green industrial policy. We seek answers for feasible development pathways to meet the dual objectives of industrialisation and environmental sustainability. Issues of innovation and the 4IR continued to drive themes of many activities during 2022. 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 *Community of Practice in Industrialisation and Innovation* project, which concluded at the end of 2022, 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.

Primary data collection through surveys continued to be a key focus of our activities during 2022. Firstly, work continued on digital skills in the South African manufacturing sector, building on the digital skills survey run in 2021 in partnership with the IDTT. Data work during 2022 included integrating relevant data from selected Sector Education and Training Authority (SETA) databases, enabling newer understandings of the skills landscape within those sectors, including identification of scarcities of skills and, in some cases, skills mismatches regarding key technologies relevant to the SETAs. The IDTT held a research workshop on "Digital technologies and skills for structural transformation in South Africa: Experiences and challenges" with the DTIC in March and a second workshop on "Digitalisation, innovation and structural

transformation” in June. Working papers and policy briefs have been produced to share the research findings with others in progress at the time of writing.

Secondly, the second round of our survey of small and micro manufacturing enterprises in Johannesburg was a significant activity of 2022. This follows the first round of the survey undertaken in 2019, with the second round of the survey enabling more dynamic analysis. We surveyed just over a thousand firms in 2022. This novel database is being used in our research to enable an in-depth understanding of the drivers and obstacles to innovation at the firm level.

Thirdly, in 2022 we took forward our ongoing primary research study on the adoption and impact of 4IR technologies among South African firms. This is a qualitative study aimed at an in-depth understanding of the dynamics of 4IR technologies at the firm level. Our sectoral focus during 2022 was on the clothing and textiles, airline, and pharmaceutical industries, for which the fieldwork was completed using updated and extended survey instruments.

The above three primary data collection projects utilise different methodologies and levels of analysis and shed light on related issues of innovation, 4IR technologies, upgrading, and performance among South African firms. The novelty of these surveys enables original contributions to knowledge and the policy landscape.

Another major research project in 2022 has been the Accelerating Vaccine Production in Africa: A Centre for Excellence Initiative. This project aims to support vaccine production in Africa by promoting a network of centres of excellence on the continent, focused on evidence-based research and capacity building on technology gaps and the means to address these. Our Visiting Professor, Padmashree Gehl Sampath, leads this project that the leading German development agency, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), funds with a large grant. In 2022, a team of post-doctoral students and researchers was set up. A collaboration agreement was established with the EAC Regional Centre of Excellence for Vaccines, Immunisation and Health Supply Chain Management at the University of Rwanda. Field visits to Ghana, Rwanda and Senegal have taken place to conduct technology gaps assessments. The project runs until August 2023.

In late 2022, we commenced a new research project on the contribution of science, technology, and innovation to socio-economic development in South Africa, funded by the Department of Science and

Innovation (DSI), which will run until early 2024. We also began a research project on the industrialisation research landscape in Africa, funded by the NRF, which will be concluded in early 2023.

NATIONAL AND GLOBAL FOOTPRINT

Our national and global footprint has expanded significantly during 2022 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. We built collaborations and partnerships with several centres and institutions, nationally and internationally. Examples of these include those with: Learning Information Networking Knowledge (LINK) Centre (Wits); Copenhagen Business School (Denmark); African Centre for Economic Transformation (ACET) (Ghana); Toyota Wessels Institute for Manufacturing Studies (TWIMS); the University of the West of England (United Kingdom); Policy Research in International Services and Manufacturing (PRISM) (UCT); Nelson Mandela School of Public Governance (UCT); and other SARCHI Chairs.

In addition, in collaboration with the Young Scholars Initiative (YSI), we were again the lead organiser of the *Second Young Scholars Conference on Structural Change and Industrial Policy in Africa*. As with the inaugural conference in 2021, this virtual event was held over two days. The conference opened with a keynote address from Dr Adeyemi Dipeolu (Special Advisor to the President for Economic Matters in the office of the Vice-President of the Federal Republic of Nigeria). It concluded with a panel discussion between Dr Rob Davies (former Minister of Trade and Industry), Dr Aloysius Ordu (Brookings) and Professor Magda Shaheen (American University in Cairo). Senior international scholars acted as discussants on the papers presented. Presentations were made by 43 scholars from across Africa and beyond, with prizes awarded for the best paper presented at the conference (\$750) and the runner-up best paper (\$250).

We also hosted the *Thandika Mkandawire Prize for Outstanding Scholarship in African Political Economy and Economic Development and the Prize for Young Scholars* in partnership with APORDE and TIPS. The prizes are awarded annually to recognise outstanding research papers by African scholars. In 2022, we received 72 submissions from African researchers. The entries were screened and shortlisted, and five panels of distinguished scholars selected the winners. The winner of the Outstanding Scholar award (\$10 000) was Dr Eyob Gebremariam,

and the winner of the Young Scholar award (\$2 500) was Mr Ayabonga Cawe.

As part of the *Africa Industrial Policy in the 21st Century* (AIP-21) collaborative research network, in November 2022, we hosted an AIP-21 workshop (in partnership with CCRED), with funding from the Danida Fellowship Centre's Knowledge in Action initiative and from the NRF. The theme of this closed international workshop was "*Green Industrialisation in Africa: The Critical Issues*". In keeping with the AIP-21 aim of bringing together leading academics and policy experts to discuss new directions for industrial development and policy in Africa, speakers hailed from various countries, including Ethiopia, Mozambique, Nigeria, and Ghana. The event was attended both in person and online by leading global scholars and dynamic emerging scholars. The next workshop will be held in Ghana in 2023, hosted by our partner, the African Center for Economic Transformation (ACET).

The *Data and AI for African Trade (DAIAT) Consortium* was established in 2022. The initiative is led by Prof Wim Naude, who is based at Cork University and is one of our Distinguished Visiting Professors. Prof Tregenna is one of the founder members and a SARCHI-ID founding partner, with other researchers from the University College of Cork, the Machine Intelligence Institute of Africa, the Vrije Universiteit Amsterdam, Trade Advisory, GIBS of the University of Pretoria, University of Ghana, University of Plymouth, United Nations UNCTAD, and ZINDI. This consortium of European and African-based scholars and practitioners aims to secure funding to promote, develop and disseminate data-driven decision-making tools for supporting the expansion of sustainable and gender-responsive trade between the continents and is supported by the Irish Research Council's (IRC) New Horizon's programme through Cork University. We were able to leverage financial support for one of our master's students, Ms Nokwanda Mathenjwa, through this project. Nokwanda produced a

research brief on "Adoption of artificial intelligence technologies in African firms for potential export-led industrialisation", with guidance from Dr Phumzile Ncube and Prof Tregenna.

A research network comprised of SARCHI-ID, CCRED, and other international researchers from the Federal University of Rio de Janeiro, Brazil UNIDO, and Inter-American Development Bank (Argentina), including our visiting professor, Antonio Andreoni. The research group is developing a new research agenda on digital industrialisation in middle-income countries. Extensive work has been done in consolidating firm-level data from all countries with country case studies designed for these outputs.

An exciting new flagship project that has been one of our key activities during 2022 is the establishment of the *African Trade and Industrialisation Observatory* (AFTIO). AFTIO is envisaged as an open-access portal for secondary quantitative data, research papers, and policy documents on trade and industrialisation in Africa. With the possibilities for enhanced trade and industrialisation opened via the African Continental Free Trade Area (AfCFTA), AFTIO will provide a database and document repository directly relevant to supporting the advancement of the AfCFTA. We aim for AFTIO to be of benefit to policymakers, researchers, and students, as well as the wider public. SARCHI-ID is partnering with the Nelson Mandela School of Public Governance (NMSPG) at UCT to establish AFTIO, which will be launched and available for public use early in 2023.

THE WAY AHEAD

Building on the successes of previous years, we are excited about the prospects for 2023. We are strengthening and expanding our collaborations and innovative activities towards impactful research and policy influence, stimulating public debates, building networks and partnerships, and building strong capacity at UJ and beyond.



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



Dsi/Nrf/Newton Fund Trilateral Chair in Transformative (Trcit) Innovation, the 4IR and Sustainable Development

Prof Erika Kramer-Mabula

Chair: DSI/NRF/NEWTON Fund Trilateral Chair in Transformative Innovation (TRCIT) Innovation, the 4IR and Sustainable Development
College of Business and Economics

OVERVIEW

Our dedication to research and capacity building is driven by a desire to advance scientific knowledge on the continent and to have a positive impact at ground level. This commitment to “real world” impact is taking the Trilateral Chair into even more inter- and transdisciplinary spaces, expanding our research methods, and broadening our collaborations with non-academic stakeholders, including government, private sector, and multilateral organisations. In 2022, our footprint became more visible, and as the world opened, we maximised the value of face-to-face interactions at our new offices at the JBS Park in Johannesburg and worldwide. The active participation of our students, partners and collaborators has made 2022 our most interactive and impactful year so far.

The Department of Science and Innovation (DSI) fund the Chair through the NRF, as well as the British Council via the Newton Fund and is a collaborative effort with the African Centre for Technology Studies (ACTS) in Nairobi and the Science Policy Research Unit (SPRU) at the University of Sussex in the UK.

POLICY AND PUBLIC ENGAGEMENT AND ACTIVITIES

The UN’s Sustainable Development Goals (SDGs) generally guide the Chair’s activities, but they contribute directly to three, namely SDG 7: Affordable and clean energy; SDG 9: Industry, innovation and infrastructure; and SDG 13: Climate action. It also addresses South Africa’s National Development Plan, especially its persistent socioeconomic challenges.

