



UNIVERSITEIT VAN PRETORIA  
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# Mamelodi dipolelelo

Fostering excellence in pathways to STEM education

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# Charting a course for South African extended programmes

By Prof Marissa Rollnick

As part of the celebrations commemorating ten years of offering the University of Pretoria's flagship extended curriculum programmes (ECPs), Mamelodi Campus hosted 150 delegates to the National Colloquium on Extended Programmes on 14 and 15 August 2019. Delegates came from 14 universities in seven provinces. Over the two days, there were two plenary presentations, a panel of ECP alumni, as well as 41 papers, presented in parallel sessions.

Opening the colloquium, University of Pretoria Vice-Chancellor and Principal, Prof Tawana Kupe, told the delegates that they, as the academics who deliver these crucial extended programmes, have a great responsibility. He noted that they have the power to change the futures of many students who would not have gained access to university study otherwise. Mamelodi Campus is fortunate to have a group of alumni who have organised themselves to assist students who are still studying in the ECP, and to act as powerful role models for what they can become in the future.

The first plenary session was presented by Prof Ian Scott, Director of Academic Development of the University of Cape Town. His talk, "Extended programmes in South Africa: Aligning purpose, principles, policy and design with contemporary conditions in higher education", was well received by the delegates. They described the talk as informative, inspirational and relevant, and as providing food for thought and setting a good tone for the event. They particularly appreciated his up-to-date information on the imminent government policy on ECPs and his perspectives on these types of programmes.

The second plenary session was presented by Prof Nthabiseng Ogude, Dean of Mamelodi Campus. She was joined by the data analytics administrator, Mr Bonza Majosi, to present a talk titled "Extended curriculum programmes: A context requiring a unique data capability towards fostering student success". Participants commented that the data management system has definite potential, and that it is something that can be applied in their institutions. The talk was received as informative and motivating.





Participants in the National Colloquium on ECPs, hosted on Mamelodi Campus.



Prof Tawana Kupe, Vice-Chancellor and Principal (University of Pretoria).



Prof Ian Scott, Director of Academic Development (University of Cape Town).

The colloquium was organised in collaboration with the Special Interest Group of the Higher Education Learning and Teaching Association of Southern Africa (SIG HELTASA). In addition to the keynote addresses, the student panel was particularly well received. It was described by delegates as authentic and encouraging. Four successful ECP students, two from the Engineering ECP, ENGAGE, and two from Mamelodi Campus, presented their views on how the ECP experience had contributed to their success.

All the students lauded the supporting language and skills courses they had undertaken, saying that they had felt the impact of these courses throughout their programmes. Although they found the shift to mainstream programmes challenging, they found the ECP had provided them with a good foundation. The members of the audience felt it was good to hear the perspectives of these students, and commented that the students' narratives took away the stigma associated with ECPs.

Some participants were enthusiastic about promoting a research agenda for the colloquium, while others were keen to preserve the sharing of practice. A suggestion was made to split future colloquium sessions into research and practice. An initiative is afoot to produce refereed proceedings of the colloquium from presentations that focus on research.



The Student Voice Panel.



# Mamelodi Campus goes international

## UP selected as first African member of international Coalition of Urban and Metropolitan Universities

By Ms Mashego Panyane and Ms Nosipho Mthethwa

The University of Pretoria (UP) was recently selected as the first African institutional member of the Coalition of Urban and Metropolitan Universities (CUMU). Based at Towson University in the USA, the CUMU has member universities from around the world. Its primary goal is to develop a network of universities that will create an enabling environment for collaborations and skills transfer.

"CUMU's mission is to distribute information and knowledge on matters faced by urban and metropolitan university campuses, as well as the communities in which they are anchored," said Dean of the Mamelodi Campus, Prof Nthabiseng Ogude, who will be spearheading the project for UP.

"As part of an anchor mission of UP, the Mamelodi Campus was designated a social innovation hub or campus in the Mamelodi community in order to address community needs," she added. "Unlike generalised community engagement, which takes place in various places, CUMU also promotes what is called hyperlocal engagement, which leads to sustained and measurable impact in a circumscribed locality over a period of time."

Such engagement results in replicable models that can be applied in other contexts, leading to wider development. Prof Ogude cited the Mamelodi Campus's anchor strategy as an example of such a hyperlocal engagement that is unique within UP's engagement activities and in South Africa. "It is thus important for UP to form partnerships with international institutions that are involved in similar hyperlocal engagement, an evolving area of research development internationally. At the core of a hyperlocal engagement is improvement of educational pathways, one of the key roles of the Mamelodi Campus through the Pre-University Academy and the Extended Curriculum Programmes."

Prof Ogude explained that UP's participation in CUMU is important, specifically in terms of the University's research goals. "As a research-intensive university, it is vital that engagements that take place in and through UP be led by research and data to ensure sustainable programme outcomes through data and research, and to positively contribute to UP's research outputs."

She said the engagement with CUMU allows the University access to global partners and partnerships, research, annual CUMU conferences, information sharing, and the opportunity to publish in the Metropolitan Universities journal. "This exposure leads to the development and improvement of local communities from a local and global perspective", Prof Ogude concluded.

***CUMU's mission is to distribute information and knowledge on matters faced by urban and metropolitan university campuses, as well as the communities in which they are anchored.***



CUMU round table discussion.



CUMU panel discussion.

