



NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY



2018

**VICE-CHANCELLOR'S
ANNUAL REPORT**

THE VICE-CHANCELLOR'S ANNUAL REPORT 2018



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NUST PROFILE

BACKGROUND

The National University of Science and Technology (NUST) is located in the warm and friendly City of Bulawayo, South West of Zimbabwe. The City is well served by road, rail and air transportation, with direct flights linking the city with Harare, Johannesburg and Victoria Falls.

The University was established by an Act of the Zimbabwe Parliament of 1990. It opened its doors to 270 pioneer students in April 1991. On the 28th of October 1991 the University installed its first Chancellor, and its first Vice-Chancellor. The event coincided with the laying of the Foundation Stone of the Institution.

On the 27th of May, 1995, NUST held its first Graduation Ceremony whereby 163 pioneer graduates from the faculties of Applied Sciences and Commerce were capped. The University has since grown to seven faculties. The other five faculties currently in existence are the Faculty of Industrial Technology (FIT), Faculty of Built Environment (FOBE), Faculty of Communication and Information Science (FCIS), Faculty of Medicine (FM) as well as the Faculty of Science and Technology Education (FSTE).

The University has more than 43 teaching departments that all together offer at least 73 undergraduate programmes. At the post-graduate level, the faculties have produced hundreds of graduates at the taught Masters and the Master of Philosophy programmes. The faculties of Applied Science, Industrial Technology and Commerce have also graduated many at PHD level with many more on stream. This is supported by the availability of highly qualified supervisors.

VISION

To spearhead human capital development for industrial and socio-economic transformation through Science and Technology based solutions.

MISSION

To spearhead human capital development for industrial and socio-economic transformation through Science and Technology based solutions.

CORE VALUES

In the delivery of value to our clients:

- We pursue academic excellence with integrity, honesty and ethical behaviour.
- We are committed to responsible research and innovation that drives commercialisation and industrialisation.
- We thrive on mutual respect, teamwork and effective partnerships.
- We are driven by a passion to fulfil your career dream.

MOTTO

"Think in other terms"

STRATEGIC DIRECTIONS



PRINCIPAL OFFICERS OF NUST



Prof. Eng. Mqhele Dlodlo
Vice-Chancellor



Dr. Nduduzo Phuthi
Acting Pro Vice-Chancellor



Dr. Gatsha Mazithulela
Pro Vice-Chancellor



Mr. Fidelis Mhlanga
Registrar



Ms. Katherine Matsika
Librarian



Dr. Fortune S. Nkomo
Bursar

THE EDITOR'S DESK



Mr. Felix F Moyo
Editor

Yet another year has come and gone at NUST. It always feels like only a few days pass after we wish each other a happy new year then we find ourselves wondering what creature swallowed the year as we nervously consider our year-end plans. The spinning door that turned Mondays into Fridays and into Mondays again continued to spin unabated and undeterred. There was always work to be done, but notwithstanding this, our staff kept with them a steely resolve ensuring that at the end of the day, we would feel we received our lot and made hay while the sun shone.

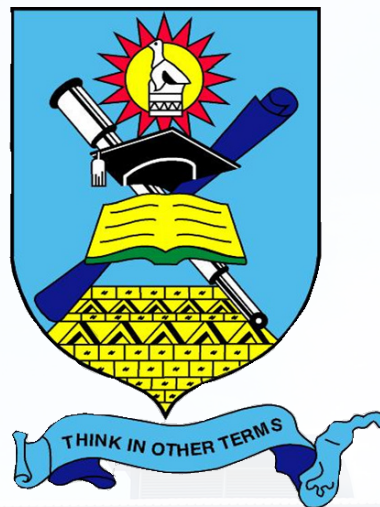
Indeed, time continues to be relentless in its pursuit of fate and destiny. I am happy though, to say the same of our students, our pride and joy. This year has seen another fine crop of students, hungry for knowledge pass through our doors. Our halls have witnessed anticipation in our first years turn to consternation as they begin to comprehend the task and requirement before them. Our passages have seen our part II students turn their relief at surviving the first year into a strong belief that they will persevere again. These halls of ours have seen our final year students turn their determination to endure till the end, into jubilation as they celebrate reaching the completion of their respective journeys. Through it all, our staff has held their hands through that journey. The year was not without its challenges and obstacles. The economic situation constantly provides us with our fair share of speed humps. However, I am proud to say that NUST continued to plant its feet facing forward and pushing ahead. Projects were planned and executed. The fountain of knowledge continued to quench our

ever parched minds as research activities went ahead and boundaries were broadened with the findings they brought forth.

So without too much pomp and fanfare, the editor invites you to reflect with us the eventful year that was 2018, as presented in this NUST Vice-Chancellor's Annual Report for 2018.







Mr. Felix F Moyo

THE UNIVERSITY CREST








INTERPRETATION

Colours

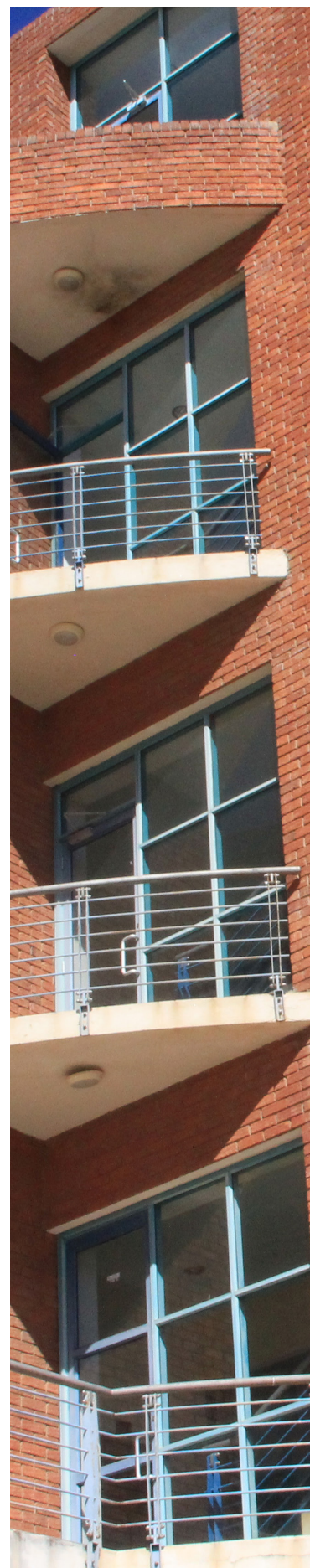
-  White – Facts and Figure
-  Red – Intuition/gut feeling
-  Green – Creative Thinking
-  Yellow – Positive Assessment
-  Blue – Control of thought process
-  Black – Pragmatism/Reality