Government is the primary beneficiary of the Chair’s work, particularly in policy development across a spectrum of critical areas such as innovation, energy transitions, 4IR strategy, and inclusion of marginalised communities. The



industry also benefits from its research in the areas of trends in frontier technology, innovation in the informal economy and climate innovation entrepreneurship. A third stakeholder includes international development organisations such as the UNDP, UNCTAD and the Science Granting Councils Initiative in Africa.

The Trilateral Chair aims to produce impactful research that results in findings and recommendations that can be applied to real-world decisions. We ensure the relevance of our work through various channels:

- Our students and researchers orient their research questions towards real-world policy issues. It can also result from research commissioned responding to a specific policy need (e.g., developing a policy strategy document).
- Co-creation as a research approach. It involves the active participation of stakeholders, including policymakers, in the design and implementation of research activities.
- Capacity building of policy stakeholders. To develop training materials, tailored events and facilitated workshops for policymakers.
- Communication and effective dissemination through workshops, public lectures, and frequent engagements with multiple stakeholders. This helps ensure that our research is familiar to its potential users and that we are in tune with current policy debates and needs.

1. Building a Community of Practice in Transformative Innovation Policy in South Africa (TIP SA). The Trilateral Chair, in partnership with

- developed a capacity-building programme comprising a range of masterclasses and workshops oriented to policy actors and practitioners, as well as the academic community;
- initiated several policy experiments with government departments in South Africa;
- expanded our efforts to broaden the South African Community of Practice in TIP by engaging with academic communities and practitioners working on sustainability issues by presenting our work at conferences and multistakeholder fora;
- developed a repository of materials (videos and written documents) to support the capacity-building efforts at the domestic and global levels – connecting to the efforts of the Transformative Innovation Policy Consortium;
- continued advancing the conceptual and theoretical underpinnings of TIP in the context of South Africa.

multistakeholder fora, such as World Science Forum (WSF) in Cape Town (December 2022). At the WSF, TIP SA held a session on *Spanning the boundaries between policymakers and researchers: a transformative innovation policy approach*, with representatives in the panel from UNESCO, the Department of Science and Innovation, the Department of Environment, Forestry and Fisheries, and the Department of Trade, Industry and Competition, as well as the HSRC and UJ.

3. Study for 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 sector in South Africa, and the impact of projects they have implemented during the last five years as part of its Working for Energy Programme. UJ- TRCTI collaborated with UJ Process Energy and Environmental Technology Station (UJ-





Panel on Transformative innovation policy as a model to drive sustainable development at the Sustainability Research & Innovation Congress

PEETS) to develop a sector development plan for the micro-digester industry in South Africa. The plan was released on April 2022. The release followed a discussion of the recommendations with industry stakeholders in February 2022 and a final broader stakeholder validation workshop in March 2022. The plan focuses on four different sector pathways to develop the sector. If the pathways progress, South Africa has the potential to significantly reduce rural energy poverty and urban organic waste to landfills, as well as boost employment and business opportunities. Accessed the policy report here: https://www.uj.ac.za/wp-content/uploads/2022/02/uj-trcti-finalreport-sanediproject-06apr21_revised25jul21-finaledited94.pdf

In addition, in 2022, we hosted 19 events (plus 10 under TIP SA). Our events are increasingly attended by non-academic participants, including policy officials and practitioners, which is a testament to the broader impact of our work.

Our event series included:

- The **Brown Bag sessions** are informal lunchtime presentations where any Chair member can present work in progress, ongoing research projects, project proposals and article ideas. We held five in 2022.
- The **Debate** series aims to engage different perspectives on relevant topics related to sustainable development, transformative innovation and the 4IR. The debates are open to students, professors, and researchers within UJ, SPRU and ACTS. We held two in 2022.
- The **Conversation with Authors** series invites inspiring authors and emerging scholars to present their original research papers. The events allow participants to interact with crucial readings

and facilitate their incorporation into ongoing and planned research projects. We held two in 2022.

- The **Public Lecture** series invites expert lecturers and community discussions highlighting development in Transformative Innovation, the 4IR and Sustainable Development. We held four in 2022.
- The Trilateral Chair developed a volume titled **"Harnessing Innovation in Africa for Transformative Change: lessons from COVID-19"**. This project has resulted in 11 working papers and one edited volume for publication in early 2023. The Chair hosted two pre-book launches, which provided a platform for interested parties to engage on the content and the context of the book before it is published.
- Policy dissemination workshops included:
 - An industry stakeholder workshop on the future of the micro digester sector in South Africa was held with around 80 stakeholders from the public and private sectors to validate the final sector development plan.
 - A matchmaking workshop was held as part of the Innovation in African Universities project, which was attended by nine entrepreneurs (+ other firm representatives), eight students and project team members. The workshop provided a space for entrepreneurs and students to understand the gaps entrepreneurs had, the skills available from students, and the matching of these to take place.
 - A Stakeholder Validation Workshop on "Emerging Technologies in South Africa" presented research findings on the landscape of emerging technologies in South Africa to stakeholders from academia, government, and



Side event on TIP-SA at the World Science Forum with participation of Shamila Nair- Bedouelle, Assistant Director

- the private sector. Issues discussed included the bottlenecks at different stages of the innovation lifecycle for emerging technologies.
- The Innovation for African Universities (IAU) project held a showcase event which brought together students, entrepreneurs from the matched projects, representatives from partner organisations, the British Council, the IAU programme, other stakeholders and the project team.
- Our presence and participation in academic conferences and international events have grown, especially as our students and staff have been able to travel and engage in face-to-face interactions. For instance, our PDRF, Dr Mosupye-Semenya, travelled to the Dominican Republic, PhD candidate Amanda-Leigh O’Connell visited Utrecht University in the Netherlands, and Dr Chipango visited Dr Ellen Chipango Loughborough University in the UK. However, we have also retained our regular online engagements.
- Social media has become a key tool to engage with the various communities of stakeholders, like-minded teams, and individuals, disseminate our work and be more visible. We have nearly 500 followers on Twitter, and we rely on our members to keep growing the visibility of our work. Twitter handle @UJ-TRCTI

STAFF IN THE MEDIA

In 2022 this included Prof. Kraemer-Mbula speaking on SABC at the Daily Thetha about TRCTI and future careers, reflecting on the 4IR and how to develop independent students and thinkers through teaching and learning.

Prof. Hanlin wrote an opinion piece in South Africa’s Mail & Guardian on how innovation and technology address social exclusion, equity and poverty – available at: https://mg.co.za/opinion/2022-05-24-opinion-how-can-innovation-and-technology-address-social-exclusion-equity-and-poverty/?fbclid=IwAR12cC7R0YAWxXAC78zqJ8GfMWK_sEcckxnhWlYm6sUpUVXlGJXplnuvCtg.

Dr Elen Chipango and Prof. David Walwyn regularly wrote in The Conversation, primarily on issues related to energy transitions.

As part of the new “GII Innovation Talks” series by the World Intellectual Property Organization (WIPO), and with UJ as a partner of the Global Innovation Index (GII) Academic Network, Prof. Erika Kraemer- Mbula talked about the latest innovation trends in Africa. The video is available at: <https://www.youtube.com/watch?v=xEGsOEMYcel&t=94s>

TALENT MANAGEMENT AND CAPACITY BUILDING

Our team consists of people with similar motivation and commitment to translating our work into a more equitable and sustainable Africa. We are proud to highlight the new members that have joined our hub at UJ (**UJ-TRCTI**). In 2022 we welcomed two new doctoral students, Ms Wandile Kelly Mlilo and Ms Anneline Morgan, who joined our total cohort of 13 PhD students.

Two new Postdoctoral Research Fellows (PDRF), Dr Emmanuel John- Onuoha and Dr Yannick Djoumessi, were added to our existing PDRF cohort of Dr Lebogang Mosupye- Semenya and Dr Ellen Chipango.



Special Public Lecture held by TRCTI Visiting Professor Keun Lee



A hybrid pre-book launch



Hybrid debate session on Energy Transitions and Innovation Policy on the Energy Sector

2022 also saw the appointment of one prestigious visiting scholar under the Global Excellence and Stature track, dedicated to the 4IR (GES 4.0) at UJ: Visiting Professor (GES 4.0) Joanna Chataway, based at the University College London, UK. We also welcomed the appointments of Senior Research Associates Dr K Chandra Shekar, Dr Olga Ustyuzhantseva and Dr Mike Awoleye.

This growing community continues to provide a fertile ground for the exchange of ideas, mentorship, and learning.

With reduced international travel and mobility restrictions, the Chair has also hosted several visiting scholars at our new JBS Park in Johannesburg offices. In 2022 we had visits from: Prof Jacob Park, Prof. Rasmus Lema, Drs Rob Byrne, Ann Kingiri, Chux Daniels and Prof Schot, Vusa Ncube, Dr Olga Ustyuzhantseva, Prof. Keun Lee, Dr Lucy Baker, and a cohort of students from the Netherlands doing their minor dissertations in Frugal Innovation: Floortje Broekman, Vera van Dijk, Sanne Kleinveld and Jakob Schwaiger

CAPACITY BUILDING

We launched two new Postgraduate programmes: an MPhil and a DPhil with a specialisation in Innovation and Development. These new interdisciplinary programmes will receive their first cohort in 2023. They are the first to be offered at any South African higher education institution (HEI) and are set to deliver cutting-edge research that will inform innovation policy and the scholarly field of innovation and development. The programmes will train the next generation of scholars, practitioners and policymakers who will go on to further study and promote innovation relevant to their communities.