# From the Dean's desk

## *Embracing the opportunity to strive for more inclusivity in our education system*



**Prof Nthabiseng Audrey Ogude**

This is a significant issue of *Dipolelo* as it is the last one that covers our activities before the advent of COVID-19. We are pleased to say that both our national sponsor, Absa, and our international sponsor, the Kresge Foundation, have pledged to continue to assist us to empower the disenfranchised among us. This support is especially valuable at this trying time in which there will be a sharp focus on the cost of inequality in our communities. Both of these organisations have been long-term partners of the University of Pretoria (UP) and the programme. Our role in Mamelodi is about redress, and there is no better time to demonstrate the need for redress in our country than during the COVID-19 pandemic.

The focus in this newsletter, as always, is on our core niche area of broadening educational pathways to post-secondary school attainment, incorporating pathways

to science, technology, engineering and mathematics (STEM) careers. In addition, we have articles relating to two of the remaining four niche areas of the Mamelodi Collaborative, namely economic development and entrepreneurship (page 10) and strong and healthy neighbourhoods (pages 10, 11 and 12).

It has been an extremely busy first quarter of the year as we wrap up our activities related to the 10 years of Extended Curriculum Programmes. The lead article captures the proceedings of a very successful colloquium hosted in August 2019. I am pleased to say that we are in the process of producing refereed conference proceedings for this colloquium under the leadership of Prof Marissa Rollnick. The highlight of this year has undoubtedly been the membership of UP through the Mamelodi Campus as a member of the Coalition of Urban and Metropolitan Universities (CUMU) (page 3).

This year, we also saw the Pre-University Academy (PUA) gaining momentum as we organised all our mathematics and science activities that have been offered on the Campus since 2014 under the rubric of the

PUA – extending our span to Grade 8 as we included new offerings, namely examination preparation, computer literacy, and language and study skills. The span of activities that has taken place within the PUA are evident on pages 7 and 8.

Many of us had our plans all set for the rest of the year, until the world was hit by the COVID-19 pandemic. In line with all the activities of the University, in which continuity plans were developed for teaching and research, we at Mamelodi Campus have developed a teaching and learning continuity plan for both the extended programmes and for our pre-university activities. Contrary to seeing the challenge of COVID-19 as a threat, we see it as an opportunity to strive for more inclusivity in our education system. If we do not develop innovative strategies, we will unfortunately disadvantage the already disadvantaged, which would be very unfortunate. We indicate what these plans are on page 7 and thank Prof Norman Duncan, Vice-Principal: Academic at the University of Pretoria, for his support.

## Prof Ogude appointed as Siyaphumelela Student Success coach

Prof Nthabiseng Ogude, Dean of Mamelodi Campus, was chosen to be a South African coach to support the future of the Siyaphumelela Network activities for 2020–2022.

Over the past five years, the Siyaphumelela Network, a student success initiative supported by the South African Institute for Distance Education (SAIDE) and funded by the Kresge Foundation, has worked across five universities to improve student success in South Africa. The partner institutions are the Durban University of Technology, Nelson Mandela University, University of the Free State, University of Pretoria and the University of the Witwatersrand. From 2020, the Siyaphumelela Network will build on these experiences to expand across the higher education system in South Africa. All South African higher education institutions are eligible to join the Siyaphumelela Network 2020–2022. Participant institutions will work with a Siyaphumelela coach and make use of a South African version of the Institutional Capacity Assessment Tool

to explore their strengths and weaknesses in order to prioritise student success initiatives.

In 2019, a cohort of South African coaches was identified to strengthen local student

success coaching capacity. Prof Ogude represented Mamelodi Campus as part of the South African cohort of coaches at the Achieving the Dream Coaches Retreat in October 2019, as well as the 16th Annual Dream Conference in Maryland, USA, in February 2020.



**The first cohort of South Africa student success coaches at the Dream Coaches Retreat, Kentucky, USA, October 2019.**



## Developing Mamelodi Campus researchers

By Prof Marissa Rollnick

To ensure the comprehensive development of the researchers on Mamelodi Campus, two activities have become exceedingly important: writing retreats and research seminars.

Two writing retreats were held in 2019 – the first was facilitated by Prof Joe Krajcik from Michigan State University and Prof Marissa Rollnick of Mamelodi Campus, and the second by Prof Yvonne Reed, Visiting Associate Professor from the School of Education, University of the Witwatersrand. For both retreats, staff identified their needs by responding to questionnaires. Prospective attendees were asked to write half a page on what they are working on and what they would like to achieve during the three days, and to submit this a few days before the retreat. Most of the time was devoted to writing, discussing ideas and receiving feedback on writing.

Each day began with a themed activity for a few minutes, after which writers found a comfortable place to write in the Research Commons. Participants were encouraged to set themselves goals for the three days. They requested assistance from facilitators when required and facilitators spent up to an hour on occasion, either providing advice or responding to writing they had read for one of the participants.

### THE 2019 RESEARCH SEMINARS

- **6 March 2019: Sue Immelman:** “It joins the dots”: This was a talk providing a good example of research that could be done by teaching staff.
- **22 May 2019: Christine Mundy:** “Using cognitive load theory to inform the design of an inclusive mini spec”: This talk gave the audience insight into work that Ms Mundy is doing in her teaching of the ECP chemistry class.
- **18 June 2019: Dr Julie Luft, University of Georgia, USA:** “Using a claim, evidence, and reasoning activity in undergraduate science classes: What students learn”: This talk combined theory and practice, showing how students can participate actively in large class lectures.
- **28 August 2019: Ann-Kathrin Ditttrich, Innsbruck University, Austria:** “Pedagogical knowledge”: Pedagogical knowledge is generic knowledge possessed by teachers, which allows them to make their classes run smoothly.

