



**higher education
& training**

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA



Report:

New Generation of Academics Programme

National Colloquium Phase 1 and 2

12 and 13 April 2023

Emperor's Palace, Johannesburg, Gauteng, South Africa

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The New Generation of Academics Programme

The Department of Higher Education and Training is implementing the University Capacity Development Programme (UCDP), which seeks to achieve the goal of transforming teaching, learning, and researching, leading towards enhanced quality, success and equity in public universities in South Africa. One of the specific focal areas involves the development of staff in South African universities through a structured programme, namely, Staffing South Africa's Universities' Framework (SSAUF). The New Generation of Academics Programme (nGAP) is one of the core staff development initiatives that are implemented by the Department as part of SSAUF under the UCDP. The nGAP is currently the biggest programme within the SSAUF. The most important features of the programme are that scholars are appointed into permanent posts firmly factored into long-term staffing plans right from the outset.

The New Generation of Academics Programme (nGAP) is a prominent initiative that includes the recruitment of highly talented scholars as new academics. These academics are recruited based on well-structured and balanced equality concerns, as well as the disciplinary areas of highest need in the higher education system. The nGAP enables candidates to study for a master's or doctorate or to understand post-doctoral work with substantially reduced teaching responsibilities while studying. Successful candidates participate in a 6-year comprehensive development and induction programme, after which they continue as regular members of the academic staff.

To be eligible for selection for an nGAP post, applicants must meet the following criteria in addition to meeting the criteria specified by the university:

- Show interest in becoming an academic,
- Be 40 years or younger,
- Show evidence of eligibility to undertake postgraduate study at doctoral level if you do not have a doctoral degree (PhD), and
- At least 80% of the positions will be allocated to black/or women South African citizens.

Vision

To assist with staffing transformation and capacity needs at universities and involves the establishment of permanent posts.

Objectives

To enable young scholars to immediately take up permanent lecturer position and earn a full lecturer salary as they study.

Introduction: National Colloquium Phase 1 and 2

The nGAP was launched by the Minister of Higher Education, Science and Innovation (formerly, Minister of Higher Education and Training), Dr BE Nzimande in 2015 during the 2nd National Higher Education Summit titled, *Transforming Higher Education for a Transformed South Africa in a 21st Century World*. The programme covers a 6-year period for each cohort or phase taken onto the programme, which includes a 3-year development programme plus 3 years induction thereafter. The nGAP is currently being implemented with the support of Nelson Mandela University as the Implementation Support Partner to the Department.

Participants that entered the programme in the years 2015 and 2016 have since completed their 6 years in the programme and have attained their PhDs.

To mark the successful completion of participants from these first 2 phases of the programme, the Minister held a 2-day colloquium to celebrate this milestone and afford an opportunity for the successful participants to share research findings from their respective dissertations or research papers, as well as sharing their experiences and lessons learnt during their journey in the programme. The colloquium took place from 12 to 13 April 2023 at Emperors Place Hotel, OR Tambo International Airport, Johannesburg, South Africa.



Figure 1 Minister Nzimande and nGAP lecturers

Programme: New Generation of Academics Programme, National Colloquium Phase 1 and 2

Below is the two-day programme for the New Generation of Academics Programme, National Colloquium Phase 1 and 2, held from 12 to 13 April 2023 at Emperors Place Hotel, OR Tambo International Airport, Johannesburg, South Africa.

DAY 1		
10:30-11:30	Registration of delegates	
11:30-11:45	<i>Entertainment [background]</i>	<i>Gqeberha Strings Duo</i>
11:45-12:00	Welcoming speech	Prof Keet: Deputy Vice-Chancellor for Engagement and Transformation (Mandela Uni)
12:00-12:15	Experiences of an nGAP Lecturer	Dr Dlamini (UFS)
12:15-12:30	Experiences of an nGAP mentor: mentoring a future academic	Prof Windapo (UCT)
12:30-12:45	Future of the New Generation of Academics Programme	Dr Socikwa (DDG University Education Branch)
Lunch 12:45-13:45		
13:45 – 14:00	<i>Entertainment [performance]</i>	<i>WITS Voice Ensemble</i>
14:00-14:10	Purpose of the event and Introduction of the Minister	Director-General (DHET)
14:10-14:40	Minister's keynote address	Honourable Minister: Dr Nzimande
14:40-15:10	Awards	Minister Nzimande; Prof Mtose; Prof Songca
15:10 – 15:15	Appreciation from an nGAP Lecturer	Dr Madiba (MUT)
15:15-15:45	What next post completing nGAP (i.e. Future Professors programme)	Prof Jansen (SU)
15:45-16:00	Closure	Dr Socikwa (DDG University Education Branch)
18:00-21:30	Gala dinner [Emperors Palace – next to main venue]	Welcome (Ms Cakwe), Willie-Petersen Afro-Jazz band
DAY 2		
08:30-9:00	Official opening of the day	Dr Sishi/Dr Socikwa: Director-General /Deputy Director-General (DHET)
09:00-10:00	Plenary: <i>Transformation and Capacity Development of the Higher Education System.</i>	Dr Socikwa: DDG University Education Branch Program Director Dr Levendal (Nelson Mandela University) Ms Nkomo: Chief Executive Officer (Commission on Gender Equality)

		Dr Green: Chief Executive Officer (Council on Higher Education) Mr Patel: Deputy Director-General: Research Development Support (Department of Science and Innovation)
10:00-10:15	Questions and engagement	All
TEA: 10:15 – 10:30		
PRESENTATIONS BY LECTURERS WHO HAVE SUCCESSFULLY COMPLETED THE nGAP		
10:30-11:45	Research breakaway: nGAP lecturers present on completed or current research	<ol style="list-style-type: none"> 1. Dr Vusi Mshayisa (Natural Sciences – CPUT) 2. Dr Phumudzo Tharaga (Natural Sciences – UFS) 3. Dr Dr Thembi Simbeni (Health Sciences – SMU) 4. Dr Katlego Moloto (Natural Sciences – NWU) 5. Dr Tebogo Makhubela (Natural Sciences – UJ) 6. Dr Nokwazi Carol Mbili (Natural Sciences – UKZN) <p>Q & A</p>
10:30-11:45	Research breakaway: nGAP Lecturers present on completed or current research	<ol style="list-style-type: none"> 1. Dr Mandisa Makhaye (Humanities, arts and social sciences – UniZulu). 2. Dr Baloyi Olivia (Health Sciences – UKZN) 3. Dr Nomanyano Mnyaka-Rulwa (Finance and economics – WSU) 4. Dr Philani Zincume (Engineering – SU) 5. Dr Vusi Mshayisa (Humanities, arts and social sciences – CPUT) <p>Q & A</p>
11:45-13:00	Plenary Session: nGAP lecturers present on their experiences with the nGAP	<ol style="list-style-type: none"> 1. Dr Mmapake F. Masha (UL) 2. Dr Karabo Sitto-Kaunda (UJ) 3. Dr Janine White (Wits) 4. Dr Katlego Moloto (NWU) 5. Dr Khuliso Masindi (Wits) 6. Dr Simthembile Xeketwana (SU) 7. Dr Tebogo Makhubela (UJ) 8. Dr Raeesa Ganey (Wits) 9. Dr Phetole Mangena (UL)
LUNCH 13:00 – 14:00		

14:00-14:30	Closing remarks	Dr Kota-Nyati: nGAP coordinator (Mandela Uni)
14:30-16:00	<p>Networking Wellness Corner: The Networking Wellness Corner provides a space in which to relax and network, with useful information relevant to emerging scholars readily on hand.</p> <p>Please join us for networking, accessing information geared towards early career academics, and some surprises to just pamper you.</p> <p>We encourage everyone to join!</p>	ASAF, WoS, DHET, non-alcoholic drinks bar, cartoon sketching and hand massages



Figure 2 nGAP award ceremony with Minister Nzimande

Welcoming speech

Prof Keet: Deputy Vice-Chancellor for Engagement and Transformation (Nelson Mandela University)

The welcoming speech was delivered by Prof Keet, Deputy Vice-Chancellor for Engagement and Transformation at Nelson Mandela University. Prof Keet was standing in for Prof Muthwa, the Vice Chancellor of Nelson Mandela University.