- In 2022 we deepened our collaboration with Africalics in providing training for our postgraduate students. We also incorporated a module on Transformative Innovation Policy as part of the 8th AfricaLics PhD Academy on Innovation and Competence Building Systems on 13-24 June 2022 in Nairobi, Kenya. The Academy included a two-day workshop on Transformative Innovation Policy with contributions from Prof. Johan Schot, Prof. Erika Kraemer-Mbula, Dr Rob Byrne, Dr Ann Kingiri, Prof. Rebecca Hanlin, and Dr Chux Daniels. These sessions were designed to engage with the different theoretical frameworks and thematic areas relevant to our research programme. In addition, the programme had interactive sessions with policy actors and practitioners who were involved in the TIP Africa Policy Experiment Pilots in Kenya, Ghana, Senegal,

and South Africa.

- The Africalics PhD. Academy allowed our partners, PhD students and Postdoctoral Fellows, to meet in person after three years of mostly virtual engagements due to the COVID-19 pandemic. We had a full day dedicated to the Trilateral Chair and engaging with our members. It was fantastic having everyone under the same roof.
- Reading Club. The students of the Chair continue to lead the activities in their Reading Club, a convivial social platform for scholarly engagement on foundational theory aligned with the Chair's academic programme. In 2022, this practice continued and expanded. Reflection sessions held at the close of the preceding year suggested that our cohort of PhD students and Postdoctoral fellows also found great value in sharing personal experiences, perspectives, and challenges. In early 2022, the students undertook a survey to identify themes and activities of interest, which included issues on gender and entrepreneurship, global value chain participation in Africa, and innovation in the context of African modernity and traditional art. Members also used the standing online MS Teams link to host ad hoc e-meetings for 'coffee and catch-up'.
- In 2022, the Club invited its first guest speaker, Dr Bipashee Ghosh, as the lead author of *"Decolonising transitions in the Global South: Towards more epistemic diversity in transitions research"*. Decolonisation was the central theme of 2021, and our members welcomed the opportunity to engage with new material on this subject and reflect on their learnings from prior sessions.

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

Our research is positioned for impact. Impact manifests in different ways - from "intangible" impacts, such as shifting attitudes about a particular issue, raising awareness, or influencing decision-making, to more "visible" results, such as creating economic opportunities and prospects for social mobility or improving our natural environment. The projects in our research portfolio show the diversity of impact areas and types of impacts emerging from our research activities:

- **Emerging technologies in South Africa: a landscape analysis.** The Chair was contracted by the UK's Foreign Commonwealth and Development Office's Eastern and Southern

Africa Research and Innovation Hub to analyse and map emerging technology ecosystems in South Africa to gain an in-depth understanding of the landscape and context, enabling factors, risks, opportunities, and early precedents being set on use of cases, governance and enabling environment. This project has led to a follow-on project that will start in 2023, focusing in more depth on emerging digital technologies and their application in South Africa and Kenya.

- **Adoption of 4IR technologies in South Africa's green economy.** This project explores the adoption of frontier technologies in what is known as the "green economy". This project involves the development of a novel questionnaire and its implementation among 300 South African firms representing the country's green economy. Workshops and results of this work will start being visible in 2023!
- **Household innovations and informal entrepreneurship in South Africa.** In 2022, the Trilateral Chair collaborated with researchers at Utrecht University and MIT to conduct a research project on *Household Innovation and Business Development*. This novel study explored the nature and processes of household innovation in South Africa, the extent to which household innovations are related to informal business development, and the shape of the ecosystem for everyday innovation and business development. The research comprised a survey, in-depth interviews, literature, and desk-research. Policy implications of this study and multistakeholder engagements to take place in 2023!
- **Innovation in the informal economy.** The Trilateral Chair has deepened its collaboration with the United Nations Development Programme (UNDP) in its global efforts to support innovation in the informal economy. Prof. Kraemer-Mbula helped coordinate a webinar on *"Exploring the connection between innovation, Informality, and the formal broader system"* on 14 December 2022, to share experiences on how innovation in the informal economy can and does facilitate the transition towards formalisation in developing countries.
- **Innovation for African Universities.** All three partners within the Chair (UJ, ACTS and SPRU), together with partners from the Kenya Climate Innovation Center (KCIC) and Jaramogi Oginga Odinga University of Science and Technology (JOUST), worked in 2022 on a project called "Transforming Climate Innovation Ecosystems

through Inclusive Transdisciplinarity (TransCIIT)" funded by the British Council, to develop a matchmaking service between the various and evolving business needs of young and female (in particular) climate entrepreneurs and the specialist skills of postgraduate students (at master's level). The project developed an online portal for matching students and entrepreneurs. The project has been funded for a third phase to see the institutionalisation of the matchmaking service in Kenya and other African countries.

- **Political Economy Analysis of Africa's Sciences Granting Councils.** This project is an IDRC-funded research collaboration between the University College London, the University of Rwanda, and UJ to conduct a political economy analysis of science systems in Africa for the Science Granting Councils in Sub-Saharan Africa.
- **Regulation for innovation.** A team from the Chair at UJ started working with the global mining company Anglo American's South African headquarters office, to conduct a literature review focusing on regulation for innovation. The literature review will provide Anglo with an overview of how regulation of innovation is taking place in a range of national jurisdictions. We have also been working to ensure a systemic approach is applied to thinking about innovation focused on technology used in 'the pits' and their operations and community development work, among others. The final literature review will be presented to the Anglo Board in early 2023. We hope this work serves as a basis for longer-term collaborations with the private sector.

HARNESSING INNOVATION IN AFRICA FOR TRANSFORMATIVE CHANGE: LESSONS FROM COVID-19

This book, edited by all Chair's partners, counts contributions from 30 scholars and practitioners from Africa and beyond. It uses the lens of the COVID-19 pandemic to provide innovative thinking on how innovation policy can be harnessed to provide short-term and long-term transformative solutions for Africa. This project has resulted in 11 working papers and one edited volume to be published in early 2023 by African Minds

Read the working papers here: <https://www.uj.ac.za/faculties/college-of-business-and-economics/trilateral-research-chair-in-transformative-innovation/trcti-publications/working-paper-series/>

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 2022, we produced nearly 70 research outputs, including journal articles, book chapters, working papers and books. Many of our publications feature in high-ranked journals and are highly cited.

Access our working paper series and technical reports on our website: <https://www.uj.ac.za/faculties/college-of-business-and-economics/trilateral-research-chair-in-transformative-innovation/trcti-publications/>.

We have ongoing formal agreements with the HSRC (SA), the National Advisory Council on Innovation (South Africa), the British government's Foreign, Commonwealth and Development Office, Utrecht

University (the Netherlands), The United Nations University - Maastricht Economic and Social Research Institute on Innovation and Technology (UNU-MERIT), University College London (UK), the American University of Cairo (Egypt), and UNDP among others.

We take great pride in our members' achievements and recognitions. Our Visiting Professor, Jacob Park, was the co-recipient of the 2022 Responsible Research in Management Award for the journal article 'How Social Ventures Grow: Understanding the Role of Philanthropic Grants in Scaling Social Entrepreneurship', co-authored with Saurabh Lall. Prof. Kraemer-Mbula was appointed member of the international advisory board of the United Nations University - Maastricht Economic and Social Research Institute on Innovation and Technology (UNU-MERIT), as well as a member of the Academic Advisory board of the Netherlands Institute for Advanced Study (NIAS), both in the Netherlands.



UNIVERSITY
OF
JOHANNESBURG

CADS
**CENTRE FOR APPLIED
DATA SCIENCE**



Centre for Applied Data Science (CADS)

Siya Mhlongo

Head (Acting):
Centre for Applied Data Science (CADS)
School of Consumer Intelligence and
Information Systems
College of Business and Economics



OVERVIEW

The Centre for Applied Data Science (CADS) is the expression of the passion of the CBE to embed data science into the teaching, research, and community efforts of the college. This is uncommon since most data science programmes are designed for the sciences.

The Centre has a clear mission: to provide evidence-based insights that uncover new opportunities and pathways, shaping the experiences of our students and staff, our organisations, communities, and society. With this goal in mind, we aspire to be Africa's leading centre for data science applications. We aim to produce outstanding research, learning programmes, and insights, delivering exceptional value to our stakeholders, partners, and collaborators. We are committed to utilising the latest data science methodologies and cutting-edge technologies to drive innovation and solve complex problems impacting people's lives in Africa and beyond.

We have fostered robust national and international collaborations with renowned institutions such

as TBS Education in France, Sol Plaatje University in South Africa, and the National Electronic Media Institute of South Africa (NEMISA). These partnerships have significantly enhanced our research, teaching, and learning efforts. One of our most notable achievements in 2022 was successfully organising the Artificial Intelligence (AI) Day event. The event brought together researchers, educators, and practitioners to showcase their ideas and praxis in AI. The event coincided with the Centre's official launch, which was marked by addresses from the outgoing VC, Prof. Marwala, and current DVC, Prof. Sinha.

The centre has identified five focus areas: Postharvest Agriculture, Smart Mobility, Learning





Analytics, Future of Work and Digital Skills, and Marketing Intelligence. Three areas have been designated as research flagship pillars to become leaders in these fields.

In 2022, CADS opened applications for two postgraduate qualifications: the Master of Applied Data Science (MADS) and the Doctor of Philosophy (DPhil) in Applied Data Science. We are committed to expanding our portfolio of programmes to include more postgraduate and undergraduate offerings in the future, as we aim to provide students with the skills and knowledge needed to excel in the rapidly evolving field of data science.

Throughout 2022, the CADS team has actively engaged with national and international universities specialising in data science to establish partnerships, learn from their data science journeys, and share our experiences of establishing the Centre.



TALENT MANAGEMENT AND CAPACITY BUILDING

At CADS, we invest in talent management and capacity building to ensure our team stays at the forefront of the latest research and technological developments. Our team comprises academics from various departments within UJ, academic and student researchers, post-doctoral research fellows, and industry partners. We believe in a culture of collaboration and therefore collaborate with experts from other institutions, including TBS Education, Sol Plaatje University, Wits, Walter Sisulu University, and NEMISA, among many others.