This seminar was well attended and there were opportunities for the attendees to apply what was shared in their practice.

- **18 September 2019: Dr Lynne Pilcher:** “The effectiveness of blended learning in first-year tutorials: the case of organic chemistry”: This talk focused on the effectiveness of online tutorials when alternated with live tutorials. Given the shortage of funds to provide adequate face-to-face tutorials, it was reassuring to find that blended learning offers a useful supplementation to live tutorials.
- **6 November 2016: Prof Marissa Rollnick:** “Who are the intended students for extended curriculum programmes?”: This talk sparked the debate on the profile of students participating in extended programmes.

In addition, Dr Julie Luft held a workshop for biology lecturers and tutors, which was well received.

It is hoped to run similar programmes in 2020.

# TEACHING AND LEARNING

## Always improving with T&L days

By Dr Jeanine Mwambakana

Teaching and Learning (T&L) days are now a well-established platform where colleagues from the Extended Curriculum Programme (ECP) and ENGAGE share the innovative strategies that they use, and at the same time learn about new and applicable ones. Consequently, these T&L days seek to broaden the repertoire of strategies of academic staff that should make their classes more engaging for students, enhance their understanding, and, consequently, their performance.

The themes of the T&L Day for 2019 were in line with the FLY@UP campaign: Active learning and a step-up approach for transition students, presented by Prof Marissa Rollnick, Research Fellow on Mamelodi Campus, and Professor Emeritus in Science Education at the University of the Witwatersrand, and Prof Marietjie Potgieter, Deputy Dean: Teaching and Learning, University of Pretoria's Faculty of Natural and Agricultural Sciences, respectively.

Active learning is a form of learning that seeks to place the student at the centre of the teaching/learning process. Students are considered to be active participants in the learning process. Prof Rollnick told participant that “...if students are not actively involved in their own learning, they will not show a conceptual approach to their material or be able to attach meaning to it. The natural result of lack of meaningful learning will be rote learning, leading to short retention and poor understanding...”

The main message of her presentation was for lecturers to refrain from using the traditional transmission methods of instruction that can lead to boredom, inattention and distractive behaviour. Students need to engage personally with material in order to understand and internalise it. From its inception in 2008, the material for the ECP course is offered at a slower pace to leave more time for students to engage with the subject content and develop a thorough understanding of it.

During Prof Potgieter's workshop, she stated that students from the ECP face challenges to

adjust to the pace and scope of courses that are significantly more demanding, while having much more free time in their timetable when they transfer to the University's Hatfield Campus.

It is also worth noting that, as students progress with their studies, they are given less formal input and are expected to work more on their own. Consequently, lecturers need to prepare students for this step by gradually adjusting the demands of their programmes to enable students to become more independent learners who are able to manage their time and study habits.

The two themes were well aligned and useful for attendees because, when optimally implemented, active learning strategies enable students to manage their own learning process. Following fruitful discussions, attendees received advice and ideas on the creation of a teaching portfolio (TP). A TP is a collection of documents, prepared for the purpose of applying for academic jobs and documenting professional development in teaching. In a TP, one collates examples of designed materials that should illustrate one's ability to innovate.

# The Mamelodi Extended Curriculum Programme review

By Prof Nthabiseng Ogude and Prof Marissa Rollnick

Reviews of academic programmes are a vital element in ensuring the quality of education at the University. Although extended curricula have been running for more than 10 years on Mamelodi Campus, they have not been externally reviewed. Previously, quality reviews would have been carried out on the various extended curricula offerings as part of home departments, resulting in a piecemeal view of the programme as a whole.

Thus, the decision to conduct a programme review of all the curricula offered on Mamelodi Campus was a first for all staff, and breaking the new ground was challenging. The process of conducting a review is overseen by the University's Department of Institutional Planning (DIP) and, at a governance level, the Academic Planning Committee. It normally takes over a year to institute and finalise. The main event of the evaluation is a visit by an external panel of experts, who spend up to three days on the campus studying specially prepared documents and interviewing all role-players. These role-players include the Deputy Vice-Chancellor for Teaching and Learning, the Dean of Mamelodi Campus and the deans of participating faculties, as well as staff and students. This visit is followed by a report with commendations and recommendations that is circulated to role-players, who then respond to the recommendations. The institutional process culminates in the preparation of a self-evaluation report, prepared by the Head of Academic Programmes under the guidance of the Dean.

The report is tabled at the Inter-Faculty Academic Committee for Mamelodi, and eventually at Senate. Due to the COVID-19 pandemic, the formal review was postponed. Nevertheless, a lot of work had already gone into the preparation of

the self-evaluation report, and the important task of identifying national and international reviews had also been completed. We are hopeful that the review can be finalised by the end of 2020.

The enormous task of preparing the report was overseen at a strategic level by the Office of the Dean, in collaboration with the Dean of the Faculty of Natural and Agricultural Sciences (NAS) and the Dean of the Faculty of Economic and Management Sciences (EMS). At a governance level, it was overseen by the Inter-Faculty Academic Committee of Mamelodi Campus, where the deputy deans and heads of department of EMS and NAS represent their faculties. Internally, the process was led by Dr Jeanine Mwambakana, with the assistance of Prof Marissa Rollnick. It involved all staff in the home departments, as well as the lecturers who teach during the third semester in the modules into which the students from the extended curriculum programmes transition. The external review members comprise experts in academic support and extended curriculum programmes. They are Prof Michael Osborne (University of Glasgow), Prof Delia Marshall (University of the Western Cape), Prof Clever Ndebele (Walter Sisulu University), Dr PJ van Schalkwyk (North West University) and Dr Monde Kazeni (University of the Witwatersrand).