“It is a pleasure to welcome you to the nGAP National Colloquium 2023 here in Johannesburg, where we celebrate the achievements of the Phase 1 and Phase 2 nGAP lecturers who have successfully completed the programme.

It is often said that South Africa is a land of untapped potential, and you are the living, breathing proof of that potential being developed. Most of you started your journeys as young academics with a masters qualification, one or two even with an honours, and today you are fully fledged academics.

As we will hear over the next day and a half, the achievements of this group seated in front of me have been numerous and has exceeded all expectations. So many of you grabbed hold of the opportunity to be nGAP lecturers with both hands, and have risen in your departments to become HoDs, present your research at conferences from Asia to America, supervise masters students in your own universities and produce world leading research in local and international journals. In short, congratulations to each one of you. The journey for each of you has been different, you have faced challenges, personal and professional, and yet you conquered your doctoral research and all obstacles to be seated here today.

The nGAP or New Generation of Academics Programme at its core is a programme about transformation, with the goal of ‘Revitalizing and Transforming the Academic Profession’. And it is a successful transformation programme. Universities have embraced the nGAP and each year apply for more positions than can be funded. The nGAP is currently the biggest programme within the Staffing South Africa’s Universities Framework (SSAUF), a university staff development component under the University Capacity Development Programme. As a vehicle for transformation the nGAP is seen as a flagship programme within the Department of Higher Education, with over 80 academic posts being created each year (by 2023) in understaffed disciplines, or areas with skills shortages. Individuals are able to benefit from professional and personal growth while directly contributing to strengthening capacity within South



Figure 3 Prof Keet, Deputy Vice-Chancellor for Engagement and Transformation (Nelson Mandela University)

African higher education, and the economy more broadly.

The nGAP was launched in 2015 and at the end February 2022, it was in its seventh year of implementation, with close to 100 nGAP lecturers having completed the programme successfully. The programme is implemented by the DHET in partnership with all 26 South African public universities. All South African universities have benefitted from the nGAP:

And then transformation. With all universities involved in the nGAP the effects of transformation have been felt at each and every university in South Africa. Of the more than 460 nGAP lecturers to date all have been South African citizens, close to 100% have come from previously disadvantaged groups, and 56% are female. Keeping in mind that the nGAP is adding over 80 academic positions in 2023 alone, the impact of this programme cannot be overstated.

The nGAP also fits in with current changes blowing through South African higher education institutions. If I am allowed to briefly reflect on the nGAP in the context of Nelson Mandela University. Nelson Mandela University is the only university in the world to carry the name of Nelson Mandela, our institutional identity and core academic missions are underpinned by our namesake's legacy, ethos and values. The university has taken on the responsibility of educating young South Africans, primarily from the Eastern Cape, but also the larger South Africa, continent and beyond. However, the university does not seek to just 'spoon-feed' students, but rather provide them with degree programmes that are conceptualised and structured to speak to them, keeping in mind who is being taught, not just what is being taught. In this respect new nGAP positions very often involve the expansion or even creation of new areas of study. These new courses provide an opportunity for re-curriculisation, and for us as educators to engage directly with students and their needs.

In addition, the university seeks to produce students who are ready to enter the job market, allowing them to grow in their careers, but also enable them to have a much faster impact. The nGAP programme with its focus on understaffed disciplines or areas with limited national capacity, allows universities to strategically position themselves as centres of excellence in areas that align with the strengths of each university. The structure of the nGAP also ensures that these new skills are not immediately lost after an nGAP lecturer graduates, but stay with their home university, providing compounding returns through mentorship, supervision, and teaching. In addition, it allows universities to expand their research outputs in relevant and 'in demand' fields.

However, let us get back to why we are here today. We are here today because, with the support of DHET and your respective universities, you have risen to the challenge. For those of us who received our PhDs or doctorates many years ago, it is easy to forget the dedication, perseverance and hard work that goes into finalising a doctorate. For many people it will be the single biggest project they take on in their lives. But through this trail of fire, every one of you pushed through and emerged on the other side ready to continue building this country we all love, one paper, one student and one research project at a time.

Doctors (and professors), I salute you! May the experience of the nGAP stay with you for many years to come and inspire you to 'pay it forward' by sharing your expertise and skills with younger

generations. I hope you will enjoy your time at the colloquium, rubbing shoulders with your fellow nGAPs and build professional bonds that will last the length of your careers”.

Experiences of an nGAP Lecturer

Dr Dlamini (University of the Free State)

Dr Dlamini, an nGAP lecturer from the University of the Free State made a presentation on the experiences of being an nGAP lecturer. He explained how he had always had a dream of understanding greenhouse gas emissions from South Africa’s main crops. Though there was a single expert in the field they were working privately and were already partially retired. Dr Dlamini “stubbornly” decide that he would be the first South African to conduct the study.

He was however faced with many challenges, not least of which was the skills shortage in the country, but also demographic changes that still needed to take place. To build on his dream Dr Dlamini managed to get access to the British Council travel grant which allowed him to gain additional expertise, training and return to South Africa with new (practical) skills.

Back home there were more challenges including a lack of equipment and high research costs, for example R1000 per sample for research that often collected as much as 67 samples per time out in the field. Rothamsted Research, a studentship in the UK, started to assist with the transportation of samples. The NRF Thuthuka PhD track also covered some of his costs, and Dr Dlamini registered at the University of Pretoria to buffer against the international fees of United Kingdom universities.

Even with all the challenges Dr Dlamini prevailed and was able to collect data on pasture measured greenhouse gases, soil, weather and other crop variables linked to maize for almost two years. By his third year of his PhD he had published two articles, with a total of five articles by graduation, along with two international conference presentations.

The support of the nGAP programme had led to a journey of personal and professional growth resulting in the awarding of a Horizon 2020 grant worth R22 million, with Dr Dlamini as co principle investigator. Collaboration had also been established between 11 universities in seven countries, and the establishment of a centre that measures greenhouse gases. Dr Dlamini is also involved in skills transfer and is engaging in partner training in Zambia, Zimbabwe and Malawi. Dr Dlamini is also supervising a black South African female PhD candidate.

As Dr Dlamini concludes, we need “Willingness to train, collaborate and establish long-term solutions for the sector”.

Experiences of an nGAP Mentor: mentoring a future academic

Prof Windapo (University of Cape Town)

Professor Windapo from the University of Cape Town presented a speech on the experiences of being an nGAP mentor. Prof Windapo is an active mentor for the nGAP at the University of Cape Town. Prof Windapo currently mentors Miss Mthiya who is about to submit her PhD for examination.

As an nGAP mentor there are various positive experiences that accompany the role. One of the most satisfying is the influence on shaping the future success of an nGAP lecturer. As a teacher you are able to help build a more equitable academic system and the process is both gratifying and enriching. In short you are given the chance to help keep “mentees on the straight and narrow” of academia, providing them with an extensive picture of what an academic career looks like, and how one overcomes the challenges that are found in the environment. You find fulfilment out of being a mentor.



Figure 4 Prof Windapo, nGAP mentor (University of Cape Town)

For Dr Windapo, the experience of being an nGAP mentor sits at a deeper level. She explains that she is not a South African, “though I look like one, [people] cannot fathom why I cannot speak isiXhosa,” she explains. For her the nGAP is an opportunity to teach and leave a legacy in South Africa that will outlive her own stay in the country. Just like with a journal, Prof Windapo regularly guest edits, she explains that you want to see your nGAP mentee bloom, you want to guide and support them to navigate the landmines of academia, to learn how to manage the pressures of publish or perish, the development of leadership skills, thinking skills, communication, socialisation and gaining access to the resources required to do research. Prof Windapo also makes sure that she introduces her mentees to her network so that they can build their relationships with other researchers.

For prof Windapo a good mentor is one that encourages their mentee to go out and meet people, “you cannot be an armchair researcher”. She instils the values of integrity, ethical behaviours, and builds their confidence so that they become resilient. It is about building life long relationships and support networks.

The process of being a mentor also reminds you of the challenges you once faced. We are all, of many in academia at least, are confronted by the idea of the imposter mentality, where some students cannot even envision themselves gaining a PhD. Working with first generation students not only expands prof Windapo’s professional world with additional research on topics close to home, but allows her to instill a sense of belonging and worth in her mentees. She gives them the space to test themselves and find for themselves that they belong in these spaces, these academic spaces.