Symbols

-  Star – Rising Sun
-  Bird – Zimbabwe
-  Scroll – Programmes/ Qualifications
-  Cap – Knowledge
-  Telescope – Looking into the future
-  Wall – Industry
-  Shield - Protection

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The Vice-Chancellors' Message



Prof. Eng. Mqhele Dlodlo
Vice-Chancellor

The National University of Science and Technology (NUST) is undergoing an exciting and significant transformation journey that builds on its strengths and brand in efforts to reposition NUST as one of the world-class learning institutions. As I complete my first year and some months in office, as the 3rd Vice-Chancellor of NUST, I want to offer my gratitude and congratulations to everyone involved in this journey. May I also once more congratulate His Excellency, the President of the Republic of Zimbabwe, Cde Emmerson Dambuzo Mnangagwa, for his installation as the 2nd Chancellor of NUST. The year 2018 has been marked by major shifts in the strategic direction of the University. First, the doctrine of Education 5.0 needed to be woven into the institutional culture within the framework of team work. A major sea change was the devolution of managerial powers and degrees of accountability to the lowest possible level. The reporting style in this document shows devolution at work, revealing both areas of strength as well as those needing some attention.

The past year was one of transformation and positive development aimed at embedding excellence and efficiency, further improving our teaching and research capabilities and offer better student experience. We are implementing our 2019-2023 Strategic Plan that evolved during and looking to the future with a great deal of excitement and optimism.



As we travel in this transformation journey, we are establishing new connections and enhancing existing ones, including our relationship with the NUST Alumni. To this end, we set up an Alumni office with the conviction that it is central to the growth and development of the institution as is the norm world over. May I take this opportunity to invite the Alumni to actively participate in the development of NUST through mobilising resources and rendering any form of support where needed. To strengthen research activities, we launched the TelOne Research Laboratory.

The success of our staff and students is always pleasing, and 2018 has seen a number of significant highlights we are proud of. As we look into the year ahead, the University will continue to improve on research and in the provision of resources as clearly articulated in the NUST Strategic Plan. Lack of resources has moved the University to focus on innovation and self-sustaining development. We therefore encourage staff and students to work together as a team and make the best of a new beginning. Our vision is to rebuild NUST into a modern campus for teaching and research, innovation, consulting, innovation and business development. This annual report details the highlights of the workings of the devolved operational organisation that is unleashing excellence born of academic freedom.

Prof. Eng. Mqhele Dlodlo

Innovation and Business Development



Dr. Gatsha Mazithulela
Pro Vice-Chancellor

1. INTRODUCTION

The University created the post of Pro-Vice-Chancellor – Innovation and Business Development (PVC-IBD), which was filled in August 2018 by Dr Gatsha Mazithulela. Creation of this post was in response to Government’s decision to extend the mandate of universities from the traditional University 3.0 to University 5.0. This involved addition of Innovation and Industrialisation to the previous mandates of Teaching and Learning, Research and Community Service.

The office of the PVC-IBD is charged with coordinating and driving delivery of Innovation and Industrialisation by initiating, recommending, implementing and monitoring policies and procedures dealing with business development of the University.

2. STAFFING

The PVC-IBD's office was created with a staff establishment of two personnel namely: the PVC-IBD and the Personal Assistant. The VC instructed the appointee to develop the portfolio in consultation with the management team.

3. ACTIVITIES IN 2018

Following his appointment, the PVC-IBD initiated a process of reorganising strategic university portfolios to reflect the new structure and to align the institution with university 5.0 expectations.

This reorganisation of university portfolios resulted in several changes. The first was that of the dissolution of NUST Technopark followed by its replacement with a new directorate called 'Innovation, Product and Service Development' (IPSD). IPSD has a much broader scope of work than the previous Technopark and will be responsible for implementing Innovation and Business Development activities. IPSD is also the host department for the Government sponsored Innovation Hub project.

Another major outcome of the reorganisation exercise was a change in the reporting structure. The Departments of Physical Planning, Works and Estates; Innovation, Product and Service Development as well as Marketing and Alumni Relations, now fall under the PVC-IBD. With time, the Marketing and Alumni Relations Office will become a fully fledged directorate.

4. FUTURE PLANS

The PVC-IBD will make additions to the staff establishment in order to optimise manpower for efficient discharge of duties. In addition, the Office of the PVC IBD will be engaging investment partners to address infrastructure challenges at NUST. Targeted projects will include initiating the construction of additional student residences, completion of the student service centre and the IT resources centre, completion of the Innovation Hub and completion of the gate house at the Ceremonial Avenue entrance. The Office is also establishing commercial projects in applied genetics, production and purification of essential oils, horticulture, advanced chemical and mineral analysis, water purification, beneficiation of water hyacinth amongst others. Commercial projects are generated from within the university or with external partners using deal-structures that deliver mutually acceptable benefits to all parties.

It is envisaged that the revenue streams of the university will be diversified and grown in the next 18 months.

Dr G Mazithulela

COMMUNICATION AND MARKETING



Mr. Felix F Moyo
Director

INTRODUCTION

The year under review was quite a refreshing period as there was the appointments of new Principal Officers, namely, the Vice-Chancellor and the Pro-Vice-Chancellor responsible for the Innovation and Business Development portfolio. This meant that the Department of Communication and Marketing takes up the advisory role in inducting the two to image and media management issues. The Department took the leading role in promoting the University's activities, marketing the NUST brand and defending its position when the need arose. The relations amongst the various stakeholders and publics were strengthened with a goal of ensuring the brand had a lasting effect

on them.

Staffing

The number of staff within the department increased upon the appointment of the Alumni Officer, Miss Concillia H. Mpofu at the beginning of the year. However, due to changes in the Organisational Structure and Strategy, this post was transferred to the Innovation and Business Development Office.

The following remained in post:

Position	Number in Post
Director	1
Communication and Marketing Officers	2
Marketing Technician	1
Chief Secretary	1
Senior Secretary	2
Secretary	1
Accounting Assistant	1
Messengers	2
Commissionaires	3

1. MEDIA MANAGEMENT

As is our responsibility, the department unveiled the new Vice-Chancellor to the public and the media through a press conference. The press conference was organised to allow the Vice-Chancellor to introduce himself, and the media to satisfy their information needs including capturing photographic footage for their future use. This further strengthened the relationship that exists between NUST and the media fraternity, who constantly liaised with the Department to confirm the various concerns that arose with regards to the NUST brand.