The review aims to identify areas of improvement with a view to ensure that extended curriculum programmes remain the nucleus of the strategic vision of Mamelodi Campus. The self-evaluation report covers the period 2014 to 2019, and forms part of the Campus Plan for 2019 to 2020. It is organised under six terms of reference (ToRs), in accordance with the guidelines of the Office of Institutional Planning.

The overarching ToR on the vision and mission investigates the extent to which the extended curriculum programmes fulfill Mamelodi Campus's mission of broadening education pathways to post-secondary school attainment and how the pre-university activities complement the extended curriculum programmes in attaining this vision. Of particular focus in the report is the second ToR, which addresses the admission and placement policy against the backdrop of the philosophical underpinnings of the programmes, the University of Pretoria's navigational markers, and the implications of the current practices regarding the proposed new policy of the Department of Higher Education, Science and Technology (DHET) of infusing developmental modules throughout the undergraduate curriculum.

The other ToRs evaluate the effectiveness of policies and procedures governing the quality of teaching, learning, academic support, curriculum development and FLY@UP within extended curriculum programmes, and barriers to the uptake of technology and how this can be improved. We also explore in detail the nuances of the current teaching model, the professional trajectory of staff, and the fact that the majority of staff are not permanent. We eagerly await the recommendations of the panel in this regard. The academic experiences of graduates that commenced on this pathway receive an important focus, as do the challenges and opportunities the campus provides and the effectiveness of extended curriculum programmes in relation to the number of graduates and postgraduates this academic pathway has produced since 2014. Lastly, the report provides a critical analysis of the contribution of extended curriculum programmes to the various science, technology, engineering and mathematics (STEM) and commerce academic pathways, and the efficacy of articulation models adopted by different faculties.

## Mamelodi Campus hosts first-ever Second Orientation 2019

By Ida Meyer



Mamelodi Campus alumni at the information tables during Second Orientation.

On Saturday, 26 October 2019, 407 students from both the BCom and BSc streams of the Extended Curriculum Programme joined the University of Pretoria's Student Support on Mamelodi Campus for a Second Orientation. This orientation focused on transitioning and transfer information for the following year of study, as well as on ways of retaining students in the initial parent faculties.

The students enjoyed the sessions in which alumni of Mamelodi Campus gave them pointers on how to adapt to studies on the Hatfield Campus much more easily. Topics, such as class attendance, using the time management skills they had learned at Mamelodi Campus, building relationships with friends that take their studies seriously and where to ask for help, had the students interacting positively.

The first semester's top students were greeted with a standing ovation as they received letters from the Head of Academic Programmes, Dr Jeanine Mwambakana. The students were also given the opportunity to ask questions at the information tables of the parent faculties.

# PRE-UNIVERSITY ACADEMY



Kresge Foundation delegates with representatives from Mamelodi Campus.

## Kresge Foundation supports the Mamelodi Campus Pre-University Academy

On Friday, 15 November 2019, Kresge Foundation Director, Bill Moses, and his Project Manager, Ed Smith, visited Mamelodi Campus as part of their national visit to South African higher education institutions supported by the Kresge Foundation.

The visit included the University of Pretoria's Mamelodi Campus. Bill Moses and Ed Smith met with Prof Nthabiseng Ogude, Dean of Mamelodi Campus, and the Campus Operations Manager, Edwin Smith, as part of their visit to the University.

## Broadening education pathways in the advent of the COVID-19 pandemic

By Dr Phihlo Pitjeng-Mosabala

Mamelodi Campus recognises that the provision of educational opportunities for the school learners of Mamelodi is critical for redress, and to stem the cycle of poverty. The key niche area in the Mamelodi Collaborative primarily focuses on the broadening of educational pathways for the youth of the Mamelodi township. The Pre-University Academy (PUA) aims to lay the foundation that will enable the learners in the community to get access to tertiary education and prepare them to succeed once enrolled. The Academy also aims to expose school learners in Mamelodi to the available tertiary education opportunities.

The PUA offers a range of academic enrichment services to help learners achieve a seamless transition from secondary school to graduation. It has three focus areas: post-secondary school readiness and awareness, engendering scientific literacy and teacher professional development. The Academy aims to reach more than 30 000 beneficiaries, including school learners, in-service educators and adults in the community who have no formal education.

The goal of the Academy is, however, not only to support learners, but also to complement the school system through a holistic model that can address student under-preparedness even before they enrol for tertiary studies. It is envisaged that this model can then be replicated in similar settings in South Africa.

The focus area of post-secondary school readiness and awareness includes academic support offered through the Saturday School and the Mamelodi Mathematics and Science Programme (MMSP), which provides academic support in Mathematics and Physical Sciences to 152 Grade 10 to Grade 12 learners from the 20 surrounding high schools in Mamelodi. It also encompasses other PUA activities, such as the 2020 Career Fair and Grade 9 subject choice testing, both of which are located in the Career Hub, run jointly with the Khetha Project of the Department of Higher Education, Science and Technology (DHET).