We are continually involved in training and development opportunities to enhance our team's skills and expertise. For example, in early 2022, we held a successful four-day writing retreat/workshop hosted by one of our distinguished visiting professors, Prof. Fosso Wamba. The workshop aimed to promote a high-impact research and publishing culture in top-tier journals and was open to the entire CBE. In addition, we offer boot camp-style training in data science, such as collaborating with NEMISA in the 2022 instalment of Data Science Master Classes. Some CADS team members have participated in various Amazon Web Services (AWS) training initiatives.

Investing in talent management and capacity building ensures that our team is equipped with the necessary skills and knowledge to tackle the complex research challenges in the Centre.

POLICY AND PUBLIC ENGAGEMENTS AND ACTIVITIES

Throughout 2022, the Smart Mobility and Future of Work and Digital Skills research thrusts at CADS led the Centre's active engagement in various policy and public engagement activities. These efforts were motivated by the Centre's alignment with the Digital and Future Skills Strategy developed by the Department of Communications and Digital Technologies of South Africa.

CADS is well-positioned to contribute to the capacities of South Africans to meet the challenges arising from the increasing deployment and adoption of digital technologies in the economy and society. The Centre's focus on the Future of Work and Digital Skills research thrust presents an excellent opportunity to align with the Digital and Future Skills Strategy. To this end, CADS has participated extensively in NEMISA initiatives,

including the Data Science Master Classes initiative, demonstrating a commitment to responding to this national roadmap.

Through the Smart Mobility flagship, CADS has actively engaged the public in discussions about the future of transportation in South Africa. In March 2022, one of our collaborators in the flagship, Dr Mageto, was invited to provide news commentary on Newzroom Afrika. They discussed various aspects of smart mobility and how these inform the prospects of a smart city. We have also held informative information sessions with the City of Johannesburg officials to explore how we can integrate into various smart mobility initiatives. This is part of an ongoing research agenda. These engagements have provided valuable opportunities to share our research insights and collaborate with stakeholders in advancing smart mobility solutions in South Africa.



RESEARCH ACTIVITIES

In 2022, the Postharvest Agriculture, Learning Analytics, and Smart Mobility flagships at CADS were actively involved in various research activities, resulting in several key research outputs published in high-impact journals. These research activities were conducted through collaboration with students, cross-institutional collaboration, and postdoctoral research fellows. Each of these flagships secured university funding to assist with the research endeavours, enabling the teams to undertake in-depth research and produce valuable insights in their respective fields.

The Smart Mobility research flagship was also invited to showcase its key outputs internally at the CBE's Centre for Competition, Regulation and Economic Development (CCRED) and through a webinar at the Royal Melbourne Institute of Technology in Melbourne, Australia.

SUSTAINABILITY, INNOVATION AND FOURTH INDUSTRIAL REVOLUTION (4IR)

CADS aims to promote sustainability and innovation through 4IR technologies in its three research flagships: Postharvest Agriculture, Learning Analytics, and Smart Mobility. Each flagship focuses on a specific area of concern, with the common goal of infusing innovation and technology into research to create a more sustainable future. Postharvest Agriculture aims to limit product deterioration and optimise supply chain logistics, while the Learning Analytics flagship aims to use data analysis to inform better teaching and learning practices.

The Smart Mobility flagship seeks to develop sustainable solutions for mobility challenges in urban cities of emerging economies. CADS is committed to reducing food waste, promoting sustainable agriculture, enhancing teaching, and learning practices, and playing a key role in enabling smart mobility.

NATIONAL AND GLOBAL FOOTPRINT

In 2022, CADS expanded its national and global footprint by partnering with TBS Education in France and Sol Plaatje University in South Africa. These collaborations facilitated sharing of research, teaching, and learning opportunities between institutions. The Centre signed a memorandum of understanding with Sol Plaatje University to promote knowledge transfer between the two institutions, offering staff members valuable opportunities to exchange insights and expertise. Additionally, the partnership with TBS Education allowed CADS to extend its reach to the international community, contributing to a broader and more diverse research perspective.

Furthermore, as part of its journey, CADS also visited other national institutions, including Stellenbosch University, the University of KwaZulu-Natal (UKZN), the University of Mpumalanga, and the University of Limpopo, to learn, share ideas, and create a national footprint of data science and its applications across industries and institutions. These visits provided valuable opportunities for collaboration and knowledge-sharing and further strengthened CADS' national presence and impact.







UNIVERSITY
OF
JOHANNESBURG

CENLED
CENTRE FOR LOCAL
ECONOMIC DEVELOPMENT



Centre for Local Economic Development (CENLED)

Prof Marius Venter

Director: Centre for Local Economic Development,
School of Economics
College of Business and Economics

OVERVIEW

The Centre for Local Economic Development (CENLED) is in the School of Economics within the CBE at UJ. CENLED was established in 2008, primarily for capacity building in the local economic development sphere.

Following 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 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 well-being.

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

PASCAL originated from 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, private (for-profit), and non-governmental (not-for-profit) sectors.

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. Coordination of these inputs creates conditions for productivity and innovation, ensures beneficial outcomes and impacts for all within the region and increases PASCAL's range of contributors and the number of beneficiaries. Communities engaging in regional development have an excellent opportunity to learn from similar areas worldwide and from various existing networks that can aid efforts.

POLICY AND PUBLIC ENGAGEMENTS AND ACTIVITIES

LIMPOPO DEPARTMENT OF ECONOMIC DEVELOPMENT AND TOURISM

A contract of R1 500 000 was secured to capacitate 76 municipal officials and councillors in the online Higher Certificate in LED. Seventy-one candidates completed the qualification.

VIRTUAL WEBINAR

An international online seminar on LED was organised and hosted in partnership with UKZN. 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.

STAFF

CENLED's director serves as the Director: of PASCAL (Africa), as Chairperson of the Economic Development Council of South Africa, as a council member of the Economic Society of South Africa (ESSA) and as an official member of the Community of Practice for Entrepreneurial Universities of EDHE.

RESEARCH

CENLED contributed 9,98 credits towards the CBE research output. The research included scholarly articles published in accredited journals and a book in the CENLED book series: Venter, M (ed.) 2022,

Promoting sustainable local economic development initiatives: Case studies.

This book covers various local economic development (LED) cases, (national and international), focusing on arts and culture, youth development, small- and microenterprises, the green economy, the circular economy, the importance of the informal sector and resettlement. It unlocks the potential of a substantial agenda for university researchers to support innovative attempts to find new ways to achieve just, sustainable LED initiatives, and build global consciousness and empathy in progressing towards a sustainable world. The distinctive contribution of this book to the production of a local developmental body of knowledge lies in the synergetic relationships between these case studies. The aim is to allow LED professionals globally to work towards approaches and initiatives that have broader significance for communities worldwide. View here: DOI: <https://doi.org/10.4102/aosis.2022.BK368>

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 implementing the University Capacity Development Programme through Effective Management and Utilisation





of the University Capacity Development Grant 2018-2020. The SSAUF was incorporated as the staff development component of the University Capacity Development Programme (UCDP). The project's primary purpose is to support academics and professional staff at South African universities to undertake and complete doctoral studies within four years or less. The secondary goals are the development of supervisory capacity at universities and promoting capacity development collaborations between universities, including universities outside of South Africa.

CENLED secured R1 127 500 from the British Council in 2022 and established a doctoral training academy in partnership with the University of Glasgow (u21 partner) and the University of Zululand. Eight PhD students enrolled in 2022 as third-year students. The group visited the University of Glasgow in March 2022.

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 4IR technologies that will support municipalities in local development to improve the quality of lives of communities.

An innovative, collaborative supervisory model was developed. Regarding this model, the supervisors from the three universities work in teams. They include an experienced supervisor, co-supervisor and early career researcher or novice supervisor to supervise a group of three to four PhD candidates to develop supervisory capacity.

NATIONAL AND GLOBAL FOOTPRINT

CENLED commands access to a pool of broad skill 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
- Wroclaw University of Economics and Business
- Open University of Mauritius
- University of Zululand

GOVERNMENT AND PROVINCIAL DEPARTMENTS

- 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



UNIVERSITY
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**CENTRE FOR PUBLIC
MANAGEMENT AND
GOVERNANCE**



Centre for Public Management and Governance

Prof Vain Jarbandhan

Director: Centre for Public Management and Governance
School of Public Management, Governance and Public Policy
College of Business and Economics



INTRODUCTION

The Centre for Public Management and Governance is in the School of Public Management, Governance, and Public Policy. We offer two distance education continuing education programmes, the Higher and the Advanced Certificate in Local Governance and Management. These 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 programmes are popular with students as the opportunity exists for qualifying students to access the formal second year of the BA (SWC) programme. Moreover, the Centre hosts the short

learning programme in 4IR, which will be rolled out to students soon. The Centre also aims to provide collaborative services with various actors in Africa and South Africa's developmental local government process. Despite providing limited bursaries to deserving students, mounting student debt is a matter of concern for the Centre.



STAFF CAPACITY OF THE CENTRE

The Centre has one permanent staff member, Prof Vain Jarbandhan, rated a C2 Researcher by the NRF in November 2022, who is the director of the Centre. Ms Lynell van Heerden, a contract employee, is the Centre administrator. The Centre has two tutors who assist students with challenges in accessing their content on Blackboard. Prof C Auriacombe, an emeritus professor, serves as programme manager.