Prof Windapo believes that the mentoring relationship is threefold:

1. Build rapport: know each other. You cannot spend six years of your life with someone without knowing them. “Can you be their Moses taking them out of Egypt”, if you do not know who they are. This journey requires patting on the back, a need for honesty and always being upfront,
2. Establish the direction: Setting the timelines, check-ins, progress checks, meeting milestones, responsibilities, all allow you to integrate the candidate into the university systems, and
3. Celebrate small wins: even when an outcome is unexpected stay positive and focus on what is working to keep the momentum.



Figure 5 nGAP awards ceremony at gala dinner event

Introduction of the Minister

Dr Nkosinathi Sishi: Director-General of Higher Education and Training (Department of Higher Education and Training)

Dr Nkosinathi Sishi, Director-General of Higher Education and Training of the Department of Higher Education and Training introduced the Honourable minister Dr Nzimande. The nGAP is one of the Department's most transformative programmes, with the aim of closing the gap between previously affluent universities and the rest. The programme has been expanded over the years to reach out to all of the many individuals who deserve to be part of the nGAP. The minister launched the programme in 2015, and since then there has been a 79% success rate with candidates "sacrificing" six years of their lives to reach this achievement. Even against challenges such as significant social problems, the Department through the nGAP remains passionate about change and the well-being of South Africans.

"This is a day of celebration as we congratulate academics who have completed the New Generation of Academics Programme. I wouldn't go into congratulating them now as I will have my chance to do so tomorrow. Our Honourable Minister is fond of transformation in higher education and he has made sure that funds this is realized through the implementation of intentional programmes that will tackle this issue with the determination it deserves.

Our Honourable Minister had an opportunity to prioritise the transformation in higher education and did so through the policies and regulations that he had put in place. The Minister approved practical regulations and guiding documents that ensured that transformation in higher education is realized. We are still getting there, slowly but surely and programmes such as the New Generations of Academics are a living testimony that the Department is hard at work to realise a transformed higher education system. Although we are faced with fiscal tightening, the need to stick to the targets for transformation in the system cannot be compromised, as a result securing greater levels of financial support through the fiscus for the purposes of transforming our universities in multifarious ways cannot be compromised.

The Department is proud of the progress made by the nGAP and other DHET programmes to address the transformation in higher education and this is necessary at all levels of the system.

I therefore request that everyone gathered here at this moment to take notes and go back to your respective places of work with a vision to transform your universities and the higher education at large.



Figure 6 Dr Sishi, Director-General of Higher Education and Training (Department of Higher Education and Training)

Yes, transformation involves disrupting the apartheid patterns in terms of race and gender, however, it is important to include the quality of education and the development of our academics and part of the transformation agenda.

I would therefore, at this point, like to take this opportunity to introduce our Honourable Minister. Minister, thank you for making time for this important event of the Department and the Ministry, we know how busy your schedule is.

Dr Bonginkosi Emmanuel "Blade" Nzimande was appointed the Minister of Higher Education, Science and Innovation in South Africa on the 30th May 2019. Amongst his responsibilities, he led projects and initiatives in the fight against Covid-19, including the establishment and funding of the genomic surveillance project that led to the discovery of variants of Covid-19. Dr Nzimande also led the launch of the Hydrogen Society RoadMap, the establishment of the Inter-Ministerial Committee (IMC) on Science, Technology & Innovation (STI), as well as leading the effort of the development of a COVID-19 local vaccine for South Africa.

He was the Minister of Transport from 27 February 2018 to 25 May 2019 and the Minister of Higher Education and Training from May 2009 until 17 October 2017.

Dr Nzimande has served as a member of the National Executive Committee of the African National Congress (ANC) from 1994 till 2017, and again from 2019 up to the present. He was a General Secretary (GS) of the South African Communist Party (SACP) from July 1998 until 16 July 2022 and appointed the National Chairperson of the Party from July 2022.

Dr Nzimande served as Member of Parliament and Chair of the Portfolio Committee between 1994 and 1999. Prior to the establishment of a democratic South Africa in 1994 Dr Nzimande had served in various roles as an anti-apartheid activist, in academia, community organisations and non- governmental organisations supporting the democratic labour movement.

His Academic Qualifications are as follows:

Dr Nzimande holds a Doctorate in Philosophy in Sociology (specialising in Industrial and Labour Studies) from the University of Natal, attained in 1992.

His Career/Positions/Memberships/Other Activities are:

Dr Nzimande started his career as an Industrial Psychology Intern in the Human Resources Department at Tongaat-Hulett Sugar in 1982, and subsequently employed as a human resources practitioner in the same company in 1983 and 1984.

He lectured in Industrial Psychology at the University of Zululand between 1985 and 1987 and was a lecturer in Industrial Psychology in the Department of Psychology at the University of Natal between 1987 and 1989.

He was a Council Member at the University of South Africa; Chairperson of the Board of Trustees at the Centre for Educational Policy Development; a Council Member at the University of Transkei; a Council Member at the University of KwaZulu-Natal, and

Chairperson of the African National Congress Parliamentary Study Group on Education. At the University of Natal he became active in Non-Government Organisations (NGOs) that were supporting the labour movement: Culture and Working Life Project, the Trade Union Research Project (TURP), Community Research Projects on the violence in KZN as well as its impact on education. From 1984 till about 1988 he served in the Editorial Board of the South African Labour Bulletin and also a distributor of progressive publications like Work in Progress, Transformation and Speak Magazine.

Dr Nzimande has published numerous academic and other articles covering politics, psychology, civil society, political violence and labour studies over a period of close to 40 years.

Ladies and gentlemen, let's welcome the Honourable Minister to the podium to give his keynote address and congratulatory message to our esteemed lecturers who have completed the nGAP”.



Figure 7 Dr Socikwa, Deputy Director-General of Higher Education and Training (Department of Higher Education and Training). Dr Socikwa acted as the master of ceremonies.

Minister's keynote address

Honourable Minister: Dr Nzimande



Figure 8 Minister: Dr Nzimande

The minister began his address by “celebrating the fulfilment of our labour” in the culmination of the nGAP first and second phases. He continued, “I feel quite emotional and jealous because I thought I would be an academic all my life. Seeing you being here in the noblest of professions, a realisation of my dream [an academic career path], [the] outcome of a conglomeration of policies, changes and transformation to change the higher education sector”.

The nGAP emerged from the realisation of Paper 3 (1997) which envisioned the reengineering of higher education in South Africa. The dream was carried forward through the Post-School Education and Training Information Policy (PSET) summits of 2010 and 2015. He stated that universities should be a pillar to support all other PSET systems, supporting adult education, community education and training.

The nGAP today falls under the UCDG that was launched in 2018 and supports the identification of a new generation of scholars with tangible and visible outcomes. It has accelerated the capacity development of black and female academics and accommodated their move into the professoriate. Under the nGAP 80% of posts fall under black/female equity considerations.

We are faced with the task of transforming the university system in South Africa while maintaining the high quality of its core mandate, anchored by academics and scholars. There is a need to support the PSET through whatever means. Good opportunities for access and success need to be created, differentiated and articulated, remaining relevant and responsive to the local context, and keeping in mind partnerships with international universities, for example through the work supported by the British Council.

Finally the minister also stated that he sees the institutionalisation of the UCDG and the nGAP as priorities as these are large programmes supporting current and visible transformation.

“Today is one of those days in which as a sector we celebrate the fulfilment of our labour which began when the Department of Higher Education was conceived.

A number of policies, Acts, regulations, guidelines, summits, conferences, and many publications and presentations have highlighted the issue of transformation of higher education as a matter of priority. Having to reflect on the journey and the measures we have introduced, the following come to mind:

1. The National Commission on Higher Education (NCHE) which charted a programme of transformation for the higher education sector in a post-apartheid era.
2. The Higher Education Act No 101 of 1997 (HE Act 1997), as amended, which seeks to, amongst many provisions, provide for the determination of transformation policy and oversight mechanisms for the public higher education system;
3. The White Paper 3: A Framework for the Transformation of Higher Education (1997) outlined the framework for change, and a comprehensive set of initiatives for the transformation of higher education.
4. The National Plan for Higher Education (NPHE) in South Africa that was published by the Ministry of Education in 2001, seven years after South Africa’s transition to a democratic state. The NPHE outlined the framework and mechanisms for implementing and realising the policy goals of Education White Paper 3: A Programme for the Transformation of Higher Education (White Paper 3, 1997), and it sought to reengineer the higher education system for the 21st century.