### Post-secondary school readiness

The PUA Saturday School was launched on 22 February 2020 to develop skills to enhance post-secondary school readiness. The learners register for courses depending on the grade they are in. The courses include examination preparation, language literacy, creative writing, mathematics and computer literacy. The PUA Saturday School successfully registered 337 Grade 8 to Grade 12 learners.

Educators' and tutors' orientation is aimed at addressing the PUA philosophy, mission and vision, as well as the objectives of the programme. It also seeks to discuss the rules of engagement. This took place on the same day as the launch of the Saturday School. All the tutors were expected to complete online training, organised by the Department for Education Innovation, prior to the launch. Tutors comprise students from the Faculty of Engineering, Built Environment and Information Technology's Community-based Project (JCP) module. The PUA Saturday School classes commenced on 29 February 2020, but contact sessions had to be discontinued due to the national lockdown.

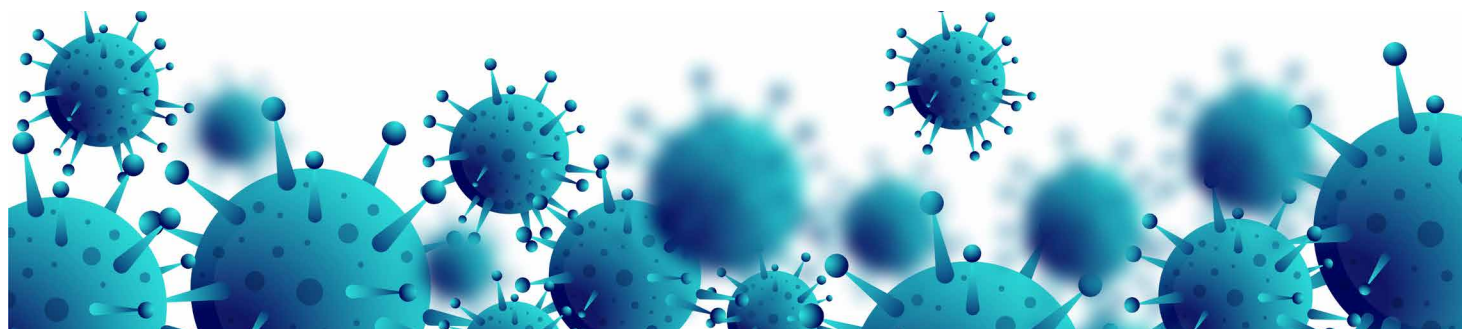
### Continuity plan during the COVID-19 lockdown period

Mamelodi Campus has identified various ways in which academic enrichment can be provided during the COVID-19 lockdown. These can be achieved by implementing 100% online learning. The teaching and learning continuity plan is based on the assumption that the majority of the PUA learners have access to either smart phones, tablets, laptops or computers, as well as a data package. Mamelodi Campus will utilise the online teaching and learning platform, clickUP. Learners, tutors and teachers will be introduced to clickUP gradually during the second school term by way of an onboarding process plan. The campus envisages being fully onboard on clickUP for all the PUA courses of the Saturday School and the MMSP by the beginning of the third school term.

### Post-secondary school awareness

Key to broadening educational pathways is access to information on the possible careers that could be pursued at tertiary level. The PUA supported this through the 2020 Career Fair and Grade 9 career interest testing. The career interest testing, which aimed to guide the current Grade 9 learners with choosing their Grade 10 subjects, was conducted in January 2020 with the assistance of the UP Mamelodi Campus alumni. Grade 9 learners from the seven high schools in the surrounding Mamelodi area were in attendance.

The change in circumstances due to the global COVID-19 pandemic has challenged us to think of even better ways to achieve our goals of broadening educational pathways for the youth of Mamelodi, and ultimately promoting a post-secondary schoolgoing culture.





## Career Fair 2020

By Regina White

Mamelodi Campus has grouped its activities for school learners under an umbrella unit called the Pre-University Academy (PUA). The PUA has identified three research focus areas as its core business. These are college readiness and awareness, teacher professional development, and engendering scientific literacy and an interest in science.

The college readiness aspect includes activities that provide academic support to learners while they are still in high school to ensure that they are able to pursue post-secondary school activities. These activities include the after-school programme, which provides Mathematics and Physical Science support to promising Grade 10 to Grade 12 learners, and the Saturday School, which extends this support from Grade 8 to Grade 12 learners.

The college awareness focus rallies around creating opportunities for learners to become aware of opportunities after high school. This awareness needs to be created from as early an age as possible. In light of this focus area, Mamelodi Campus has established an annual Career Fair. The model of the Career Fair links career interest with an exhibition where learners can get first-hand information about their fields of interest.

Early in January, Grade 9 learners were afforded an opportunity to complete an online career interest questionnaire. The results



of the questionnaire were returned to the learners for their teachers to use as a discussion platform for goal-setting. This is important, since Grade 9 learners will be choosing their subjects at the end of their Grade 9 year. The learners and their parents were invited to the Career Fair, where an analysis of the results from the online career interest questionnaire had been one of the breakaway programme items.

We are encouraged by the support from the University's faculties. The increased commitment to include more of their

departments in the exhibition is very exciting. This gives a very clear overview to prospective students about the options available within a particular faculty. We also had exhibitions from businesses, which included Oracle and the Automotive Industry Development Centre (AIDC), for the first time.

The potential of the Career Fair to create awareness among the schoolgoing community of Mamelodi and surrounding areas is still largely untapped. Our plan is to expand the initiative by including more partner institutions and businesses in 2021.