2. GRADUATION CEREMONY

The 2018 Graduation Ceremony was widely considered as a 3-in-one event because, besides having the traditional ceremony, the University installed the Second Chancellor and the Second Vice-Chancellor following their appointments in the same year. This historic event drew guests from industry, embassies, both local and foreign academics and partners, as well as representatives of various Government ministries. The Department provided advice on protocol issues and the order of proceedings as well as ensuring the adequate coverage of this national event. A key highlight of the graduation ceremony saw the graduation of the first crop of Medical doctors trained by NUST, amongst other degree programmes graduating for the first time. The pomp and funfair of this 3-in-one ceremony saw the reverberation of the City of Bulawayo into a celebratory atmosphere.

3. SOCIAL MEDIA PLATFORMS

The NUST Facebook and Twitter pages remain an

authentic source of official information of University processes and activities and it is the Department's goal to ensure that the pages remain professional and interactive as possible so as to provide an efficient service to the University's clients. The interaction between the Department and other departments within the University has enabled the constant and timely update of the page to inform all its followers accordingly, and to publicise events at NUST.

NUST can be followed on Facebook : <https://www.facebook.com/NUST.ZIM/> and Twitter: @NUSTZIM.

4. The News@NUST Newsletter

The News@NUST newsletter continued to be the window of events at NUST, giving insight on what the University was doing on a monthly basis. The Department's Interns for the year, Nobukhosi Zondo and Mightyman Nsingo compiled and designed the newsletter respectively. This was a grounded learning experience for the two who became the official news team of the University.

5. SCHOOLS LIAISON/CAREER GUIDANCE

The Career Guidance Team has been widely accepted as a key driver in marketing NUST and its programmes. The team conducted sessions at various centres in the Bulawayo, Matabeleland North and South, Midlands, Mashonaland Central and Manicaland provinces. The success rate has been evident through the number of applications of prospective students who cite these sessions as a reference to their knowledge of NUST. The team continues to face funding and transport challenges to fully achieve its targets. A call is made to willing corporates to partner the Career Guidance Team in their quest to reach out to high school students including those in remote rural areas, and provide information on how these can enrol with NUST.

6. UNIVERSITY SHOP

The demand to expand the NUST brand continues to build pressure on the University Shop to source branded merchandise to sell to the local NUST community, the alumni and all stakeholders with a connection to NUST. The University shop is calling on interested partners to enter into agreements of stocking up the shop with NUST branded merchandise. Plans

are underway to have a UniShop at the NUST Harare Office and another online shop for our stakeholders far and wide.

7. CONFERENCES

The Director, COMA attended the annual Southern Africa-Nordic Universities (SANORD) Conference together with the Director, Research and Innovation. This conference served to strengthen ties that have been built over the past with regards to research and collaboration between NUST and other Universities.

HIGHLIGHTS FROM THE HARARE OFFICE

1. Activities

The team at NUST Harare Office started off the year with registration of new students. This annual exercise saw huge volumes of both undergraduates and postgraduates applicants registering to study with NUST. The office was flooded with inquiries from the public this proved marketing initiatives regularly carried out by the office were paying off

The Harare office handled all assignments with efficiency as received from different departments which involved to mention but a few delivering of mail to different government ministries, NUST council members and also collection of visas from different Embassies for NUST staff members.

The year saw the introduction of Point of Sale (POS) machines at the Harare Office. The officers at the Harare office received two days training on receipting and the general POS transactions procedures. Students are now able to swipe for their fees and any other payments due to NUST. The POS machines proved to be of great relief to new applicants who previously had to endure long hours at the bank paying their application fees. At the same time, POS machines were received with joy by other clients who had payments to make to NUST for example those buying tender documents.

3. Schools Liaison

The Communication and Marketing Officer had limitations in carrying out the career guidance programme. There was no reliable transport to reach out to the rural schools and a number of invitations from the National Employment Services Division had

to be turned down.

personal vehicle. Schools visited were Hartzel and Nyanga High Schools in Manicaland Province Chipangura High School in Mashonaland Central Province, Maforanehmba and Tafara Venice High Schools in Mashonaland West Province.

4. Ceremonies

The Harare Office assisted the Alumni office in the preparations for the re-launch of the NUST Alumni Harare Chapter on the 5th of October at HICC. The ceremony was graced by the NUST Vice Chancellor Prof M Dlodlo and it brought together NUST graduates, NUST Council members and staff members The Faculty of CIS held a conference in Harare HICC from 21-23 August 2018 under the theme “Safeguarding Cultural Heritage for Sustainable development”. The conference attracted both local and international delegates. The Harare office staff joined the faculty team from Bulawayo in making the conference a success.

The office played a key role in the preparations for the NUST 2018 graduation ceremony which was held on the 9th of November 2018.

The Communication and Marketing Officer attended the following graduation ceremonies:

University of Zimbabwe -10 October 2018
Bindura University of Science Education -26 October 2018
Harare Institute of Technology – 2 November 2018
Women University in Africa- 26 October 2018
Harare Polytechnic -17 August 2018

5. Acquisitions

The office acquired a TV for the reception which is being used to air NUST promotional videos.

6. Challenges

The office is in dire need of a reliable vehicle to facilitate the outreach programme and also carry out daily errands efficiently

The university activities in Harare together with high volume of students present indicates that it is time NUST had its own premises to accommodate all the activities and students under one roof.

Centre for Continuing Education



Prof. Stanley Mpofu
Director

1. INTRODUCTION

The year 2018 surpassed most previous years whose performances had stagnated. While the Key Result Areas of Outreach, Online Learning and Research and Consultancy remained handicapped, pronounced growth occurred in the IT-Professional Development key result area. Out of the forecast target of 1100 participants, 920 were trained, courtesy of the multiple stakeholder engagements in place which inspired market confidence in the CCE. Gender ratios were virtually balanced at 50:50, except the Digital Skills Licence course where the female ratio was significantly

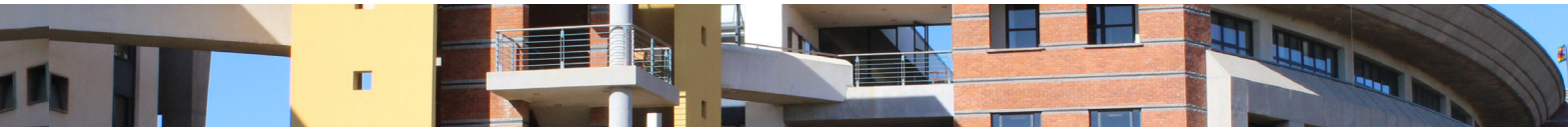
superior at 70/30. Mounting odds and challenges notwithstanding, the Centre fared extremely well in its efforts to address the training needs of all who grace its corridors and beyond.