PUBLIC ENGAGEMENTS

Prof Vain Jarbandhan represents the Centre at various public engagements. He is a panel discussant and keynote speaker at the South African Local Government Association (SALGA) capacity-building events. He is also often invited by the National School of Government (NSG) to capacity-building programmes on the professionalisation of the public sector. He has participated in the NSG Thought Leadership Seminar titled Exploring Curriculum and Pedagogical Approaches between the NSG and Higher Education Institutions. He represented the Centre at the SALGA 4th Annual Talent Management Conference. He presented a paper titled, "The Future of Municipalities, how Institutions of Higher Learning capacitate municipal leadership for transforming Local Government" (Birchwood, Boksburg). Prof Jarbandhan also chaired a panel at the 2022 Sustainability, Research, and Innovation Congress (SRI 2022). The central theme that the discussion focused on was Climate Resilience, Adaptation and Policy Innovations in Africa. The panel members were from across Africa and Australia. Prof Jarbandhan still collaborates with Humanitarian Affairs, Asia, on sustainable development and student leadership issues.

RESEARCH ACTIVITIES

CONFERENCES

Jarbandhan, D.B. 2022. SALGA 4th Annual Talent Management Seminar. Keynote address. Birchwood Conference Centre, Boksburg. 21 September 2022.

Jarbandhan, D.B. 2022. Climate Resilience, Policy, and Adaptation in Africa. Session Chair at the 2022 Sustainability Research and Innovation Congress (SRI 2022). 20-24 June 2022. Online.

Michael, A. and Jarbandhan, D.B. Sustainable Development. Association of Southern African

Schools and Departments of Public Administration and Management. UKZN, 23-25 November 2022.

Marutlulle, N. 2022. Implementing and Promoting Effective Governance Principles to Leave No One, No Place Behind. International Institute of Administrative Sciences. Rabat, Morocco. 25-29 July 2022.

ACCREDITED JOURNALS

Jarbandhan, D.B. 2022. The Professionalisation of the South African Public Sector. Challenges and Opportunities. *Administratio Publica*. 30 (4): 24-51.

Marijani, R. and Jarbandhan, D.B. 2022. Professionalizing Public Administration and the Impact of Performance Audit on Public Organizations in Tanzania. *Pan-African Journal of Governance and Development*. 3(2): 84-93.

Jarbandhan, D.B. and Gwiza, A. 2022. Implications of New Public Governance on Public Expenditure Management: A theoretical exposition. *Loyola Journal of Social Sciences*. XXXVI (1). 71-89.

Jarbandhan, D.B. and Majam, T. 2022. Data driven human resource management in the Fourth Industrial Revolution. The strategic use of human resource data and data analytics for a capable South African Public Service. *African Public Service Delivery Review*. Vol 10(1), a588. <https://doi.org/10.4102/apsdpr.v10i1.588>

Mantzaris, E., Pillay, P. and Jarbandhan, D.B. 2022. Ethics and Professionalism against Corruption: An Exploration of the South African Municipal Landscape during the Covid-19 Pandemic. *African Journal of Public Affairs*. 13(1). 110-128.

Gwiza, A., Jarbandhan, D.B., Govo, D., Nyagadza, B. and Tambaoga, M. 2022. Assessing Cloud Computing (CC) Adoption Framework for Higher Education Institutions. An Exploratory Study of Perspectives from Selected Zimbabwean State Universities. *Journal of Educational Studies*. Vol 21(4): 24-46.

Gwiza, A. and Jarbandhan, D.B. 2022. Public Expenditure Management Challenges in Zimbabwe. Critical Considerations. *Administratio Publica*. 30 (1): 93-115.

Auriacombe, C.J. and Murasi, I. 2022. The role of the imihigo as a performance management instrument in Rwanda. *Administratio Publica*. 30(3): 97-108.

Marutlulle, N. 2022. An Exploration of the Impact of Inadequate Housing on Health in South Africa. *Administratio Publica*. 30 (1): 52-64.



BOOK CHAPTERS

Addaney, M. and Patrick, B. C. 2022. Edited a book titled, Sustainable Urban Futures in Africa. Taylor and Francis.

Addaney, M. and Patrick, B. C. 2022. Chapter 1: Sustainable Urban Futures in Africa: Concepts, Practices and Prospects, In Sustainable Urban Futures in Africa. Taylor and Francis.

Addaney, M., Patrick, B. C. and Gwezeni, D.C. 2022. Chapter 11: Avoiding the Child Poverty Curse in Ghana and South Africa. Is school food as a social protection tool sufficient? In Sustainable Urban Futures in Africa. Taylor and Francis.

FORTHCOMING

A book co-edited by Dr M Addaney and Prof Vain Jarbandhan, Public Policy and Governance Responses to Climate Change in Africa. An edited volume to be published by Palgrave Macmillan. Abstracts and full chapters have been received for consideration. The book will be released in semester two of 2023.

NATIONAL AND GLOBAL FOOTPRINT

The Centre concluded the following Memorandums of Understanding (MoUs) in 2022, the University of Energy and Natural Resources at Dormaa, Ghana. The Centre is finalising signing an MoU with Wuhan University in China. Plans are underway to conclude an MoU with Hamid Bin Khalifa University, Qatar, Doha.



UNIVERSITY
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FERL
FOOD EVOLUTION
RESEARCH LABORATORY



Food Evolution Research Laboratory (FERL)

Dr Hema Kesa

Director: Food Evolution Research Laboratory,
School of Tourism and Hospitality
College of Business and Economics

OVERVIEW

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

TALENT MANAGEMENT AND CAPACITY BUILDING

The FERL organisational structure includes one Director, one postdoctoral research fellow (PDRF) and research assistants. FERL aims to train and develop young researchers in nutrition and healthy lifestyles. In 2022, the FERL hosted two postgraduate students from India for research capacity building (31 October - 12 November 2022). This was related to the "Livelihood transition, poverty and childcare transition and its effect on child undernutrition in the tribal/peri-urban regions of India and South Africa" project. The visiting students trained and mentored two of the FERL's research assistants.

POLICY AND PUBLIC ENGAGEMENTS AND ACTIVITIES

FERL led and participated in the following engagements:

- Hosted the Research Stakeholders Feedback session in March 2022.
- Hosted Prof A Jeyakumar, Sawatribhai Pune Pule University, India (19-27 June 2022).
- Two radio interviews were held with FERL and Prof Jeyakumar on "Livelihood transition, poverty and childcare transition and its effect on child undernutrition in the tribal/peri-urban regions of India and South Africa". UJ FM and Radio Islam.
- Hosted Dr A Kamgain, Institute of Medical Research and Medicinal Plants Studies in Cameroon (June – August 2022).
- Collaborated with The Nutrition Society of South Africa (NSSA) to host the annual Symposium (20 October 2022). Theme "Work-Life-Food: Balance" in collaboration with the Department of Industrial Psychology and People Management (IPPM), UJ



(Prof Roslyn De Braine and
Prof Musawenkosi Saurombe).

- Participated in UJ SDGs PODCAST for SLP SDGs

ONGOING 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 two of the project focuses on preparing sorghum and pearl millet food in SA.
- Food Waste Management: Schools and Healthcare facilities.
- Innovation and Technology (VR & AR): The use of extended reality (XR) in understanding food choices/indigenous foods and food environments (GES 4.0 Funded).

SUSTAINABILITY, INNOVATION AND FOURTH INDUSTRIAL REVOLUTION (4IR)

- New SLP offered by FERL. Approved courses in 2023:
 - 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 mobile nutrition application for students in institutions of higher learning that will be registered as a UJ Community Engagement project in 2023.
- Food Waste Management Education mobile application development (in progress).
- FERL launched the Extended Reality (XR) facility in August 2022. The UJ XR Laboratory was established in collaboration with UJ Metaverse Research Unit and the support of the Erasmus+ Funded SUCSESS project. The project enabled funding to purchase equipment such as virtual reality (VR) headsets and a HoloLens for laboratory use-the UJ News and Events covered the project. The facility will be focussing on Food and Nutrition Projects.

NATIONAL AND GLOBAL FOOTPRINT

NATIONAL

- Department of Basic Education: School Nutrition Feeding projects.
- Tiger Brands Foundation: Effects of COVID-19 on in-school Nutrition.
- 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.
- Advancing Children for Success (ACFS): Community Education, Health, and Nutrition Support.

INTERNATIONAL

- Penn State University, USA and the Centre for Food and Nutrition Research, Institut Paul Bocuse, Lyon, France. Project collaboration on Food Systems and Food and Nutrition Security.
- Sawatribhai Pune Pule University, India: Nutrition Transition - Food Away from Home (FAFH) and Livelihood transition, poverty and childcare transition and its effect on child undernutrition in the tribal/peri-urban regions of India and South Africa.
- Gokhale Institute of Politics and Economics, India: Livelihood transition, poverty and childcare transition and its effect on child undernutrition in the tribal/peri-urban regions of India and South Africa.
- 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.
- Haaga Helia University, Finland: Extended Reality (XR) Food and Nutrition Projects.

INVITATION
Annual Symposium:
Food Evolution Research Laboratory (FERL) and Nutrition Society of South Africa (NSSA)

FREE EVENT | Hosted by Food Evolution Research Laboratory (FERL), UJ School of Tourism and Hospitality (STH)

DATE: 20 October 2022 | TIME: 10:00 -12:00
PLATFORM: Zoom
Click [here](#) to join the conversation

Facilitator:

Prof Roslyn De Braine
Associate Professor:
Programme in Human
Resource Management,
Department of Industrial
Psychology and People
Management
University of Johannesburg

Prof. Corinna Hawkes
Topic: Keep on keeping on: Struggles and motivations in balancing work and life
Director: Centre for Food
Policy, University of
London and Co-founder:
Next Gen(D)eration
Leadership Collective

Speakers:

Prof. Musawenkosi Donia Saurombe
Topic: Work-life balance in the contemporary world of work
Associate Professor:
Department of Industrial
Psychology and People
Management, University
of Johannesburg

Ms Abigail Park
Topic: The Busy Parent: A nutrition guide on how to keep YOU and your family healthy (amidst the chaos)
Registered Dietitian:
Nutritional Solutions,
Bryanston



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



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

Prof Noleen Pisa

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

OVERVIEW

The Department of Transport and Supply Chain Management was established in 1968 and is widely recognised for its education, training, and research in transport economics, logistics, and supply chain management. The Institute of Transport and Logistics Studies (ITLS) (Africa) was created within the Department of Transport and Supply Chain Management at UJ in response to the 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 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 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.