Figure 9 nGAP award ceremony with Minister Nzimande

5. The White Paper on Post-School Education and Training was published in 2013 that seeks to build an expanded, effective and integrated post-school system and is a vehicle with which to drive and deepen transformation of the entire schooling system.
6. A National Plan for Post-School Education and Training, based on the 2013 White Paper and which is meant to give effect to the intentions outlined in the White Paper.

You will recall that as the Minister of Higher Education and Training then, I convened two national summits on higher education transformation. The first was held in 2010 and the second in 2015.

The summits allowed for a reflection on the progress that was made to transform the PSET system and identified the priorities that must still be addressed.

The incremental changes between 1997 and 2015 confirm that the Policy and Planning architecture required to support transformation of the sector have been institutionalised through the initiatives led by the Department of Higher Education and Training which steadily facilitated the provision of resources to support the programmes that drive transformation.

Today, we can confidently say we have transcended the age of rhetoric to our collective efforts which yielded concrete outcomes.

In 2018, we launched the University Capacity Development Programme (UCDP) which essentially comprises a suite of programmes that focus on advancing the transformation agenda in university education in three critical areas, namely, student development or support, staff development and curriculum development.

The staff development component of the UCDP is the Staffing South African Universities Framework (SSAUF), which supports programmes aimed at the early identification of academic staff (Nurturing Emerging Scholars Programme – NESP); and the *New Generation of Academics Programme* (the nGAP).

Today we converge to celebrate and signify the tangible and visible outcomes of the nGAP.

Actually, the nGAP was launched during the 2nd National Higher Education Transformation Summit that was held from 15-17 October 2015 as a developmental programme.

Amongst the resolutions of the Summit where the nGAP was officially launched and introduced was that, 'The sector should build on the nationally coordinated programme to enable accelerated capacity development, greater representation and improved retention of blacks and women in the academic workforce, professoriate, and university management and governance structures.'

The nGAP recruits new academics (Master's and PhD graduates) against carefully designed and balanced equity considerations and in light of the disciplinary areas of greatest need. It covers a six-year period for each cohort taken on the programme.

The programme comprises a three-year development programme to acquire PhDs/Doctoral degrees, and a further three years tenured academic position.

I am delighted to report that eight phases of the nGAP have been implemented thus far, resulting in 760 allocated posts by 2022.

The most important features of the nGAP are that scholars are appointed into permanent academic posts entrenched into long-term staffing plans from the outset, and appointments are governed by contracts which articulate the expectations, obligations, roles and responsibilities of the employing university and of the scholar/newly appointed academic.

This is a six-year long journey that focusses on ensuring that the lecturers who are trained and groomed exit the programme as fully fledged academics.

The programme supports universities to recruit new academics aligned to their staffing and development plans.

The equity considerations I mentioned earlier, include that 80% of the appointees in the university must be South Africans Black, Coloured and Indian men and women including people with disabilities, of which at least 55% of the positions should be taken up by Black South African women.

The permanent residents and other categories can be considered through the remaining 20% based on substantial motivation. Priority must be accorded to persons who are 40 years or younger.

The programme has enabled newly recruited academics to benefit from teaching and research development opportunities including, institutional and other programmes in the UCDP.

At the launch event, I welcomed the first 25 lecturers who were already participating in the programme with support from our Department, and the British Council through the Newton Fund and the National Research Foundation partners.

I would, at this stage, like to express my gratitude to the partners for their support in the implementation of the nGAP.

The success of the programme, specifically the international mobility and research equipment components of the programme, were made possible in part by the support and funds you provided generously to the programme. All the beneficiaries are here through our collective interest in their success, many thanks for working with my department and advancing this transformation journey.

Transformation of South Africa PSET system

Transformation of the university system in South Africa is a non-negotiable imperative of the Department. We are working to build a higher education system in South Africa that is:

of high quality in terms of its core mandates of teaching, research and engagement;

- is demographically representative;
- provides all students and staff with good opportunities for access and success;
- is welcoming and caring to all;
- is diverse, differentiated, equitable and articulated;
- is relevant and responsive to local (anchored), regional and global contexts;
- is research productive and drives innovation; and which
- produces educated, critical, employable and effective citizens and leaders for the future.

The range of support mechanisms that have been provided to the candidates have contributed to a stronger academic profile of our universities.

This is evident in the contribution to the number of academics with PhDs, increase in publications, increase in the number of high-level academics such as senior lecturers and professors that have been developed and produced through this programme.

Partnerships between South African universities and other external universities through the international mobility component of the programme have grown, and they have been supported in part by the British Council.

My Department allocates approximately R2 5000 000 for each lecturer over the period of six years in the programme.

Today I stand overwhelmed by the accomplishment of the NGAP, thus far, over a period of 7 years, the programme has allocated a total of 758 lecturer posts to universities and in the current financial year an additional 85 posts will be allocated to universities. This will bring the total allocated posts to universities to 843 by end of the current financial year.

A total of 583 of the 758 (ie 77%) lecturers have been successfully appointed into lecturer positions by our universities and are still active in the programme. The remaining 175 (23%) have exited the academy.

Of the total of 583 lecturers participating in the nGAP, 338 (58%) are Female and 245 (42%) are Males; 569 are Black (African, Coloured and Indian) and 14 are White.

In addition, this year I have approved a commissioning of a Management Information System (MIS) that will assist with tracking the progress of lecturers participating in the programme.

It is hoped that MIS will assist in assessing the impact of the programme on the development and transformation of higher education considering that the Department has invested more than R2 billion in the programme to-date.

Investing in the development of higher education learning not only fosters individual advancement and mobility, but also contributes to the societal economic and social development with long-term positive returns.

The Department will continue to support the NGAP until transformation imperatives as articulated in the Higher Education Act of 1997 is achieved and has received support from cabinet to fulfil this objective.

The success of nGAP should also be attributed to partnerships forged with other higher education partners, our universities whose commitment is self-evident. Some universities invest in the development of lecturers for these six years, only to see them depart soon after they have progressed and vanish in the well-established universities.

I call upon you as lecturers to reinvest in the university that invested and believed in you, by assisting the students in the University after completing the programme.

The universities, especially Historically Disadvantaged Institutions and Universities of Technology need you, and I believe through you we will see greater progress in the identified areas in these universities.

Attempts to poach you once you have qualified and not before, should indicate to you, that your current employer recognised your potential – the poachers did not. Furthermore, our intent to invest in our HDI's should bolster your confidence that our HDI's will be on par with their peers in time if you stay on.

I have been informed about the progress you have made. Some of you who started as lecturers are now senior lecturers and associate professors in the higher education sector.

I can mention a few who are currently professors, Associate Professor Nomfundo Moroe at the University of Witwatersrand who is now also a mentor to the nGAP lecturers, (I remember that she was amongst the 25 lecturers who attended the launch as part of the first cohort of the nGAP), Associate Professor Mochane from Central University of Technology who has since joined the Future Professors Programme under the UCDP, Professor Monye and Professor Mbule, both from the University of South Africa. Well done!

I cannot omit those who would have completed but were delayed by COVID-19 and remain resolute as they are approaching the finish line. Some of them have completed their PhDs but still need to fulfil additional requirements of the programme. I encourage them to view those who have completed as mentors in this fulfilling journey filled with self-discovery.

Regrettably there are candidates who are playful, if not reckless with these invaluable opportunities offered to them and involve themselves in acts of ill-discipline, disobedience, and fraud. The Department will not entertain their misdirected efforts and is considering penalties which will involve reimbursing the NGAP.

As I conclude, I would like to congratulate all the ninety lecturers who have successfully completed the programme. The Department is proud of you and hopes you will “move the needle” in the South African higher education system, ensuring that you feature in the intellectual arena through publishing and teaching, and mentor many more who will follow your example.