2. STAFFING

The staffing level remained constant at 7 in post and one vacant Assistant Technician post. In line with the 2019 Work Plan, the Centre revised the job descriptions to enhance staff attention to duty.

3. TRAINING COURSES

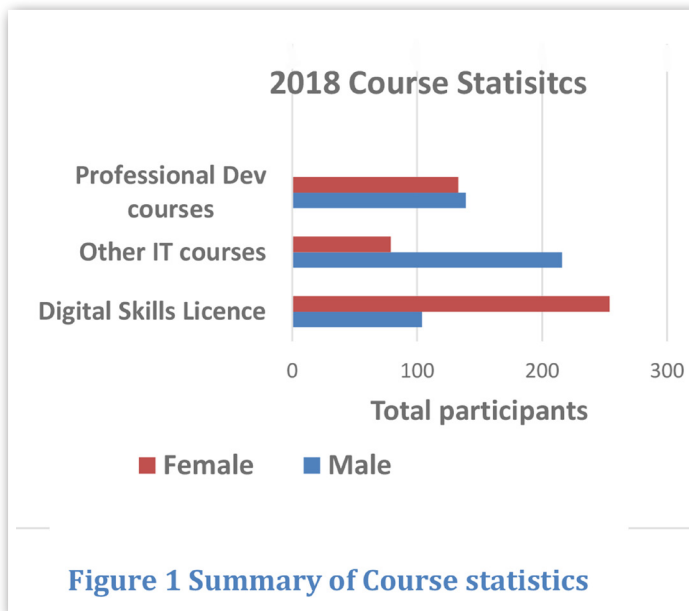
As Figure 1 shows, a massive 920 participants, of



which 464 were female and 456 male, were trained in 2018. This was a record increase of 37% on the output of 674 in 2017. A total of 653 were trained in IT courses, a remarkable 41% increase from the 462 trained in 2017. The Digital Skills Licence (DSL) continued its dominance accounting for 358 or 34% of the IT enrolment. The other computer courses (Computer Systems Support, Network Systems Support, Graphic Design, Computerised Accounting and AutoCAD) accounted for 295, including 214 by the Multimedia Institute of Tecknowledge (MIT) Pearson VUE Centre. The MIT received a boost through two Accreditation Agreements. One Agreement was signed with the British Council for the online testing of Association of Chartered Certified Accountants (ACCA) for their clients from the southern parts of Zimbabwe and the other with the Institute of Chartered Accountants of Zimbabwe (ICAZ) for the Initial Test of Competence (ITC) as

collaboration with the Royal Institute of Mining Finance, both new courses. Among the established courses were Security Management, Systemic Counselling, Occupational Health and Safety, Public Sector Human Resources Management, Supervisory Management, SHEQ Internal Auditors, and Project Management. Overall, the expanding curriculum density reflected broader market interests, albeit with the industrial courses remaining subdued in the face of market challenges. In all respects, 2018 proved quite a productive year for the Professional Development Short courses when compared to the stagnation of the past years.

Lastly, the dvv sponsored online education programme remained dormant with the dedicated lab being utilised for other IT courses. By year-end, logistics were underway to launch the online Management Development Programme for Old Mutual Zimbabwe Ltd.



4 OUTREACH ACTIVITIES

Activity remained subdued among the affiliate centres. In partnership with Simphiwe Development Trust, the CCE sponsored 16 prison in-mates from the Bulawayo Central Prison. Interest for affiliate status continued to grow through numerous inquiries from Schools, NGOs and private organisations offering a variety of short courses. The Centre participated at the six-day Homelink-sponsored workshop for 135 Matabeleland North and South Chiefs held in Bulawayo and Victoria Falls under the theme ‘Economic Empowerment for Sustainable Business Development in Rural Communities’. Realizing the need, the CCE subsequently developed the Traditional Leadership Course. However, uptake was still to materialize.

well as the Assessment of Professional Competence (APC) examinations for their clients.


For the Professional Development Short Courses, 267 were trained compared to 212 in 2017, representing a substantial growth of 26%. The bulk of the courses were in collaboration with external organizations, beginning with the Certificate in MicroFinance and Entrepreneurship in partnership with the Zimbabwe Association

The Computer Society of Zimbabwe and EC-Council accreditation fees were discontinued with effect from January 2018. The TelOne internet service continued to provide the requisite backup to the NUST service, especially in the event of power outages.

6 CHALLENGES

Budgetary constraints underlay most of the challenges the Centre had to grapple with. Noteworthy, were

for MicroFinance and Strategic Mining Finance in



physical challenges of lab furniture and fittings which remained in urgent need of attention. The elevator remained down throughout the year and so, too, was the need for the ramp at the main entrance to cater for the disabled. Lastly, the Centre was unable to market itself through advertising as previously planned. Despite concerted efforts by the NUST Security Department, Xerox (Document Centre) had still not replaced the defunct photocopier-printer, making bulk print jobs difficult.

7 FUTURE PLANS

Multiple plans to grow the Centre continue to receive top priority. In the midst of the harsh economy, the CCE stands ready to seize opportunities to intensify its Strategic Plan initiatives and activities to realise higher rates of return in terms of both career and income capital. Notable in this regard, is the drive to diversify both the partnership and course portfolios to enlarge the client base as well as enhance the entrepreneurial value of the training.

8 CONCLUSION

The year 2018 progressed quite positively, notwithstanding the economic challenges which continued to unsettle both plans and operations. The IT-Professional Development Short courses sustained the Centre's objectives with commendable gains and benefits. Overall, customer satisfaction, as gleaned from the evaluations, remained positive which, given

sufficient resources, can only be improved upon. The Centre is eager to retain its market niche in the face of external competition. It is our hope that some of the outstanding physical improvements will materialise in due course. Finally, we extend our appreciation for the professional support from units and departments at NUST; and the CCE staff members for their commitment to duty.

Stanley Mpofu, PhD
Director, CCE

RESEARCH AND INNOVATION OFFICE



Prof. Yogeshkumar Naik
Director

1.1 STAFF

In 2018, RIO had an establishment of three (3) persons. The Office is headed by the Director who reports to the pro Vice-Chancellor-ARC. Other staff members of the office include a Chief Research Officer, a Research Administrator and a Chief Secretary. During the period under review the Office recruited one student (intern) on industrial attachment for a 12-month period. Their task is to disseminate the output of researchers at NUST. Post for Research Uptake Officer is still vacant, waiting for unfreezing of posts.