The Career Fair drew many learners and parents to Mamelodi Campus, and gave them a glimpse into post-secondary school education opportunities. In the spirit of career development, Mamelodi Campus gave a group of aspiring learner journalists from the Mae Jemison US Science Reading Room the opportunity to practise their skills in a real-world context. These learners attended the Career Fair, interviewed participants, and compiled the following article for publication.

### Career fair inspires youth of Tshwane

By aspiring learner journalists



The University of Pretoria's Mamelodi Campus hosted its Annual Career Fair for the youth of Tshwane on Saturday, 15 February 2020. The event took place at Mamelodi Campus from 08:00 in the morning until 14:00 in the afternoon.

Among other things, the event aimed to develop the learners to be independent people who are self-reliant. At the fair, learners learned about different types of careers, and students of the University of Pretoria served as tour guides for the event.

"At first, I was interested in studying media studies, but after the Career Fair, I would like to study sport science at the

University of Pretoria," said Rorisang Moabelo, a Mamelodi learner.

The most common questions that were posed to the learners was: "What is your highlight of the day?" and "What are you looking to study after matric?"

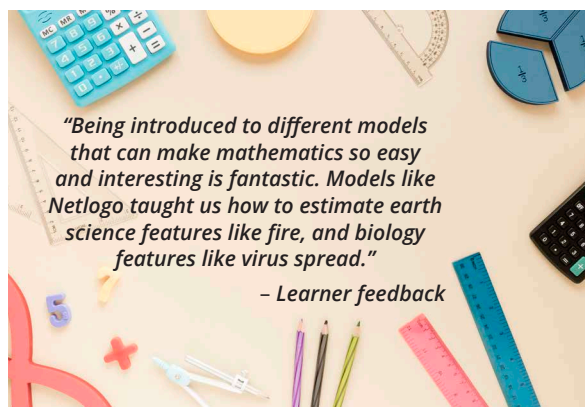
The large numbers of learners and parents who attended the Career Fair responded in a similar manner to Nomvula Mnguni, who said: "I learned more about different careers that I didn't know before."

It surprised us to see schools from Soshanguve and Hammanskraal at the event. We believe that the Career Fair was not only benefitting learners, but also the parents who were at the event.



## US Embassy funded Mathematical Modelling Project for Girls

By Dr Kgadi Mathabathe



Mathematical Modelling for Girls is a US Embassy-funded project that focuses on introducing girls and Mathematics teachers to mathematics modelling and how it can be used to solve everyday challenges. The project took place on three consecutive Saturdays from 29 February to 14 March 2020. A total of 22 Grade 11 girls and seven Mathematics teachers from several high schools in Mamelodi participated in the project. Several students registered for the Community-based Project (JCP) module, and participated as tutors in the project. Leading the project were Fulbright Programme alumni Dr David and Dr Cynthia Thomas from Montana, USA, working together with Mamelodi Campus's Dr Kgadi Mathabathe and Dr Jeanine Mwambakana. Through the project, learners and teachers were afforded the opportunity to connect with UP students and staff, as well as to glimpse a future in which they themselves would mentor younger girls about their academic and career paths. The UP Mamelodi Campus Red Computer Laboratory was abuzz with excitement as the participants engaged with the staff and experienced the purposes, power and beauty of mathematical modelling.

Readers can visit the website [math-ed.com](http://math-ed.com) to learn more about the project. The Mamelodi Campus Pre-University Academy plans to host more such events in collaboration with internal and external stakeholders to broaden educational pathways for the youth of Mamelodi and beyond.

## Grade 9 subject choice assessment

By Ida Meyer

A Memorandum of Agreement was recently signed between the Department of Higher Education, Science and Technology (DHET) and the Career Hub (Mamelodi Campus) to foster future cooperation to assist a tertiary-going awareness in the Mamelodi precinct.

With the help of the DHET's online National Career Advice Portal (NCAP), 932 learners from seven different schools were assessed for subject choice from 20–24 January 2020 through the Career Hub. The purpose of the assessments was to help the learners to choose the right subjects based on their personality and interest. Eight alumni from the Extended Curriculum Programmes were trained by Bridgette Makgareetsa to assist the learners, of whom some had never experienced a computer before. The specific results per learner were printed out and returned to the schools for Life Orientation teachers to assist learners with their subject choices. General feedback was also given to parents and learners on 15 February 2020 during the Career Fair. Parents and learners were very positive about the assistance from the University in this regard, and we are looking forward to future cooperation towards tertiary readiness and awareness through the Career Hub.



## Homework Programme Award Ceremony

The Homework Programme was launched as a pilot project in 2017 to provide a safe place for school learners to do their homework. Every Tuesday, Thursday and Friday from 15:00 to 17:00, learners from Grade 9 upwards focused on their homework, assisted by volunteer tutors.

Learners also took part in additional group activities to help them retain the lessons they were addressing at school. This programme also focused on literacy, music, art and computer literacy courses. It was decided to recognise and acknowledge the learners and tutors at an award ceremony on 30 November 2019.

Awards were given for best essay writing, excellent attendance and for the top three learners who improved in Mathematics and Natural Sciences. The guest list comprised invited parents, principals and teachers. Dr Tebogo Maponya from the University's Department of University Relations was the motivational speaker for the event.



From left: Learners and parents at the Homework Programme Award Ceremony; the award winner with her teacher; and award winners with Dr Maponya.