We reaffirm the Department's commitment to providing enduring support to the NGAP as it corrects the inequities inherent in the development of staff in the higher education sector”.

What next post completing nGAP: Future Professors Programme

Prof Jansen (Stellenbosch University)

Professor Jonathan Jansen is the Project Leader for the Future Professors Programme (FPP), a natural progression from the nGAP. Where the nGAP provides the means for candidates to develop academically and attain their PhDs, the FPP is aimed at developing the qualities of academic excellence and leadership in university scholarship in order to contribute to the development of a future South African professoriate.



Figure 10 Prof Jansen, Project Leader for the Future Professors Programme (Stellenbosch University)

Prof Jansen believes in being goal orientated and not being afraid to stand

out, to be special. The success of the programme and the success of nGAP scholars to academia depends on nGAP candidates being capacitated to function at the top of their craft.

Research has shown what difficulties are present on the road to becoming an established researcher. Research looking at the P rating at the NRF wanted to determine what the conversion rate is from P rated researchers becoming A rated researchers. The research found that only 12% of academics who attain an P rating progress to attaining an A rating. However, even against these odds Prof Jansen stated that it is still possible to become an associate professor or even a full professor in three years.

“Our social system says you shouldn’t be ambitious because we do not expect you to do well. To stand out, you have to have a hunger for ambition and success”. And with that hunger you need institutional support, support that is provide through the nGAP.

Prof Jansen expanded on the “hunger for ambition”. He said noted that to achieve success you often have to make sacrifices, noting that he often works 18 hour days and publishes between four and five books a year. Even though life might still happen to you, you need to remain passionate and excited about your area of study, but even more about your ideas. nGAP researchers should not relax after their time with the programme is done, they should make work of the networks they have built and continue to pursue cooperation with the top academics in the field.

He concluded that you should never give up, even if your gratn funding repeatedly gets turned own, apply again, and above all else, “Never be satisfied with just existing”. Being an nGAP makes you different.

Opening of day two

Dr Nkosinathi Sishi: Director-General of Higher Education and Training (Department of Higher Education and Training)



Figure 11 Dr Sishi, Director-General of Higher Education and Training (Department of Higher Education and Training)

Proceedings on the second day were opened by Dr Nkosinathi Sishi, Director-General (DDG) of Higher Education and Training from the Department of Higher Education and Training. Dr Sishi's speech began with a recollection of the "journey travelled" with the nGAP to date. He noted that it was a pleasure to meet to celebrate success, with benefits that will continue to accumulate. The Department has a vision of contracting 100 nGAP candidates per year (currently reduced to 80/85). The Department is also always on the lookout for best practice examples from across the world.

There have been clear signs of success in transforming higher education in South Africa with the Post-School Education and Training Information Policy. Currently 54.4% of permanent staff and 48.7% of instruction and research staff are female. However, challenges remain. For example, although financial support has increased, competing interests mean that there has been a decrease in earmarked grants. And although student numbers are increasing, we are seeing a worrying rise in student to staff ratios. The need for additional staff members is currently not being met by a national supply and there is as a result

increasing reliance on part-time and foreign staff members. Though this bolsters the system, it also increases the divide.

“Today we are gathered here to celebrate the success of our academics in one of the Department of Higher Education and Training’s transformative programmes, the New Generation of Academics Programme (nGAP) for the Higher Education system. History has been made as we witness the success of initiatives put in place by the Department to ensure transformation in our universities. This is still the beginning, more is yet to come as we are starting to reap the fruits of the seed planted through a plethora of programmes initiated and implemented by the Department in this course through the umbrella programme, the University Capacity Development Programme.



Figure 12 Dr Sishi delivering a speech at the nGAP Colloquium

Without dwelling much on the challenges and issues that were faced by the country before 1994, South Africa now aspires towards a transformed higher education system that is of high quality, that is demographically representative, that provides students and staff with good opportunities for access and success, that is diverse, differentiated and articulated, and that is relevant and responsive to local and regional contexts whilst at the same time able to hold its own in international contexts in terms of its core mandates of teaching, research and community engagement. This vision underpins the Department of Higher Education and Training’s efforts to transform the higher education sector.

The University Education Branch of the Department is evolving a theory of change to underpin its work to transform the sector towards achieving this vision. The Theory of change for higher education transformation: If the key departmental steering mechanisms of funding, policy and planning are brought together to enable the implementation of coherent and holistic activities that capacitate people and institutions in higher education, then the dual imperatives of addressing inequality and building quality can be taken forward decisively to build transformed universities that can play a meaningful role in local, regional, national and global contexts.

Informed by a vision of a transformed university system, and by an understanding of how this can be achieved, the Department of Higher Education and Training is working to transform the system in a variety of ways that include the implementation of the University Capacity Development Programme, an umbrella programme with the New Generation of Academics Programme (nGAP) as one of the sub-programmes under the UCDP.

Significant progress has been made in growing and transforming the university sector over the last ten to twenty years. However, there are clearly significant challenges that still remain and I will relay them soon. Sometimes it is good to start with the positive, which brings me into the progress as illustrated in the Statistics in Post-School Education and Training in South Africa in 2021, (focussing on the gender and population group variables) that:

Out of the total 65 435 permanently employed staff members, the number of female permanent employees was 35 583 (54.4% of the total staff) in 2021, however, when one looks at the employed instruction and research staff, 542 more males than females were employed. Although there were generally more permanent female employees than males, the proportion of females in the instruction and research category was 48.7%, and only 11 of the 26 public HEIs had a higher than average of female staff in this category.

In terms of the population group, the majority of permanent staff were Africans (60.0% or 39 275), followed by White staff (21.9% or 14 350), Coloured (12.0% or 7 822) and Indian/Asian were in the minority (5.4% or 3 531). The majority of African, Coloured and Indian/Asian staff were employed as administrative staff, while more than half of White staff were employed in the instruction and research category (7 729 out of 14 350). These issues speak directly to the initiative of the DHET in addressing transformation in higher education that there are still salient transformation issues that we need to dig deep into, to ensure a holistic achievement of the transformation agenda of the Department.

The challenges that still remain include amongst many:

- Whilst DHET funding to universities has increased in nominal terms over the years since they were introduced, the past two years have seen a decline due to other pressing and unforeseen responsibilities that needed funding. This meant a decline in the earmarked grants that are the main funding drivers for the transformation of the system. Having said so though, the ability of the DHET in collaboration with universities to steer the system through the use of earmarked grants to address transformation imperatives has increased. I must thank universities for their support and conceding to the requests for these collaborations.
- Postgraduate enrolments are increasing as are the number of Master's and Doctoral graduates but there is still a big need for further growth. Specifically, the enrolment and graduate share of Black South Africans is an issue that must continue to be attended to. This is a pool where prospective academics can be recruited from, for the nGAP.
- Whilst academic staff numbers have increased, however, they have not kept pace with growth in student numbers, leading to increasingly unfavourable student-staff ratios. This has been evident even during the implementation of the nGAP, where lecturers were still experiencing an overload in terms of the number of students they teach and/or supervise. This is one of the areas that the nGAP is meant to address. Appointment of more academic staff into the system and as per each University's needs.
- There is increasing reliance in the system on the use of temporary staff and foreign staff. The nGAP is contributing towards mitigation of this phenomenon by employing lecturers on permanent basis right from the onset.

- The number of academic staff holding Doctoral degrees must still be significantly increased from the 2021 figure of a total of (9 965) 48.8% towards the NDP target of 75%. The nGAP is amongst programmes under the UCDG of the Department that is geared towards contributing to the achievement of the target, where possible.
- The research output of universities has dramatically increased, but questions about the quality of research are being raised, as well as the present weak link between research and innovation. A component of the nGAP supports these prospective academics with international mobility grants to collaborate with international partners and funding to support their research infrastructure.

As we move forward with university transformation we need to intensify our efforts and to keep track of progress made in specific areas through tracking indicators that are qualitative and quantitative in nature. The Department has approved a project that will support this initiative so as to electronically track progress of these academics and the impact they are making.

Articulation within and across the Post School Education and Training is one area of transformation that need to be seriously attended to by developing and implementing specific programmes in this regard. A pilot programme has been put in place and its results will guide how the system takes this forward. We hope that the newly developed academics through the nGAP will take interest in such initiatives and contribute.