1.2 ACHIEVEMENTS

RIO hosted a number workshops to improve the skills of researchers at NUST. These are described below. In a reversal of the trend in 2017, in 2018 the attendance was generally good from the non-STEM faculties (Commerce, Communication & Information Sciences, Built Environment). However, attendance was, poor from STEM faculties (App Sciences, Industrial Technology and Medicine). Most workshops were attended by researchers in the Faculty of Commerce (seven) and Faculty of Communication and Information Science (two).

1.2.1 Manuscript Writing Workshop

A workshop on ‘Manuscript Writing’ was hosted on the 15th of June 2018. Eleven academic staff from the Non-STEM attended. The objectives of the workshop were to help participants to prepare and submit high quality manuscripts in peer reviewed journals by improving their writing skills.

1.2.2 Introduction to SPSS Workshop

RIO hosted a workshop on ‘Introduction to SPSS’ from the 19th – 20th March (STEM) and 7th – 8th June (non-STEM). The objectives of the workshop was to help participants to create data sets in SPSS, to analyze data using SPSS and to interpret SPSS output. The topics covered ranged from creating SPSS datasets to conducting statistical tests in SPSS with participants suggesting that a course covering statistics should be conducted before moving over to the use of SPSS. This will be implemented in 2019.

1.2.3 RESEARCH ETHICS WORKSHOP

Research Ethics Workshop was held on the 13th of June 2018 for the non-STEM faculties. Nine academic staff attended the workshop which was aimed at assisting researchers conduct their researches in an ethical way and be aware of the ethic norms they are supposed to adhere to.

Participants indicated that the workshop on ethics should be run at faculty level to enable more researchers/academics be sensitized on conducting their research in an ethically acceptable way, handle properly human and animal subjects

1.2.5 Literature Databases Workshop Report

RIO and the NUST Library organised and conducted a workshop on ‘Literature Databases’ on the 11th June at the NUST Library, Electronic Resources Centre. The objectives of the workshop were to (i) strengthen the knowledge and skills required for the effective use of electronic information, and (ii) to encourage greater use and increased impact of electronic information resources. At the end of the workshop, the participants indicated that attending such a workshop was going to increase their usage of electronic databases in the NUST library.

1.2.6 Annual Research Day

The Sixth NUST Annual Research Day was held on the 11th of October 2018.

Table 1. Number of Presentations at the NUST Research Day per Faculty

Faculty	Number of Abstracts Received	Number of Presentations
Applied Sciences	14	12
Built Environment	00	00
Commerce	03	03
Communication and Information Science	02	01
Industrial Technology	02	02
Medicine	01	00
Science and Teacher Education	01	01
Total	23	19

For each faculty monetary prizes (sponsored by the Research and Development Board) were awarded to the presenters in the junior and senior categories. The panel of judges included the Deans of the 7 Faculties (or their nominees)

1.2.7 Research and Development Board

In 2018, the NUST Research and Development Board disbursed US\$112 843.01 towards Research Grants, US\$8 255.94 for Publication Fees and US\$86 238.53 for Travel Grants. The total figure disbursed was US\$207 337.50. Generally, most of the grants were awarded to researchers and academics in the Faculty of Applied Sciences.

a) Collaborative grants

i) Climate change and the report –ask CD focus on outputs as indicated in report

From 2016 – 2018, the RDB sponsored a collaborative research grant on climate change. The PI of the project was Dr A. Sebata. The researchers wrote a report titled “Livelihoods and Climate Change: Adaptation strategies for the livestock farmer in Beitbridge District, Zimbabwe”. A minimum of 4 manuscripts

are expected to be published from the research.

ii) New Grants on Energy and Water and their value and the titles of project and name of PIs

Two new collaborative grants on Energy and Water were approved in 2018. Each project will be funded up to \$20,000 per year for a period of 3 years. The Principal Investigator for the Water Project is Dr N. Basopo and the title is “Monitoring of aquatic pollution in some parts of Matabeleland”. The Principal Investigator for the Energy is Dr B. Mtunzi and the title is Promoting solar energy usage through local development of solar cells”

b) Research Grants

In 2018, the Research and Development Board approved 27 Research Grant applications. Ten (10) were from female applicants and 17 were from male applicants. The Faculty of Applied Sciences (34.4%) was allocated the highest amount of money, followed by the Faculty of Industrial Technology (33.5) and the Faculty of Commerce with 12.9%. The least amount went to Faculty of Medicine that got 3.6%.

c) Travel Grants

The Research and Development Board approved 53 applications for Travel Grants. Of these, 20 applications were from females and 33 were from male Applicants. The highest amount of funds were granted to the Faculty of Industrial Technology (33.5%) followed by the Faculty of Commerce (28.9%), the least amount was granted Faculty of Built Environment (1.9%).

c) Publication Fees

The Research and Development Board had approved 20 applications for Publication fees. Four (4) were applications from females and the 16 were from males. The Faculty of Medicine (62.5%) was allocated the highest amount of money and no requests were received from the Faculties of the Built Environment and Communication and Information Science.

d) Scholarly articles and publications

During the year, academic staff and researchers at NUST produced 86 papers. The majority of papers 41 (47.7%) were published by academic staff from the Faculty of Applied Sciences.

1.3 OUTREACH PROGRAMMES

1.3.1. Zimbabwe Journal of Science & Technology

The journal now has regular contributions from authors around Africa, publishing one issue per year. Each issue takes 15 papers, normally by Zimbabwean authors, Nigerians, Swazis, Ethiopians, Tswanas, and South Africans Under the careful guidance of Prof AH Siwela (Editor) the journal is flourishing and is now oversubscribed. Plans to have the journal registered with African Journals online (AJOL) are at an advanced stage

1.3.2. Southern Africa Journal of Communication and Information Sciences

RIO has convened meetings to launch this new journal to cater for articles from authors in the Communication and Information Science disciplines. The Editor of the journal is Dr P Dewah, from the Department of Records and Archives (NUST)

1.3.4. Focused research clusters/groups

In 2018, RIO spearheaded the formation of 5 focused research clusters, These are Climate Change Cluster, Rural Livelihoods Cluster, Statistics Cluster, Small to Medium Enterprises Cluster and the Renewable Energy Cluster The research clusters were formed after realizing that researchers at NUST are not working together, research activities are mainly fragmented. The clusters are meant to strengthen people and bring researchers together, so as to increase the quality and quantity of research output at NUST.

1.4 CHALLENGES

RIO would like to engage more researchers at NUST in developing their research skills. However, the limited budget does not allow for these activities. It is hoped that in 2019 there will be an allocation for training as well as subscriptions to databases offering funding opportunities.