# INTER-FACULTY COLLABORATION

## Academic citizenship at work on the Mamelodi Campus

By Carto Abrams-Swartz

On 30 August 2019, the Mamelodi Business Clinic (MBC), in collaboration with MasterCard, hosted a garden planting activity on Mamelodi Campus. The event was organised in an effort to raise awareness and improve participation in the United Nations' Sustainable Development Goals (SDGs).

"This year, the MBC decided to take a different approach with student projects. We combined our planting day, which contributes to food security, with our annual Early Childhood Development (ECD) programme, so as to improve the impact of our engagement," said Thato Mokoena, lecturer in the Department of Business Management.

Prof Alex Antonites, Head of the Department of Business Management, further explained that this annual engagement with the community is interdisciplinary in nature, as it includes efforts from many subject fields, focused on improving engagement with the direct social community. Participants included community members, students and staff members, with the total number of beneficiaries reaching 80 children between the ages of four and six from surrounding ECD centres in Mamelodi.

The first-year Business Management students were given an opportunity to showcase what they had learned about the SDGs, and to teach



Students in the academic citizenship programme with Prof Nthabiseng Ogude, Dean of Mamelodi Campus.

some basic skills to young children in the most elementary manner. This was done through child-friendly and educational entertainment, which taught the children where food comes from. The little ones were also given an opportunity to expand their gardening skills by planting a seed to take home.

The staff involved in the event reported that the most noticeable impact of the event was

on first-year students. In their attempt to break down the concepts into digestible pieces for the young children, they were able to completely integrate what they had learned into their own lives. This equipped them with an active moral and ethical compass as they pursued careers in the business world. Councillor Cindy Billson from Ward 69 expressed her excitement about the engagement, highlighting the need to raise awareness about sustainability from an early age.

## Celebrating local Women Entrepreneurship Week on an international level

By Carto Abrams-Swartz



Participants in the Women Entrepreneurship Week.

The Mamelodi Business Clinic (MBC) hosted a successful high tea to celebrate its first Women Entrepreneurship Week. This annual initiative was established in 2014 by the Feliciano Centre for Entrepreneurship and Innovation at Montclair State University in New Jersey, USA. This year, the MBC was one of more than 200 universities/colleges and organisations that held events on their respective campuses for the sixth annual Women Entrepreneurship Week between 19 and 26 October 2019. Thirty entrepreneurs from the Mamelodi community were invited to spend the morning at the MBC.

The keynote speaker was **Nomsa Maseko**, a young and upcoming entrepreneur who seeks to create an enabling environment for entrepreneurship in South Africa. She is a member of the Tshwane Youth Business Council and Global Shapers, and teaches her audiences, particularly women, to find their power and unleash it. The second speaker was **Remofilwe Dikoma**, former chairperson of House Commecii, the Faculty House for the University of Pretoria's Faculty of Economic

and Management Sciences. Dikoma focused on the Sustainable Development Goals (SDGs), with specific emphasis on Goal 2, reaching zero hunger. She encouraged the women to get involved in the community garden established on the Mamelodi Campus to start making a difference in their communities. The third speaker was **Senzekile Mabasa**, Social Media Manager at Enactus, a global community of student, academic and business leaders. She highlighted the importance of eliminating food wastage and how the organisation Fruitful Living tries to make use of fruit and vegetables that are past their sell-by date, but that are still usable. The last speaker was **Batabile Msengana** from the University's Department of Business Management's Women@Business initiative, which aims to create a platform for women-focused dialogue. She had an empowering message for all the women, reminding them that it is not the responsibility of others to change their story, and that every woman should embrace her internal power and follow her passion in order to make decisions that work best for her.



## New manager for the Itsoseng Clinic



Ms Mashala exudes an asset-based orientation to life. She has realised her ambitions to be involved in this field of service to society.

The Itsoseng Clinic at Mamelodi Campus is pleased to welcome Dimakatso Charmain Mashala as its new manager following the unexpected departure of her predecessor in July 2019. She was born and bred in Mamelodi, and has been a volunteer at the Itsoseng Clinic since the start of 2019. Mashala holds a Bachelor of Arts degree in Psychology and English from the Pearson Institute of Higher Education, and intends to further her studies in Psychology through the University of South Africa (Unisa).

Serving at the Itsoseng Clinic exposed Mashala to the great need for psychological services in the local community, and the remarkably important role the Itsoseng Clinic plays in offering assistance to the community. Although she laments the persistent misgivings community members have of the services the clinic offers, she hopes to change this through public education campaigns and marketing the services the clinic offers and how psychologists assist individuals, families and communities. This is particularly important considering the myriad of mental health challenges plaguing the community.

The Itsoseng Clinic operates on Mamelodi Campus from Monday to Thursday from 08:00 to 16:00. Other than serving the local community, students in the Extended Curriculum Programme on the campus also benefit from the availability of a professional clinical psychologist, the Master's of Counselling and Clinical Psychology students from Hatfield Campus, and the interns serving their required one-year professional internship at the clinic in order to qualify as registered clinical or counselling psychologists with the Health Professions Council of South Africa (HPCSA). Undergraduate Psychology students on the Hatfield Campus who are members of Psyche, the UP Psychology students' association, also volunteer at the clinic.

With a self-motivated, skilled and young local Mamelodi resident at the helm, the Itsoseng Clinic can only leap from strength to strength in serving both the local community and the students on campus.