I can't finish my talk without emphasizing the need to tackle the necessity to intentionally support women academics to acquire PhDs and go up the senior ranks of academia. Higher education spaces, like many other spaces in South African society, are still quite patriarchal in nature, and the experience of women in academia is often negative and oppressive.

- Data continues to show that the participation of women in higher education is greater at the level of undergraduate studies and early postgraduate studies but decreases significantly higher up the academic and leadership trajectory. Women are under-represented in the professoriate and in leadership and management positions. I am glad to report that other programmes such as the Future Professors Programme and the Higher Education, Leadership and Management Programme under the same UCDP umbrella programme are addressing this matter.
- The gendered nature of social institutions including universities creates barriers for the recruitment, retention and progression of women. Well, the nGAP is very strong and intentional in this regard as it has put targets of 55% of the posts allocated to women and I can assure you that the programme is doing well in this area.
- Policies that are women friendly may be in place, but their full enactment is patchy. Hence the Department has put measures in place to monitor the progress of universities in implementing the nGAP by making sure that universities get approval of recommended candidates from the Department before an offer can be made to the prospective academics.

The Department is proud of the progress made by the nGAP and other DHET programmes to address the transformation in higher education and this is necessary at all levels of the system.

I would therefore, at this point, like to express my sincere congratulations to the lecturers who have successfully completed the nGAP. It is our hope and wish that you will in your journey as fully-fledged

academics contribute to the endeavours of the Department and the universities, infact the entire higher education system to ensure transformation in our universities.

To my colleagues, for the plenary, thank very much for availing yourselves for this important day. I am looking forward to hearing your contributions”.



Figure 13 Dr Madiba (Mangosuthu University of Technology) delivering a “note of thank you” to the Department.

Plenary: Transformation and capacity Development of the Higher Education System

The aim of the plenary was to bring together experts on the topic of “Transformation and capacity Development of the Higher Education System” in South Africa. Dr Green and Mr Patel were introduced by Dr Sishi, Director-General of Higher Education and Training (Department of Higher Education and Training).

Dr Green: Chief Executive Officer (Council on Higher Education)

Dr Green started by reflecting on the role of the Council on Higher Education (CHE), noting that CHE has an enhanced role to play in transforming higher education in South Africa.

The CHE and the work it is involved in, regarding transformation specifically, started many years ago and the success we see today is in part the fruition of those efforts.

From the genesis of democracy, the transformation was at the forefront, not just in higher education but as general part of policy.

One way to look at transformation in higher education is to see new academics as change agents, or transformative agents within the system. A new academic not only brings their own

experiences and background, but will also approach their subject matter in a way that had made sense to them, allowing them to open the doors of knowledge to a new generation.

And yet, there are challenges to achieving the dream of transformation in higher education. For this reason, transformation cannot just be an add-on. Instead, it should be part of the texture of what it is transforming. Transformation cannot be viewed in isolation from its context. Further, we must remain cognisant that there is a relationship between transformation and quality and beyond that we need to take ownership of our higher education institutions.

Currently there is an identity crisis within the higher education sector, in essence there is a crisis of ownership. How else do we explain the burning down of our own institutions or the violence on campuses? The CHE will however continue to operate in the “3rd space”, between government and institutions, creating a balanced, multifaceted and intersectional view of the higher education environment.



Figure 14 Dr Green: Chief Executive Officer (Council on Higher Education)

Mr Patel: Deputy Director-General Research Development and Support (Department of Science and Innovation)

Mr Patel is the Deputy Director-General Research Development and Support for the Department of Science and Innovation. He explained how the process of transforming the higher education sector in South Africa was (and is) multi-faceted, with numerous departments and organisations working together.

From the onset it was clear that innovation had to be promoted, above “just knowledge generation”, keeping in mind the importance of inclusion and participation. The first White Paper was published in 1996, and yet looking back after 26 years of progress, there is still much that needs to be done.



Figure 15 Mr Patel, Deputy Director-General Research Development and Support (Department of Science and Innovation)

The original higher education system was robust, but small compared to what was needed from a multi-decadal plan. It was essential to develop critical mass with more choice. And the choices need to be linked to societal challenges for example science, technology and innovation for the economy, with care taken to optimise energy and health research while practicing environmental sustainability and combatting climate change.

In an attempt to reprioritise and ensuring a scaling up of investment, the Department of Science and Innovation worked closely with the Department of Minerals and Energy and the Department of Agriculture. Relationships were also strengthened with institutions like the NRF, other government departments and the private sector allowing for the creation of an enabling environment to increase research infrastructure capabilities and development.

Today there are numerous new challenges along with some of the older challenges that remain. DSI is aware of the changes in terms of not just open science, basic science but also larger changes for example the 5th industrial revolution. There is also a need to expand capacity on the commercialisation of products and the expansion of patenting. South Africa could potentially even play a role in the de-racialising of science. Relevant current technology, for example facial recognition, has an inherent racial bias due to the data used to teach algorithms.

The DSI will continue its work on playing its part in transforming the higher education sector in South Africa to overcome past injustices while concurrently building a system that can make progress on some of the most important issues facing us globally.

Research breakaway 1: Natural and Health Sciences

To mark the successful completion of participants from the first 2 phases of the nGAP, the successful participants were afforded an opportunity to share research findings from their respective dissertations or research papers, as well as sharing their experiences and lessons learnt during their journey in the programme. The papers below are from the Natural and Health Sciences research breakaway.

Proximate, Physicochemical, Techno-Functional and Antioxidant Properties of Three Edible Insect (*Gonimbrasia belina*, *Hermetia illucens* and *Macrotermes subhylanus*) Flours

Dr Mshayisa (Cape Peninsula University of Technology)

Due to their protein content and balanced amino acid profile, edible insects have been described as an excellent alternative protein source to combat malnutrition. As the global population continues to grow, edible insects such as the black soldier fly larvae (BSFL) may contribute to food security. The effect of different protein extraction methods, i.e., alkaline solution and acid precipitation (BSFL-PC1) and extraction with an alkali (BSFL-PC2), on the nutritional, techno-functional, and structural properties of BSFL flours and protein concentrates were studied. The highest protein content (73.35%) was obtained under alkaline and acid precipitation extraction (BSFL-PC1). The sum of essential amino acids significantly increased ($p < 0.05$) from 24.98% to 38.20% due to the defatting process during extraction. Protein solubility was significantly higher in protein concentrates (85–97%) than flours (30–35%) at pH 2. The emulsion capacity (EC) was significantly higher ($p < 0.05$) in the protein concentrates (BSFL-PC1 and BSFL-PC2) compared to the freeze-dried and defatted BSFL flours, while the emulsion stability (ES) was significantly ($p < 0.05$) higher in BSFL-PC1 (100%) compared with BSFL-PC2 (49.8%). No significant differences ($p > 0.05$) were observed in foaming stability (FS) between freeze-dried and defatted BSFL flours. Fourier transform infrared spectroscopy (FT-IR) analysis revealed distinct structural differences between BSFL flours and protein concentrates. This was supported by surface morphology through scanning electron microscopy (SEM) images, which showed that the protein extraction method influenced the structural properties of the protein concentrates. Therefore, based on the nutritional and techno-functional properties, BSFL flour fractions and protein concentrates show promise as novel functional ingredients for use in food applications.