1.5 PLANS FOR THE FUTURE

In 2019 the RIO will

- a) Coordinate the establishment of an IRB at NUST
- b) Revise 2 policies, the Research Policy and Research



Ethics Policy; and implement them.

- c) set up a committee of Faculty Research Representatives for to coordinate research activities at faculty level and assist in research dissemination
- d) assist academic staff to apply for external sources of funding.

1.6 OTHER ACTIVITIES

a) During the year The Director served as the 'Project Lead' on the 'Science Granting Councils Initiative' (SGCI) for SARIMA. The SGCI aims to empower Science Granting Councils in 15 Sub Saharan countries to fund and manage research projects on issues of local significance.

b) The DAAD German Academic Exchange Service awarded a grant for Masters scholarships to a consortium of seven African institutions from Cameroon (1), Lesotho (1), South Africa (1), Zambia (2) and Zimbabwe (2). The main aim of the project is to strengthen the postgraduate programmes of the participating universities in the fields of agricultural and environmental studies. The DAAD scholarships will cover tuition fees for studying at the University of Pretoria, travel costs, accommodation, medical aid and subsistence.

c) Erasmus Mundus is a programme funded by the European Commission. Its aims are to encourage mobility (long-term and short-term) of students and staff. The major objective of the programme is to enhance quality in higher education through scholarships and academic co-operation between the EU and the rest of the world. The current programme involves different categories of the NUST community getting travel fellowships visiting University of Uppsala (Sweden) in 2018-19 during varying periods. In 2018, some staff members and students visited the University of Uppsala; and 2 staff members from UU visited NUST.

Prof. Yogeshkumar Naik
Director

INNOVATION HUB

Previously known as TECHNOPARK



Dr. Eli Mtetwa
Director

A. ACTIVITIES IN 2018

i. NUST-ARIPO-ZIPO Intellectual Property Seminar

On the 26th to the 27th of March 2018, the African Regional Intellectual Property Organization (ARIPO) an intergovernmental organization which contributes to the protection of Intellectual Property in its 19 member states, in collaboration with the National Patent Office of Zimbabwe, the Zimbabwe Intellectual Property Office (ZIPO) and the National University of Science and Technology (NUST) held the ARIPO Roving Seminar on Intellectual Property

in institutions of higher learning in Zimbabwe. ARIPO has held similar seminars in some of its member states and the one for Zimbabwe was held at NUST with the facilitation of the Technopark Department.

The purpose of the two day seminar was to introduce academics to the usage of the Intellectual Property Protection system in stimulating science, technology and innovation.

The seminar participants were urged to approach ARIPO for assistance as well as to attend training sessions at the ARIPO Academy in Harare which offers

training courses on various aspects of Intellectual Property.

ii. NUST-AMERICAN SPACE

The NUST-American Space has continued to provide an excellent service to NUST students as well as students from in and around Bulawayo. A number of students have managed to secure scholarships to study at American Universities after accessing the various resources at the Space. The Space offers free internet access as well as up-to date educational materials.

B. TECHNOPARK TRANSITIONS TO INNOVATION HUB

In order to implement the new national strategic imperatives of the Ministry of Higher and Tertiary Education, Science and Technology Development, under its Education 5.0 policy, which calls for the commercialization and industrialization activities by state universities, the National University of Science and Technology (NUST) has upgraded its Technopark into an Innovation Hub. The Innovation Hub is a unit under the office of the Pro-Vice Chancellor, Innovation and Business Development. The Innovation Hub has a mandate to see to it that innovative research outputs and other market led business opportunities will be commercialized. The Innovation Hub Concept encompasses the following; an Industrial Park, Science Park and Business Park. The Industrial, Science and Business Parks will act as innovation spaces for product and service development. The first phase of the Innovation Hub is at an advanced stage of construction and is expected to be completed in the coming few months.

Mr. Aleck Ncube, who is the Intellectual Property Educator, is the Acting Director of the Innovation Hub.

MAJOR FUNCTIONS OF THE INNOVATION HUB

The major functions of the NUST Innovation Hub would be to:

- Evaluate the results of R&D projects expected to have commercial potential
- Raise Awareness of Intellectual Property
- Apply for patents and other forms of IP protection
- Market technologies

- Provide expertise and technical assistance to the local researchers, Innovators and SMEs
- Establish national and international strategic alliances in areas important for successful technology transfer.
- Incubate Start-Ups and Spin-Offs

The Innovation Hub will serve to assist faculties and researchers in identifying research results that have commercial value and document the discoveries through a disclosure process.

The Innovation Hub will also determine whether or not to protect IP rights in an innovation; secure funding for filing patents, trademarks, or copyright applications; and manage the protection process. The Innovation Hub seeks to conduct market research to identify potential industry partners, and then market the innovations.

The Innovation Hub Office is envisaged to negotiate legal contracts (license agreements) with industry partners to transfer IP rights in the innovation in exchange for royalties or other considerations. The goal is to negotiate a fair arrangement that facilitates and assists the commercial partner in successfully developing and marketing the product, rather than simply seeking to negotiate the absolute highest fees and royalties in the agreement. Developing industry partnerships is envisaged to lead to many unexpected benefits, such as sponsored research, student employment opportunities, consulting opportunities, and even philanthropic donations to the institution.

***Compiled by:
Aleck Ncube, Acting Director,
NUST Innovation Hub***



INFORMATION AND COMMUNICATION TECHNOLOGY SERVICES



Mr. Clifford C. L. Sibanda
Director

1.1 INTRODUCTION

Information and Communication Technology Service (ICTS) is a Support Department that provides a fully integrated, efficient and dynamic information system to service the information needs of the Students, Academic Staff, Library and the Administration in order to enhance their learning experience, teaching, research and general work.

1.2 NETWORKS & INFRASTRUCTURE HARDWARE SECTION

This Section of ICTS is responsible for the installation and maintenance of all ICT backbone infrastructure including the fibre cables, copper cables, routers, switches, servers and Wireless Access Points. In 2018, the highlights and projects for the Networks and Infrastructure Hardware are summarized below.

a. IPv6 Deployment

As the university prepares for IoT and all the research enabled by the IPv6 the University has designed and tested internally the deployment of this technology. The work is expected to be completed in 2019 after consultations with our service providers.

b. INNOVATION NETWORK

Work commenced on networking the Innovation hub. This work is expected to be completed in 2019. Work on the “prefabricated structures” is also expected to be completed in 2019 with the designs having been done in 2018.

c. VoIP Project Brief

The project has been implemented to about 60%. This was as a result of lack of funding. In the 3rd Quarter of 2018 the University encountered a telephone outage due to the malfunctioning of the HiPath 4000. To return the University communication system to normal, the ICTS Department combined the VoIP System and the PBX which is prior 2007 PABX. This

HUB

has resulted in some users operating on VoIP and others on PSTN.