## The Siyathemba Occupation Therapy Clinic

By Helga Lister

The University of Pretoria's fourth-year occupational therapy students are placed in Mamelodi for six-week fieldwork blocks three times during the year. During this period, they offer numerous services to the community.

The Siyathemba Clinic is a paediatric clinic based on Mamelodi Campus, where the students assess and treat children of various ages who present with a range of difficulties. It includes individual and group therapy sessions, and children are seen once a week for 45-minute sessions. The Itsoseng Clinic refers many children to the Siyathemba Clinic for school-related problems, as well as for other physical and cognitive difficulties.

Students also work with the elderly at the Mamelodi Old Age Home (MOAH), where they provide group therapy sessions twice a week in the afternoons. Their sessions allow the elderly to engage in leisure and social activities, thus providing them with a constructive use of their time. This ultimately ensures positive stimulation that they do not usually receive.

Community health workers (CHWs) are members of the community who visit households to provide basic healthcare services and refer "at risk" persons to appropriate organisations.

The occupational therapy students have worked with CHWs at Stanza 2 Clinic, Lusaka, Stanza Community Health Centre and Matimba Sinqobile Social Integrated Centre to provide both group therapy and training.



Occupational therapy students engaged in community outreach activities.

Group therapy has focused on stress management, as well as conflict management and assertiveness skills.

The students have also offered group therapy to some of the children at Matimba Youth Centre. Matimba Youth Centre is a centre for vulnerable children of all ages. It runs an after-school programme, and provides meals, as well as emotional and psycho-social support to the children. Twice a week, the students provide group therapy sessions to children between 10 and 14 years of age. The students focus on topics

such as peer pressure, bullying, abuse and substance use.

The Community-oriented Substance Use Programme (COSUP) is a programme for people who use substances, their families and community members. Students worked at the Mamelodi Hospital, Ikageng, and Lusaka sites, where they provided group therapy and training sessions, focusing on life skills, a leisure-based programme and a vocational programme. They also started a support group for family members at the Lusaka site once a month, which will hopefully be expanded to the other sites.

## Detecting developmental delays in infants from a low-income South African community: Comparing the BSID-III and PEDS tools

By Shabnam Abdoola, De Wet Swanepoel, Jeannie van der Linde and Frances P. Glascoe

In lower-middle income countries (LMICs) such as South Africa, the vast majority of children are exposed to increased risk factors for developmental delays. The use of screening and surveillance tools in primary healthcare (PHC) settings may facilitate the early identification and diagnosis of these children at risk, due to many infants and young children being taken to PHC facilities as a first point of access to medical services.

There are, however, challenges to early identification of these delays, as they are not easily recognised in infancy, and infants and young children are difficult to test. Access to services in LMICs is often limited due to the shortage of therapists, who are often not sufficiently representative of the population's cultural and linguistic diversity. Novel, cost-effective and culturally acceptable screening and diagnostic methods to improve timely identification of these delays need to be developed.

A cross-sectional research study was conducted to compare the detection of developmental delays in young children aged 3–18 months with the use of two developmental assessment tools. More than 170 caregivers at the Stanza Bopape Baby Wellness Clinic participated in the study. The Parents Evaluation of Developmental Status (PEDS) smartphone application and the Bayley Scales of Infant and Toddler Development III (BSID III) tools were compared. The PEDS is currently used in research, but is not



commercially available in South Africa. This is a cost-effective developmental screening solution in PHC settings.

The PEDS delivered a 56% referral rate, while that of the BSID-III was 35%. This difference may be due to the BSID-III's underestimation of developmental delay in infants. The PEDS's high rate of referral was consistent with findings of past research conducted in the LMIC context. High referral rates may, however, lead to over-referral of children in high-risk groups. Limited healthcare resources may prevent these children from being accommodated in the PHC system.

Ongoing surveillance is recommended to reduce referral rates and initiate screening for those at risk for delays. Altered and adapted referral criteria could enable referrals to be prioritised according to the severity of the child's delay.

The findings of the study highlighted the need for tools to be used in conjunction rather than isolation, as well as the need for alternative and adapted tools for assessment and screening. Further research is needed to evaluate the validity of the PEDS and BSID-III tools for young infants in LMIC before large-scale implementation of the tool can occur.



### Adapted from:

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## Mae Jemison US Science Reading Room graduates new cohort of Youth Citizen Action Programme participants and hosts workshop with US aeronautical engineer

### Youth Citizen Action Programme Certificate Ceremony

On 8 October, the Mae Jemison US Science Reading Room (Mae J) hosted the Youth Citizen Action Programme (YCAP) Certificate Ceremony at the University of Pretoria's Mamelodi Campus. The YCAP promotes and boosts youth involvement in leadership and builds their project management skills. About 50 students attended training workshops for four months, and engaged in projects that will help them address issues that are challenging in their communities and their schools. During the ceremony, students presented their community projects to an audience of 120 people, including teachers, parents and NGOs. They received certificates and a small gift to encourage them to continue with the projects they are doing at the orphanage homes in the Mamelodi area. This programme supports the Mission ICS goal of



Learners presenting their community projects.

preparing South African youth for the global workforce through English language and enhanced educational opportunities.

### Engineering workshop

On 16 October, US aeronautical engineer, Aisha Bowe, facilitated a STEM workshop



Activities with aeronautical engineer, Aisha Bowe.

at Mae J. In the workshop, the students explored the interface between architecture and engineering. In the associated hands-on activity, students worked in groups by designing and building structures using paper cups. Furthermore, the students were exposed to different careers in the various engineering fields.