Quantifying water use of Sweet Cherry (*Prunus Avium* L.) orchards using micrometeorological techniques in the eastern Free State

Dr Tharaga (University of the Free State)

Agrometeorology discipline is a study of weather and climate in the agriculture sector. The science also focuses on biometeorology, forest meteorology and aviation sector meteorology. The University of the Free State is the only institution in South Africa which offers agrometeorology from the undergraduate level to the PhD. When I joined the nGAP, I was coming from the industry with more than five years of

experience, which allowed me to try and show my students and the public in general that Agrometeorology has opportunities in Banking, Insurance, Research and Science Sectors from my experience as I worked at Absa, SAWS, CSIR and then UFS. The main reasons for joining the nGAP program were my experiences while studying for my undergraduate at the University of the Free State. I never had an African Lecturer; I wanted students to see hope in transformation and a future in scarce skills like agrometeorology. There were many challenges during the nGAP Journey as the first group and too much resistance from those who never thought the change would come so Soon. I wanted African students to venture into this field, and I took it upon myself to drive the recruitment process in high schools and inform learners about the field of Agrometeorology. The university started to see an increase in the number of students enrolling in the field. Due to many obstacles, my PhD was delayed by the internal forces within the institution, which never accepted transformation. Still, because I endured those challenges as an undergraduate student at the same university, I conquered and managed to complete my PhD with more than three Publications and more than five international conference presentations. During my seven years of nGAP, I became the pillar to most of the new Phases recruits in the nGAP program to ensure that they never experience what I have experienced and that they succeed in this program and complete it without any hurdles. I took it upon myself to inform my fellow nGAPs about funding opportunities, Publications, travelling and all other Opportunities. During my nGAP, I obtained funding from ETTRG, Thuthuka, The OKP scholarship, Staff Support Grant, and Humanitarian Affairs Grant. I recently received a Water research commission grant for a research Project worth R3 million to conduct research for the next four Years.

Prevalence of Depression Symptoms amongst Orphaned Adolescents at Secondary Schools in Townships of South Africa

Dr Simbeni (previously Khoza) (Sefako Makgatho Health Sciences University)

Depression among orphans is a matter of concern due to its impairing effect on functioning and emotions. This study determined the prevalence of depression symptoms and the extent of emotional and functional problems among orphaned adolescents in secondary schools.

A cross-sectional descriptive observational design using a Children's Depression Inventory 2 (CDI 2) test was conducted. The CDI 2 was used to measure the prevalence of depression symptoms among 301 orphaned adolescents. The CDI 2 T-scores of more than 65 indicated the presence of depression symptoms. Among 301 participants aged between 13 and 17 years old, 176 (58.4%) were females, 61% (n = 184) were double orphans, and 39% (n = 117) were maternal orphans.

The prevalence of depression symptoms was 21%, with 63 (20.9%) having elevated emotional problems, 77 (25.5%), elevated functional problems, 9.9% (n=30) very low self-esteem and 90% (n = 271) no self-esteem problems. Elevated negative mood was 20.6% (n = 26), 14.6% (n = 44) had an elevated level of ineffectiveness and 32.5% (n = 98) had elevated interpersonal problems.

The results of this study preclude any conclusions about the comparison of common characteristics between orphaned and non-orphaned adolescents. The standardised tool used narrowed the number of participants of interest due to the cut-off age.

An Ab Initio Approach to Antiproton Modulation in the Inner Heliosphere

Dr Moloto (North-West University)

The study of galactic cosmic ray (GCR) antiparticles can potentially lead to new insights into fundamental physics, in particular in the search for indirect evidence of dark matter annihilation. Identifying the signature(s) of such processes, however, is complicated by the heliospheric modulation of these particles. Modulation becomes less significant at higher energies, and therefore it would be of interest to ascertain at which energy such effects become negligible. Although previous studies have reported on this, to date no attention has been given to the influence of solar cycle-dependent effects. The present study aims to do so, using our 3D, fully time-dependent ab initio GCR modulation model, that can reasonably fit both proton and antiproton observations over multiple solar cycle. Furthermore, the influence of time-dependent GCR modulation on potential signals of dark matter annihilation will be investigated.

Testing a new combined (U, Th)–He and U/Th dating approach on Plio-Pleistocene calcite speleothems

Dr Makhubela (University of Johannesburg)

This paper discusses the development of a method for uranium-thorium-helium, (U,Th)-He, dating, to determine the formation ages of carbonate minerals found in caves and soil. The geochronology of cave deposits in the Cradle of Humankind UNESCO World Heritage Site in South Africa is critical in interpreting its fossils, yet the established uranium-lead (U-Pb) and uranium-thorium disequilibrium (U/Th) dating of speleothems have limitations, making them inapplicable in most cases. In my PhD, I conducted experiments to develop a refined method that combines ((U,Th)–He) and U/Th dating, offering three ways of calculating (U,Th)–He ages with U/Th disequilibrium and an additional method for calculating U/Th ages of speleothems with older detrital components. The improved age determination of Pliocene and Pleistocene speleothems is a significant finding. Through the refined method, we discovered that speleothems that incorporate Fe–Mn oxides-hydroxides dust have high initial ($^{230}\text{Th}/^{238}\text{U}$) values, ranging from 1.0 to 19.7, even with low Th/U ratios, making them un-dateable by the U/Th method without the additional input from the He analysis. This study demonstrated that the incorporation of He analysis in U/Th dating has broad potential application, with four methods for calculating ages, in carbonates from different environments where U-Pb or U/Th dating would not work. It is a significant contribution to the field, providing a refined method for dating cave deposits and allowing for a more comprehensive interpretation of fossils in the Cradle of Humankind UNESCO World Heritage Site. The results of this study also have broader implications for geochronology research in other environments, highlighting the importance of refining and developing dating methods to address the limitations of established techniques. As researchers, we must continually seek to refine and innovate our methods to make the most accurate interpretations of geological events, and this study demonstrates the value of that approach.

Integrated control of *Penicillium expansum* and *Botrytis cinerea* of apples using potassium silicate, yeast antagonists and YieldPlus®

Dr Mbili (University of KwaZulu-Natal)

The use of potassium silicate (K₂SiO₃), YieldPlus® and yeast antagonists treatments, alone or in combination, was investigated for the control of gray and blue molds of 'Golden Delicious' apples. In vitro studies indicated that yeast isolates YP25 and YP60 were compatible with K₂SiO₃ postharvest treatments. K₂SiO₃ alone or in combination with yeast antagonists and YieldPlus® reduced postharvest gray and blue molds on apples. YieldPlus® and Imazalil® treatments alone were more effective in reducing gray and blue molds than yeast isolates YP25 and YP60. The combination of K₂SiO₃ with an antagonist mixture of YP25+YP60 provided the best control (95%) of gray mold, while the combination of K₂SiO₃ and YieldPlus® provided the best control (85%) of blue mold. The use of potassium silicate and yeasts antagonists in combination resulted in 95 and 77.5% control of *B. cinerea* and *P. expansum*, respectively, in 'Golden Delicious' apples compared to 62.5 and 65% on Imazalil® fungicide treated fruits.

Research breakaway 2: Humanities, engineering and finance

To mark the successful completion of participants from the first 2 phases of the nGAP, the successful participants were afforded an opportunity to share research findings from their respective dissertations or research papers, as well as sharing their experiences and lessons learnt during their journey in the programme. The papers below are from the Humanities, engineering and finance research breakaway.

Female students as victims of sexual abuse at institutions of higher learning: Insights from KwaZulu Natal (South Africa).

Dr Makhaye (University of Zululand)

The focus of the wider study on which this paper is based was to uncover the social context of the sexual victimisation phenomenon in three selected institutions of higher learning in Durban, KwaZulu-Natal Province, South Africa. The objectives of the study were: to examine the nature of sexual victimisation against female students in selected universities in Durban; to determine the factors that contribute to the sexual victimisation of female students; to investigate the effects of sexual victimisation on female students and to explore the reasons for female students' reluctance to report sexual victimisation. The study found that incapacitated rape is more common on campuses than forcible rape, which is when perpetrators use threats and/or physical force. This could be attributed to the excessive use of alcohol and drugs by both victims and perpetrators. The study also confirmed that female students are reluctant to report sexual victimisation to the authorities. A key recommendation is that security measures need to be upgraded to ensure a safe environment for female students on campuses in the study area.

Scaffolding in reflective journaling: A means to develop higher order thinking skills in undergraduate learners

Dr Olivia (University of KwaZulu Natal)

Reflection through reflective journaling has the potential to assist learners to enhance their understanding, enrich lifelong learning, reduce clinical errors and develop professional autonomy grounded in expert clinical judgement. The study presents an analysis of scaffolding in reflective journaling as a means to develop higher order thinking skills (HOTS) in Bachelor Nursing fourth year students, psychiatric component. The study adopted a qualitative exploratory approach, underpinned by social constructivism. Non-probability purposive sampling was used. Data collection methods included two focus group discussions and document analysis. Content analysis using Elo and Kyngäs (2008) approach was followed for both sources of data. Data evaluation was done using Lincoln and Gubas' methods of trustworthiness. The following categories emerged: conscious incompetence, intervening conditions and simultaneous unintended outcomes. A phased introduction of reflective journaling (linked entries) supported by scaffolding is a strategy that can move the learner from the Zone of Proximal Development to that of an independent critical thinker able to use HOTS as an autonomous professional.