4. EDUZONE WiFi for Students

Liquid Telecommunication is offering a free service for internet provision for students in universities in Zimbabwe. NUST is also benefiting from the service that Liquid Telecoms is providing. In this project they install wireless access points on the campus for internet access.

Installation of fibre linking Students Residence, Sports Fields, Commerce Building, Chemical Building and Administration Block was completed. The table below shows the number of ruckus access points installed per site. Currently all APs at Students Residence are working, for the remaining sites, Liquid is sourcing 8 port POE switches to connect the installed APs.

Ser	Location	AP Model	Type of AP	Quantity
1	Administration Block	Ruckus T301S	Outdoor	2
2	Commerce	Ruckus T301S	Outdoor	3
3	Chemical Engineering	Ruckus T301S	Outdoor	2
4	Sports Pavillion	Ruckus T301S	Outdoor	2
5	Students Res D-Block GrndFl	Ruckus R500	Indoor	1
6	Students Res C-Block GrndFl	Ruckus R500	Indoor	1
7	Clinic Roof	Ruckus T301S	Outdoor	1
8	Students Res B-Block GrndFl	Ruckus R500	Indoor	1
9	Students Res B-Block Roof	Ruckus T301S	Indoor	1
10	Students Res W1-Block GrndFl	Ruckus R500	Indoor	1
11	Students Res W1-Block Roof	Ruckus T301S	Outdoor	1
12	Students Res W2-Block GrndFl	Ruckus R500	Indoor	1
13	Students Res W2-Block Roof	Ruckus T301S	Outdoor	1
14	Students Res A-Block GrndFl	Ruckus T301S	Outdoor	1

1.3 Systems and Software Development

The Systems and Software Development Section is responsible for all software applications and systems. The Section develops, acquires and installs University identified software. The Section is also responsible for developing and maintaining the University Website. In 2018, the highlights and projects for the Section are as summarized below.

a. Enterprise Resource Planner Upgrade

The current enterprise resource planning (ERP) was upgraded from Microsoft Dynamics NAV 2009 to the latest version of Microsoft's ERP solution Microsoft Dynamics NAV 2017.

New key features are:

- Integration of NAV 2017 with Dynamics 365 (CRM)
- e-Everything: The features of Dynamics NAV 2017 in the field of Finance makes it easier for



your clients to pay online invoices by including hyperlinks to the payment services, such as PayNow, Banks etc.

- Power BI - Building upon an already powerful integration with Power BI, you can now easily create insightful charts and reports, and then embed them within your Dynamics NAV 2017 role centre. It can make use of Optical Character Recognition (OCR), to help you track the items like transcripts and Certificates
- User experience - browser-based interface

b. Mobile Application

NUST mobile application was developed and deployed on Google Play Store, the current rating is 4.4

- Features include :
- Results
- Payment history
- Academic details
- Personal details
- Queries
- Registration

c. E-learning Platform

The Learning Management System was integrated with Turnitin to provide Lecturers with the tools to detect plagiarism, engage students in the writing process, and provide personalized feedback.

d. Website

The following five (5) additional Websites we designed, developed and deployed.

- Zimbabwe Journal of Commerce and Management Sciences
- Zimbabwe Journal of Science and Technology
- Student Records and Admissions
- Faculty of Medicine
- ICCIS 2018
- Faculty of Commerce

e. Online Application

The department designed, developed and deployed an Online Application Platform

1.4 User Support and Training Section

This section forms the ICTS Department's first port of call, via the helpdesk. Users can call in physically, call via the telephone and email or log requests online. The User Support Team then logs and allocates the requests to appropriate personnel in ICTS to attend to the query.

In its daily functions, the User Support Team identifies necessary training for both users and ICT personnel in response to the requests received through the Helpdesk.

Mr. Clifford C. L. Sibanda
Director

INTERNAL AUDIT



Mrs. Sitshengisiwe Nkomo
Internal Auditor

STAFF

The staff complement of the Internal Audit section is six that is;

- The Internal Auditor
- Two Assistant Internal Auditors
- Two Chief Audit Assistants and
- The Chief Secretary

Currently the posts of Assistant Internal Auditors are vacant and they have been vacant for the past five years due to a government freeze on vacant posts.

TRAINING

The Internal Audit section attended the following workshops for continuous professional development.

- A boot camp on Advanced Fraud and

Corruption Investigation organised by the Institute of Forensic Auditors, held in Harare's Cresta Oasis Hotel on the 12th to the 14th of September 2018 and attended by the Internal Auditor.

- A sensitization training workshop on Public Procurement and Disposal of Public Assets organised by the Procurement Regulatory Authority of Zimbabwe, held at the Village Lodge in Gweru on the 15th to 17th of October 2018 and attended by the Chief Audit Assistant Ms C.M Msipa.

- A workshop on the Standard Bidding Documents organised by the Procurement Regulatory Authority of Zimbabwe, held in Bulawayo (Trade Fair Grounds) on the 12th to the 13th of November 2018 and attended by the Internal Auditor.

INTERNAL AUDIT ENGAGEMENTS FOR THE YEAR 2018

The Annual Audit Report covers the audits completed during the year 2018 and it is directly aligned to the 2018 Annual Audit Plan except for special investigations reports. The report represents an overview of the key findings from those audit reports. The Internal Audit section completed the following audit work and provided management with findings and recommendations to assist in initiating improvements to operations and to strengthen internal controls:

(a) Teaching and learning environment at NUST

The National University of Science and Technology did not have published Quality Assurance Standards as required by the Zimbabwe Council for Higher Education (ZIMCHE). The Quality assurance structure for the University needed to be centralised through the creation of a Quality Assurance office. Monitoring and follow-ups needed to be strengthened as the teaching and learning processes were deteriorating due to lack of supervision and commitment by both Management and Lecturers. There was need to increase teaching space and other facilities to match increases in enrolment so as to provide a conducive learning environment. The Teaching and Learning Environment at NUST audit report dated 14 May 2018 gives a detailed analysis of findings and recommendations.

(b) Vehicle Repairs and Maintenance

The condition of NUST vehicles continued to deteriorate despite the University having employed a full time Auto Electrician and Mechanic, and the Bursar releasing funds for repairs. The NUST fleet had dwindled due to non replacement, poor maintenance, poor handling and overuse of the available vehicles. The Vehicle Repairs and Maintenance audit report dated 10 October 2018 gives a detailed analysis of findings and recommendations.