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 in January 2022. In addition, Prof Adri Drotskie was appointed the Chair of the Institute's board and took over from Prof Daneel Van Lill in January 2022.

ITLS (Africa) houses the department's postgraduate studies. In 2022, the Institute hosted one postdoctoral fellow, Dr Adedotun Joseph Adenigbo, as part of its drive for talent management and



capacity development 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.

Two PhD students and three coursework master's students graduated in 2022. In addition, two doctoral and two research master's students submitted their theses for examination in 2022. Currently, there are 15 coursework master's, 12 research master's and 15 doctoral students enrolled.

POLICY AND PUBLIC ENGAGEMENTS AND ACTIVITIES

ITLS (Africa) hosted several TransportSIG events during 2022 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 2022 sessions were all held virtually. In addition, since the sessions were streamed on the Zoom platform, delegates could watch proceedings on YouTube. ITLS (Africa) hosted a special TransportSIG event On 12 October 2022, and the topic was "Sustainability in Aviation: The Airbus path to "Net Zero" aviation".

RESEARCH ACTIVITIES

ITLS (Africa) does research in many 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 to address the most important current research requirements in South and southern African transport and logistics. In addition to its internal research activities, ITLS (Africa) undertakes commissioned research on behalf of transport, logistics, and supply chain stakeholders. In 2021, the Institute, particularly Prof Noleen Pisa, was awarded the Transport Education

Training Authority (TETA): 4IR Research Chair. The Chair will conduct evidence-based research to understand better the future of the transport sector's skills needs. In addition, it will contribute to transforming the industry by training employees in 4IR technologies; by improving societal mobility solutions and increasing the employability of transport trainees.

ITLS (Africa) appointed the following Visiting Research Associates in 2022:



Dr Quoc Chinh Ho
from the University of Sydney,
Australia



Dr Hazvinei Tsitsi Tamuka Moyo
from the University
of Cape Town



Dr Thomas Ogoro Ombati
from the University of
Nairobi, Kenya



Dr Simonov Kusi-Sarpong
from Southampton
Business School,
University of Southampton



UNIVERSITY
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PEERC
PUBLIC AND
ENVIRONMENTAL ECONOMICS
RESEARCH CENTRE



Public and Environmental Economics Research Centre (PEERC)

Jugal Mahabir

Director: Public And Environmental Economics Research Centre (PEERC)
School of Economics
College of Business and Economics

OVERVIEW

The Public and Environmental Economics Research Centre (PEERC) was established in 2017 to fill a potential gap in the current economic and policy agenda 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 global warming and climate change. Most remedies to environmental issues and externalities are public policy instruments, such as tax policy and regulation. As such, PEERC attempts to mobilise the critical 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. Mr Jugal Mahabir, Centre Director, oversees the daily operations at the Research Centre.

PEERC continues to engage directly in academic and policy discourse. Over the past year, PEERC's Director, Mr Jugal Mahabir, was invited to present at the 4th Annual Urban Economic Forum in Toronto, Canada, on the best practice and challenges of financing cities in South Africa. Mr Mahabir highlighted essential issues impacting South African cities and municipalities, including the enormous debt owed to municipalities and related performance issues. Mr Mahabir further pointed out some best practices in South African local government that can assist other African cities, including best practices in debt management and the role of South Africa's intergovernmental supervision framework in improving local government performance.

Mr Jugal Mahabir presented a webinar to the South African Local Government Association (SALGA) on the potential impacts of the new raw water pricing strategy on local government in South Africa. The webinar was attended by municipal councillors and officials. The webinar was vital in formulating SALGA's response to public comments on the recently gazetted National Pricing Strategy for Water Use.



Between January 2022 and March 2022, Mr Jugal Mahabir and Dr Isaiah Magambo engaged in several workshops with the Department of Water and Sanitation (DWS), the Water Research Commission (WRC), the National Treasury and a range of other stakeholders to finalise the National Pricing Strategy for Water Use. The PEERC team played an essential role in designing the new strategy for raw water charges in South Africa.

Dr Frank Bannor attended the European Association of Environmental and Resource Economists (EAERE) and the Chair of the Economics/Resource Economics of the Swiss Federal Institute of Technology Zurich (ETH Zurich) Winter School in Environmental and Resource Economics. Dr Bannor presented a paper entitled "Do Effective Governance and Political Stability Facilitate the Promotion of Economic Growth in Natural Resource Rents? Evidence from Africa"





Dr Frank Bannor

Dr Frank Bannor was invited to the 2022 African Economic Conference (AEC), which took place from 09 - 11 December 2022 at the Intercontinental Hotel, Balacava, Mauritius. The theme for the conference was "Supporting Climate-Smart Development in Africa." Dr Bannor presented his paper entitled "Economic Growth, Renewable and Non-renewable Electricity Consumption: Fresh Evidence from a Panel Sample of African Countries".

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 policymakers in these fields. Since its 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 WRC. The programme aims to equip young graduates with the skills and knowledge needed for the workplace. Senior researchers at PEERC were chosen to mentor graduates while they worked on various research projects. The internship programme ran from January 2022 – July 2022. We are pleased to announce that PEERC has absorbed one of the graduates at the programme's termination.

PEERC has introduced an internship programme for postgraduate students which will commence in 2023. The students will work under the mentorship and supervision of the researchers at PEERC to empower and groom future economics researchers. This internship will allow the Centre to increase output regarding research proposals, publications and, most importantly, skills development.



RESEARCH ASSOCIATES AND SENIOR RESEARCH ASSOCIATES

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

RESEARCH

COMPLETED RESEARCH PROJECTS

Putting the People in the People's Parliament – European Union

At the end of March 2022, PEERC successfully concluded its three-year project entitled "Putting the People in the People's Parliament", a European Union (EU) funded project to empower civil society to engage in national parliamentary and provincial legislative processes. The project was done in collaboration with the Dullah Omar Institute (University of the Western Cape), Heinrich Boll Institute, the Public Service Accountability Monitor (PSAM – Rhodes University) and the Parliamentary Monitoring Group (PMG). PEERC published two technical reports on provincial oversight, the provincial equitable share, and post-apartheid education funding.

Defining Commercial and Social Infrastructure for Raw Water Use – Department of Water and Sanitation

PEERC assisted the DWS and the WRC in revising the National Pricing Strategy on Water Use Charges, i.e., the pricing strategy for raw water use in South Africa. PEERC undertook research that informed the definition of social and commercial users of raw water and criteria to define social and commercial infrastructure. The Department recently released the revised strategy for public comment.

Financial and Fiscal Commission 2023/24 Annual Division of Revenue Bill Submission

In July 2022, the PEERC Director, Mr Jugal Mahabir,

and Senior Research Associate, Dr Sean Muller, completed research for the Financial and Fiscal Commission (FFC) on estimating the efficiency of education expenditure in South Africa. The study formed part of the FFC's annual submission to parliament on the 2023/2024 Division of Revenue.

CURRENT RESEARCH PROJECTS

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

- **Introducing Dynamic Tariffs in South Africa's Water System - WRC**

In 2021, PEERC received grant funding from the WRC to look at introducing dynamic pricing into the South African water sector. The project concludes in March 2024. To date, PEERC has achieved all the necessary deliverables for the project. This includes a review of international case studies that applied dynamic pricing in the water sector, a review of the current water pricing system in South Africa and comprehensive focus group discussions with key stakeholders in the South African water sector. The latter objective explored the configuration of the water value chain and examined methods to implement dynamic pricing at various levels of the water value chain in the country.

- **Assessing the Welfare Impacts of Municipal Short-term Responses to Water Supply Crises - WRC**

At the beginning of 2022, PEERC received funding from the WRC to undertake a project entitled "*An Analysis of the Economic Efficiency of Municipal Short-term Responses to the Water Supply Crises in South Africa*". The study is based on the responses by the Nelson Mandela Bay and the City of Cape Town municipalities to the water supply crises that they are facing and the impact on the welfare of water consumers within their jurisdictions. To date, PEERC has completed the project's theoretical review and is engaging with the respective municipalities to collect the necessary data for the analysis. The project's expected completion date is March 2024 and is being coordinated by Professor Stephen Hosking, Senior Research Associate at PEERC.

PUBLICATIONS AND WORKING PAPERS

PEERC has published in national and international academic journals during the 2022 academic year. The publications and working papers are given as follows:

- Ravat, Z., Dikgang, J. and Mahabir, J. (2022). Influences of Various Pricing Points: An Experimental Study of Plastic Bags in Johannesburg, South Africa. *Journal of Applied Economics*. 25(1): 1200-1218.
- Samkange, C.M., Mahabir, J. and Dikgang, J. (2022). Efficiency of South African Water Utilities:

A Double Bootstrap DEA Analysis. *Applied Economics*. 54(26): 1-19.