Does leverage influence the impact of pay gaps on performance? A case of listed retails and mining firms

Dr Mnyaka-Rulwa (Walter Sisulu University)

Agency theory motivated this study, which posits that leverage mitigates the agency problem. The aim was to examine whether leverage influences the relationship between executive-employee pay gaps (EEPGs) and firm performance. Three EEPGs were featured based on their accumulation of executive fixed pay and short-term and long-term incentives. Proxies of firm performance were headline earnings per share and return on assets. Data were collected from 60 JSE-listed firms in the retail and mining sectors and analysed using the two-step generalised method of moments. The results revealed the hybrid implication of the pay gap for firm performance in the retail and mining sectors of South Africa, depending on the performance measures emphasised. More importantly, the study shows that with the moderating effects of leverage, firms can improve their performance while shrinking the pay gap. The results have implications for policy in addressing income inequality in South Africa.

A Front-line Supervisor Effectiveness Model for Engineering Team-based Organisations

Dr Zincume (Stellenbosch University)

While there has been a significant focus on management research, the role of front-line supervisors has often been neglected. Studies tend to focus on senior management or treat management as a homogenous group. The problem with this limited focus on senior management is that the frontline supervisors make an essential contribution to the success of an organisation and form an important link in the chain of management command.

The increasing introduction of team-based systems in the engineering world has posed a challenge for the management of such organisations to provide work teams with an organisational environment that supports their needs. The literature covering the management and supervisory outcomes of these work teams is limited and is primarily based on case studies in manufacturing plants, and the available studies often do not differentiate the type of teams in question.

Therefore, this study identifies an opportunity to make a unique contribution in the field of Engineering Management by conducting research focused on front-line supervisory personnel and developing an effectiveness model that conceptualises the front-line supervisor effectiveness in an engineering team-based environment. Although the front-line supervisor role has been somewhat explored in literature, studies attempting to empirically examine the exact responsibilities that constitute the role and the determinants that lead to supervisor effectiveness in the engineering team-based organisations are scarce. Furthermore, literature shows an evolution in the front-line supervisor role which suggests an ongoing need for theoretical and empirical development to understand the role of the front-line supervisor and its effectiveness determinants.

Based on the evolution of the front-line supervisor role and the sparsity of literature that addresses this role in the context of engineering team-based organisations, this study develops a model that identifies, describes, and quantifies the determinants of front-line supervisor effectiveness in engineering team-based organisations. The research takes pragmatism as its main philosophical worldview and utilises the systematic literature review approach and semi-structured interviews to identify five front-line supervisor effectiveness determinants and associated interrelationships to construct an effectiveness model specific to engineering team-based organisations. The structural equation modelling techniques are used to empirically evaluate the resultant model.

Plenary session: nGAP lecturers present on their experiences with the nGAP

The following nGAP lecturers contributed to the plenary session on nGAP lecturer experiences with the nGAP:

1. **[Chair]** Dr Moloto (North-West University),
2. Dr Masha (University of Limpopo),
3. Dr Sitto-Kaunda (University of Johannesburg),
4. Dr White (University of the Witwatersrand),
5. Dr Masindi (University of the Witwatersrand),
6. Dr Xeketwana (Stellenbosch University),
7. Dr Makhubela (University of Johannesburg),
8. Dr Ganey (University of the Witwatersrand), and
9. Dr Mangena (University of Limpopo).



Figure 16 nGAP lecturers during a plenary at the colloquium

The main point of discussion during the plenary focussed on the **issue of mentoring** within the nGAP. The list below summarises the main points made by nGAP lecturers on mentoring during the session:

- The Department needs to realise that mentoring is essential in assisting with the “career part” of being an academic. However, it also plays an important role in the private lives of nGAP candidates. It was for example mentioned that “mentoring was a life line during the challenges of Covid”. Others mentioned that mentoring provided personal growth that led to benefits in professional life. **Mentors need to focus on the personal as well as professional growth,**
- There is a need to **make mentoring official** and have it built into the programme so that the process becomes standardised,
- **Mentoring** should be taken **very seriously** in cases where a candidate is doing **multi-disciplinary work**. When moving from one field into another it is the mentor that can assist with this transition, and
- The nGAP lecturers expressed the opinion that a **mentor should be relatable, but at the same time experienced**. Some examples of mentor-mentee relationships that worked well were between emeritus professors and mentees as these professors have the experience to be relevant and the time to engage in-depth.

A second issue that was raised was that of the **80/20 work ratio**. A number of candidates indicated that the ratio is not being adhered to. It was noted that the percentages are correct as if enforced it allows enough time for some work experience along with keeping up to date with studies. However, in cases where the ratio is not adhered to, or where it becomes difficult to determine, the productivity of nGAP lecturers suffer. The candidates suggested that the Department becomes more involved to enforce the ratio or take it up with heads of department within universities so that they can be informed of the requirement.

The nGAP lecturers expressed the hope that the Department will include them or other nGAP candidates in the process when the terms of reference are being updated.

Closing Remarks

Dr Kota-Nyati: Dean: Learning and Teaching, and nGAP Project Coordinator (Nelson Mandela University)

The closing remarks were drafted by Dr Kota-Nyati, Dean: Learning and Teaching, and nGAP Project Coordinator for the National nGAP at Nelson Mandela University, implementation support partners in the nGAP to the Department.

“I must start by expressing our gratitude for the role we have been given as Nelson Mandela University. It has been a pleasure to be part of this transformative initiative geared towards changing not just the face and voice of higher education but its heart, mind, and soul. As the implementation partner university, we have gained an appreciation of the great work done by DHET to change higher education to reflect the nation's demographics, the students in the university and the communities we serve.

Listening to commentary about being a demographic, experiencing the impostor syndrome, and not feeling that we belong, I wonder if we have taken full ownership of our spaces and whether we

have classified universities as belonging to certain groups and not others. You are a new generation of academics; you will establish a new way, create a new University, and a new academic – new not in tenure but in posture. Yes, you would have found others who had been there, who may believe it's their space, and there is no room for more; some will be open to coaching and mentoring, while others may not be supportive. You, therefore, need to find your place and own it. Like Dr Dlamini, who was resolute in keeping his promise, he acquired not just knowledge but tapped on resources – whether through gaining funding, getting partnerships, transferring knowledge, and flying the flag by being a global scholar in his own right. As I listened to you, I found myself writing: a willingness to train, collaborate and establish long-term solutions for the sector. You have achieved far more than many academics who have been in spaces longer than you. This is true of many of you who shared your research projects and experiences of the nGAP journey.

The power of networking, sharing, persevering, and supporting cannot be overemphasised. Profs Windapo and Jansen passionately shared how to create future academics, scholars, and professors. A few traits were shared that will posture you as excellent academics and I will list them: confidence not just in



Figure 17 Dr Kota-Nyati, Dean: Learning and Teaching, and nGAP Project Coordinator (Nelson Mandela University)

yourself but in your craft, persistence, passion, resilience, integrity, networking, building lifelong relationships and partnerships, gratitude, goal-oriented, ambition, hunger for success, generating ideas, finding solutions and many more.

The days of critiquing theories from the global North should have ended when I was lecturing in 1997; you should be geared towards creating new knowledge, one grounded on the richness of Africa, which is our immediate context, responsive solutions to the many difficulties experienced by our communities, being present, mindful and conscious so that we can capture the areas of research and engagement needing your intellectual ability. Out of you will be those whose theories, models, and practical solutions will be quoted and later criticised by generations to come.

I hope you captured the pride our Honourable Mister, DG and DDG expressed yesterday. You are the fulfilment of a promise made in 2015; you were steadfast, you never caved, you persisted against all odds, and you are that cohort everyone looks up to. Congratulations, and always remember those who walked the journey with you. May your careers take off, and may you soar to great heights”.

END