- Espoir, D.K., Sunge, R. and Bannor, F. (2022). Economic Growth, Renewable and Non-renewable Electricity Consumption: Fresh Evidence from a Panel of African Countries. *Energy Nexus*.
- Bannor, Frank; Magambo, Isaiah Hubert; Mahabir, Jugal; Tshitaka, Jean-Luc Mubenga (2022): Interdependence between climate change and migration: Does Agriculture, geography, and development level matter in sub-Saharan Africa? ZBW – Leibniz Information Centre for Economics, Kiel, Hamburg

SUSTAINABILITY, INNOVATION AND FOURTH INDUSTRIAL REVOLUTION (4IR)

The Research Centre is currently engaged in new and innovative research aligned with the 4IR and the use of technology and artificial intelligence to improve the efficiency and effectiveness of existing systems. One of these is the possibility of introducing dynamic pricing into the South African water pricing system. This entails examining the potential for water tariffs charged by municipalities to adjust to changes in the water supply, i.e., the current water supply in reservoirs. In implementing such a system, the use of new and innovative technologies becomes critical in monitoring water levels in reservoirs and monitoring household water usage for pricing purposes.

PEERC is working on a collaboration project with Hydrodrip Limited to introduce a virtual water credit market for water consumers. The aim is to pilot new technology to measure water consumption in water consumer units and to develop a virtual water credit market where consumers can trade water savings with other water users. This system intends to improve the allocative efficiency of water by promoting water savings in lower water users and allocating such savings to higher water users.

PARTNERSHIPS AND COLLABORATION

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

- African Association of Environmental Economics
- Water Research Commission
- South African Local Government Association
- University of Dar es Salaam, Tanzania
- The University of Washington, United States of America
- University of Gothenburg, Sweden
- Makerere University, Uganda



UNIVERSITY
OF
JOHANNESBURG

**TECHNOPRENEURSHIP
CENTRE**



Technopreneurship Centre (TPC)

Ronny Mabokela

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

OVERVIEW

The Technopreneurship Centre (TPC) is an innovation hub that tackles the most pressing challenges faced by industries and society. Our students work alongside renowned academics and industry experts to research, ideate and solve these challenges. TPC is a unique initiative within the University that welcomes individuals from all educational backgrounds, not just those with information technology expertise, who want to contribute to our success. The TPC has experienced its most successful and active year yet in 2022. We held two board meetings with our diverse experts. We hosted various successful innovation hackathons and datathons, including the TPC Blockchain Innovation Bootcamp and Hackathon in partnership with QuidPro & Crypto Valley Venture Capital (CV VC), as well as the datathon in collaboration with the National Electronic Media Institute of South Africa, an entity of the Department of Communications and Digital Technologies (DCDT). The Head of the Centre, Mr Ronny Mabokela, was invited as a tech innovation judge and to mentor students in various innovation competitions. We participated in 15 innovation hackathons and won 12 of them, including two significant awards from Telkom's SATANIC CYBER HACK and an international HackCorruption hosted by Accountability Lab (AL) and the Centre for International Private Enterprise (CIPE), supported by the Bureau for International Narcotics and Law Enforcement Affairs (INL) at the US State Department, through the Anti-Corruption Solutions Through Emerging Technologies (ASET) programme. Through our innovation hackathons, we aim to foster an entrepreneurial ecosystem and develop innovative solutions. Our activities were remarkably successful, and we are proud to have emerged victorious in numerous hackathon competitions, including international ones.

TALENT MANAGEMENT AND CAPACITY BUILDING

The Centre adhered to a rigorous selection process to recruit new students as in previous years. The



head of the Centre, Mr Ronny Mabokela, was assisted by eight TPC Ambassadors, including Mr Emmanuel Mbuya, Mr Surprise Ngoveni, Ms Buhle Mpala, Mr Eugene Ndlovu, Mr Chadrack Mulamba, Ms Malebo Moleleki, Ms Lerato Tlhako, and Ms Angelic Mokoena.

One hundred and sixty students from various departments across the University have answered the Centre's call to join. Our Centre comprises essential staff and partners, including the Centre Head, YES interns, student assistants, TPC Ambassadors, and many students specialising in development, coding, and hacking. We also have industry and academic mentors from esteemed companies such as Polygon, Binance, Nedbank, CVVC, Microsoft, Huawei, Ozoo, iTweb, Geekulcha, CISCO, and Standard Bank. We offer our students the guidance of several regular mentors, including Dr Tebogo Bokaba (UJ), Mr Vincent Rammai, Mr Tiyani Nghonyama, Mr Mixo Ngoben, Mr Muzi Ntombela, Dr Oluwapelumi Giwa, Mrs Tebogo Bokaba (UJ), Ms Sina Legong, Ms Keitumetsi Tsotetsi, Dr Stella Bvuma (UJ), Dr Charlotte Wu, Dr Naomi Isabirye, Mr Steve Jump, Mr Kwena Mashala, Mr Tshogofatso Malope and other international partners such as Mr Foster Awintiti Akugri from the Hacklab Foundation (Ghana), Ms Alexis Baskelovich, and Mr Ron Kalderon (Israel). The Centre caters to undergraduate, honours, master's, and doctoral students. Our team is a formidable force, boasting a diverse and dynamic group of industry partners, collaborators, students, experts, innovators, and hackers. Each member brings unique skills and backgrounds that are essential to the success of our work, including the development of groundbreaking ideas and innovative solutions for the Centre and beyond.

POLICY AND PUBLIC ENGAGEMENTS AND ACTIVITIES

The Centre engaged in several other public engagements and activities in 2022. First, Mr Ronny Mabokela (Head of Centre) was interviewed by the radio station 702 and the BRICS skills challenge team, NEMISA media and ITWeb media regarding innovations, hackathons and how they fit in within UJ and national policies. In 2022, Mr Ronny Mabokela appeared on numerous platforms to participate as a tech innovation judge and mentor. He judged innovative tech solutions nationally and internationally. These events were innovation hackathons such as the Centre for Public Service Innovation, ITWeb security summit Hackathon (1-2 July 2022), the Rivonia Circle - Power to Act Hack (13 - 14 August 2022), the MTN App of the Year (17-18 September 2022), and the Global Healthcare Hackathon hosted by Hack for Earth Foundation and the Empire Partner Foundation. All these events aimed to accelerate youth skills development and develop business startups that will boost the South African economy.

He played an integral role in several public webinars aimed at advising and assisting inventors in various areas of intellectual property (IP) protection and technology commercialisation. This included drafting relevant legal agreements, managing the patenting of inventions, and registering trademarks, establishing start-up companies, and acquiring equity in established companies after conducting commercial due diligence. He also worked closely with Startup Business Campus, UJ Technology Transfer Office (TTO), and 22 on Sloane to guide students on commercially viable ideas

and solutions. In addition, our team organised and participated in various innovation hackathons and webinars focused on 4IR-related technologies. We partnered with several impactful organisations, including CPSI, QuidPro, CV VC, HackCorruption, Hack for Earth, Empire Partner Foundation (EPF), NEMISA, Telkom, ITWeb Security Summit, GirlCode, Rivonia Circle, and Umthata 4IR Expo. Notably, our UJ TPC team emerged as the overall winner and best women hackers at the CPSI hackathon in February 2022, and won various other hackathons, including the Data Science Hackathon, USA-based HackCorruption hackathon, Blockchain Innovation Bootcamp, and Hackathon, and SATNAC CYBER HACK. Our team also secured the 2nd prize at the global healthcare hackathon hosted by Hack for Earth and EPF and won the NEMISA Datathon with a cash prize of R100 000.00 for incubation and improvement of the solution.

RESEARCH ACTIVITIES

Our students, in collaboration with our partners, engage in research to create innovative solutions and assess the impact of hackathons on skills development. Currently, we are in the process of analysing the data collected from these contributions. However, we have planned publications in collaboration with the Department of Marketing and Applied Information Systems to publish journal articles on hackathons' role in creating solutions and technopreneurship in accelerating innovation and digital skill development. We also plan to collaborate with the Innovation hub to develop a sustainable incubation and digital skill development framework.





SUSTAINABILITY, INNOVATION AND FOURTH INDUSTRIAL REVOLUTION (4IR)

The Centre currently sustains itself through the generous prizes won in various hackathons, and we are grateful for the tremendous support from the School of Consumer Intelligence and Information Systems. However, we recognise the need for long-term financial stability and are actively seeking funding opportunities. We are utilising the expertise of our esteemed advisory board members to assist us in this endeavour. MICT SETA awarded the Centre R1 million to work on special projects for them.

As for operational stability, the Centre is well-equipped with established processes to deliver our mandated functions efficiently. Through our innovation hackathons, our students have successfully created commercially viable solutions that have progressed to incubation at TTO and acceleration at Hacklab Foundation programmes. These projects cover various sectors, from agriculture to healthcare, with Agri-Ecco, MyRes, and recently Falsify as standout examples. This solution utilises cutting-edge 4IR technologies such as AI and IoT to connect farmers with essential buyers and improve their crop yields, ultimately enhancing their livelihoods. In contrast, Falsify, uses massive social media information to vet and combat the spreading of hate news.

NATIONAL AND GLOBAL FOOTPRINT

The Head of the Centre participated in various international events and served as a mentor and judge for solutions at both the Hacklab Foundation in Ghana and the Falling Wall Lab Challenge in Germany. The Technopreneurship Centre's incredible success is recognised widely across various media platforms, including UJ Communication, Beetroots, ITWeb, Brainstorm magazine, and social media outlets. We hosted a webinar themed, "Hackathons: Enabler for Problem Solving and Innovation".

We have proudly hosted several national hackathons, including two NEMISA and Geekulcha hackathons and Telkom, Discovery, MTN and EPF hackathons that aim to address unemployment, social challenges, and societal and societal socio-economic issues. In addition, he also devoted his time to mentoring and coaching tech start-ups at the SAB Sharp Hackathon (29 July 22), the Imvelisi JustHack (22-24 July 2022), the SATNAC cyber-Hack (19-21 August 2022), the GirlCode Hackathon (6-7 August 2022), and the MTN Business Hackathon (2-4 September 2022). As a testament to Mr Mabokela's dedication and expertise, students were employed, and received bursaries, and digital skills.



Transport Education Training Authority

Driven by Vision



UNIVERSITY
OF
JOHANNESBURG

**DEPARTMENT OF
TRANSPORT AND SUPPLY
CHAIN MANAGEMENT**



Transport Education Training Authority (TETA) 4IR Research Chair

Prof Noleen Pisa

Chair: Transport Education Training Chair
(TETA) 4IR Research Chair
Department of Transport and Supply Chain
Management, School of Management
College of Business and Economics

In 2022 Prof Noleen Pisa of ITLS (Africa) secured the Transport Education Training Authority (TETA, <https://www.teta.org.za>) 4IR Research Chair, valued at R5m per year. Prof Pisa holds a PhD (International Trade) and an MCom (International Trade) (with distinction) from NWU, with areas of research expertise cutting across economics, international trade, transport economics, tourism, and public health. She has published widely in local and international journals and conferences of stature.

The Research Chair's activities aim to enhance the TETA's mandate, namely, to facilitate skills development and training in the transport sector. The Chair will conduct research activities that evaluate the effectiveness of programmes currently sponsored by the TETA and develop new programmes to support the needs of the transport industry. In addition, it is proposed that TETA will improve research and innovation capacity by conducting high-impact research in areas such as travel behaviour and skills requirements in the transport sector, among others. The research focus areas of the Chair are outlined below:

- **Urban Mobility in Emerging Markets** - A research group has been established in the Department, based on the gap in the literature and practical work within the contexts of emerging markets and developing countries, on topics like urban transportation and travel behaviour and their connections to a wide range of disciplines like urban planning, environmental research, applied psychology, public health, etc. The research group addresses the need for scientific work on the above topic, as existing empirical evidence originates from high-income countries, while developing countries have a smaller share. This need becomes more apparent when the problems and challenges of the Global South in connection with rapid urbanisation, urban sprawl, lack of transport infrastructures, and the neglected preferences of end-users are depicted by a limited number of existing studies



and projects on emerging markets. The suggested group focuses on urban mobility, mainly urban travel behaviour, strongly connected with socioeconomics, the built environment, passenger preferences and decisions, self-selections, lifestyles, and attitudes.

- **Skills** - An ongoing project to determine the skills required by transport and logistics practitioners and the skills gap in the current market. The purpose is to identify the skills required by prospective market entrants. It provides an overview of the skills and competencies that could be the focus of future training and education interventions.
- **Green transport** - Development of a course in green transport, together with UJ's Process, Energy and Environmental Technology Station (UJ-PEETS) and UJ's Department of Geography. The main aim of the course delivery is to develop green transport skills within the public sector.
- **State of Transport Opinion Poll** - An assessment of the most crucial transport issues South African citizens face. Provides an overview of the critical focus issues for government intervention in the transformation of the transport system.
- **Mobility as a Service (MaaS)** - In the early stages of development. Consideration of MaaS for the transformation of the public transport system through disruptive technologies
- **Car Ownership** - An overview of car ownership intentions in South Africa. The aim is to identify issues within the transport system that influence travel intentions and areas for transformation.

WHOLESALE & RETAIL SETA
LEADERSHIP CHAIR: GAUTENG



Wholesale and Retail Seta Leadership Chair (Gauteng)(WRSLC)

Dr Beate Stiehler-Mulder

Chair: Wholesale and Retail Leadership Chair (Gauteng)
Department of Marketing Management,
School of Management
College of Business and Economics

OVERVIEW

The Wholesale and Retail (W&R) SETA Leadership Chair: Gauteng (WRSLC), resides in the Department of Marketing Management in the CBE School of Consumer Intelligence and Information Systems. The Chair holder is Dr Beate Stiehler-Mulder. We aim to expand wholesale and retail-focused research, develop W&R leadership, and empower HEIs to enhance their retail offerings. The Leadership Chair builds international networks and student exchanges and provides bursaries for master's and doctoral students with wholesale and retail-related topics. The goal of this Chair is the advancement and professionalisation of the retail sector.

RESEARCH FOOTPRINT

The Chair published two research reports in 2022:

- **Omni-channel Retailing: Low-income consumers' experience.** The Fast-Moving Consumer Goods (FMCG) industry has shown a keen interest in improving its omnichannel consumer experience. Still, a lack of research on low-income consumers' shopping journeys, particularly their omnichannel experience, poses a challenge for FMCG retailers. This study addresses this challenge by conducting interviews with 20 participants and undertaking a qualitative analysis to understand their behaviour, challenges, shopping journeys, and overall omnichannel experience. ISBN: 978-0-6397-1337-3 (electronic). Access the full report here or at www.uj.ac.za/wrseta and click the "Research" tab.

Two articles about this research report were published in Bizcommunity:

- Omni-channel retailing: Are your online and offline experiences consistent? Read here: <https://www.bizcommunity.com/Article/196/182/231642.html>
- What is driving online shopping among SA's low-income consumers? Read here: <https://www.bizcommunity.com/Article/196/394/231267.html>



- **Towards Enterprising Fuel Retailers.** Fuel retailers must compete in regulated open systems, and the factors influencing their profit margins are not always under their management's control. For these reasons, these systems/organisations need to function optimally. Everyone in these organisations could be viewed as an element in the structure and ideally needs to be an enterprising problem-solver (which includes management and the levels below management). The types of problems that all individuals need to be able to solve are in four domains: communication, product/service construction, strategy, and systemic integration. Systemic integration between various levels must occur for a fuel retailer to function optimally. ISBN: 978-0-6397-2996-1 (electronic). Access the full report here or at www.uj.ac.za/wrseta and click the "Research" tab. The Chair presented these findings at the annual Fuel Retail Association's (FRA) 2022 conference.



SKILLS DEVELOPMENT AND TALENT MANAGEMENT

As part of the drive to professionalise the sector, the W&R sector requires more qualified individuals to enter the market and develop opportunities for those already in the industry. To address this, the Chair launched the following initiative:

Accessible education

Registered a blended and online *Higher Certificate in Retail Business Management:

- Subjects include three modules that are credit-bearing towards the Diploma (Retail Business Management).
- There are two target markets for this certificate:
 - School leavers that don't have a high enough APS score to enter a Diploma (creating more access to tertiary education) - offered full-time from 2024.
 - Current retail employees offer this as a free MOOC where the content is free, studying is 100% online and flexible, and students only pay a very affordable examination fee once they are ready to complete a module. This arrangement provides access for people currently working in retail who wish to develop their skills further and potentially articulate into the Diploma programme and apply for RPL to enter a higher level qualification potentially.
- The certificate also includes Mathematics and English, as these modules will help students with low APS scores to improve their marks and their abilities in these two subjects.
- The other modules include Retailing, Retail Operations, Technology in Retail and Personal Selling.

*This is currently available as an NQF 5 Certificate, as we await the formal Higher Certificate registration approval that was submitted last year.

INTERNATIONAL FOOTPRINT

INDUSTRY

The W&R sector is further in need of international learning and exposure. To address this need, the Chair launched and hosted the 2022 "Around the world RetailFit webinar", where seven international retail experts presented the latest trends and retail happenings in their countries.

STUDENTS

The Chair has also secured an international exchange programme to Technische Hochschule Nürnberg Georg Simon Ohm. This is a six-week programme where students will attend classes in Germany and engage in cultural activities (student gaming night, German classes, and company visits). They will be assigned a practical project where they must do a hands-on evaluation and assessment of German retailers.

THE WAY AHEAD

The Chair has another six research reports that will be produced and released by the end of 2023, and the Chair launched a first-of-its-kind youth employment project that will commence at the start of 2023.

The banner is for the 'Around the World RetailFit 2022' event. It features a portrait of Professor Jonathan Reynolds on the left, with a UK flag icon next to him. The text 'Navigating the New Retail Landscape: Insights from the UK' is prominently displayed. Below this, the date and time '23 Feb 2022 | 4pm (GMT+2)' are shown. A '#RetailFit' hashtag and a 'FREE' badge are also present. The top of the banner mentions 'THE W&R SETA CHAIR: GAUTENG AND THE UJ DEPARTMENT OF MARKETING MANAGEMENT BRINGS YOU:'. Logos for W&R SETA, University of Johannesburg, and the Department of Marketing Management are visible. A globe icon with a paper plane is on the right, with the tagline 'The Future Reimagined' at the bottom right.

W&R SETA
MARKETING & RETAIL SETA
Skills Development for Economic Growth

THE W&R SETA CHAIR: GAUTENG AND THE UJ DEPARTMENT OF MARKETING MANAGEMENT BRINGS YOU:

Around the World RetailFit 2022

Navigating the New Retail Landscape: Insights from the UK

23 Feb 2022 | 4pm (GMT+2)

#RetailFit

FREE

PROFESSOR JONATHAN REYNOLDS

UNIVERSITY OF JOHANNESBURG
DEPARTMENT OF MARKETING MANAGEMENT

The Future Reimagined

Our Purpose

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

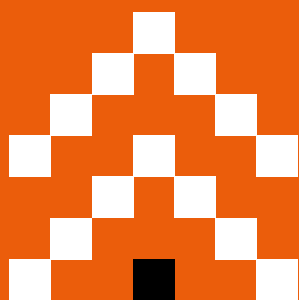
This means that we seek ways to use technology to be better informed, healthier, safer, behave better, connect faster, and learn and educate more people than ever before. In so doing, we ensure that the “Black Box” will not appear as mysterious as first feared.

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.

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