(c) Assessment of Controls over Building Material for Projects

There was no clear audit trail between the issue of stock to site, receipt on site, issue to the project

Foreman and the balances. The Security Observation Book could not be used as a reliable source document for reconciling stock as some of the deliveries were off loaded in the absence of the Security personnel as there were no stringent conditions in the delivery process. Proper controls over the management of projects and projects material should be put in place and qualitative and quantitative reports on the use of material should be produced.

(d) Special Investigation: Payment of 15% superannuation allowance

The objective of the special investigation on the payment of superannuation allowance was to assess the internal controls in the engagement process for short-term contracts and the risks emanating from the engagement process. It was noted that some employees on short-term contracts were accorded full time employment conditions resulting in pension being deducted from their salaries. Due diligence was to be exercised by the Registrar's office (Human Resources section) in the engagement process to avoid unnecessary human errors in the interpretation of engagement letters.

CHALLENGES

- The staff freeze by the Government of Zimbabwe has negatively affected the operations of the Internal Audit section as two vacant positions of Assistant Internal Auditors have not been filled since 2013 and 2014 respectively.
- The absence of a functional Risk and Audit committee despite its setting up in 2018 due to the non-availability of the Chair person of the committee. The committee would enhance the implementation of the audit recommendations.

PLANS FOR 2019

- To acquire an Audit Software (Computer Assisted Audit Techniques). Transformation of the traditional (manual oriented) internal audit function to one that needed to adopt the use of technology - enabled tools and techniques in order to deliver on its mandate.
- To lobby for the recruitment of the Assistant Internal Auditors.
- Acquiring adequate computer equipment.
- Awareness seminar on the Internal Audit function in the organisation.

PHYSICAL PLANNING, WORKS AND ESTATES



Dr. Peeps Gonde
Acting Director

1.0 INTRODUCTION

The Department of Physical Planning, Works, and Estates (PPWE) continues to occupy a strategic role in the fulfillment of NUST's vision. PPWE continued to increase teaching space, maintain the existing buildings, water reticulation, transport provision and landscape. NUST Garden and Mamre Farm have also been added as the Department's responsibility.

2.0 STAFF ESTABLISHMENT

There were no recruitments during the year owing to the freezing of posts. The Department relied on

contract workers for its various projects and farming activities. However, requests to recruit the Projects Officer, Plumber and Assistant Technicians were forwarded to the Registrar's Department for action. It is hoped that these would be appointed in this year 2019 in order to alleviate the persistent shortage of critical within the Department. The vacant post of the Director has already been advertised.

Establishment	In Post	Vacant
101	44	57

The Department saw two drivers retiring on attaining

the mandatory retirement age. On a sad note, the Department lost an assistant plumber due to illness.

3.0 PROJECTS AND PROPERTY MAINTANANCE

The Department of PPWE is engaged in project of innovation hub, prefabricated structures, gate house, and general maintenance. Each is discussed in turn, in the subsequent paragraphs.

3.1 Innovation Hub

The construction of the Innovation Hub Project started in April 2018 with an estimated completion date of 31 July 2018. However, due to environmental factors such as price fluctuations, inadequate funding and resistance from some suppliers; the project could not be completed within the estimated timelines.

3.2 Prefabricated Structures

In an effort to increase to increase teaching space within the University, the Department embarked on the construction of Prefabricated Lecture Halls. The first phase of the project is expected to accommodate 1 000 students at any given time and is expected to be complete by March 2019.

3.3 Gate House Project

Phase one of the Gate House Project was completed and handed over to the user Department in October 2018. The Department is currently working with the donor (PPC Zimbabwe) on the finalization of phase two designs.

3.4 Challenges in property Maintenance

Burst water pipes continued to be a menace on the University's operations. Frequent power outages and waterproofing of buildings also presented the Department with challenges.

3.5 Plans for the Future on Property Maintenance

The Departments' objective for the 2023 Strategic Plan include, among other activities, construction of a new water reticulation system that will not be prone to pipe bursts. It is also the Department's objective to clear the maintenance backlog by the year 2023.

4.0 TRANSPORT

Nine vehicles were disposed of in 2018 due to their age and scarcity of the spares, inflation also played a

pivotal role in the challenges to maintain the vehicle. The plan was to auction the old fleet entirely and acquiring new vehicles as replacement. The exercise was futile due to inadequate funding.

4.1 ACHIEVEMENTS

a. Four vehicles were acquired from Amtec in 2018, comprising a Nissan Urvan 16 seater, and three vehicles Nissan NP 300 twin cabs. These vehicles have had a significant impact in our Transport Section meeting transport demands; especially industrial attachments visits.

b. A 71 seater Golden Dragon bus from FAW Zimbabwe was also purchase towards the end of 2018.

5.0 NUST FARM

In Mamre a prefabricated structure, kitchen shed, toilet and a bedroom dwelling were constructed. Two caretakers were hired and are currently housed in these structures. The Department of Civil and Water is carrying out a feasibility study to draw water from the Mananda Dam; and this exercise is expected to be completed in March 2019.

6.0 NUST GARDEN PROJECTS

A total area of two hectares was cleared in the interim whilst more land will be cleared subject to the availability of ground water. Pilot projects saw the successful planting and harvesting of vegetables such as cabbages, onions and tomatoes. These produce were profitably sold to the NUST community. Exploratory work is underway to identifying more profitable vegetables that may be produced throughout the year as well as adopting suitable technology to enhance productivity.

*Dr. Peeps Gonde
Acting Director*



REGISTRAR



Mr. Fidelis Mhlanga
Registrar

INTRODUCTION

The Registrar's Department headed by the Registrar, performs its functions through units in the Academic Registry headed by the Deputy Registrar (Academic), Administration under the Deputy Registrar (Administration) and the Student Affairs Division headed by the Dean of Students.

The Registrar's Department is characterised by dynamism reflected in its continued provision of secretarial services to respective University Committees, support services in enrolment of students and student record management, conduction

of Examinations, provision of Security, Staffing, Cleaning services, Central administrative services to all sections of the University, as well as Student Support Services. The thrust of the department in the year under review was to provide personalized attention to students and stakeholders of the University. This report focuses on efforts and the progress made during 2018. We enthusiastically performed our role in supporting University initiatives, specifically our contribution to the formulation of the 2019-2023 NUST Strategic Plan. Such performance is attributed to the commitment of staff, despite the economic challenges currently prevailing in the country. Staffing

The following table summarises the level of staff in post in the Registrar's Department against the authorised establishment as at 31 December, 2018.

Table 1

Section	Establishment	Number in Post	Vacant
Registrar Office	8	8	nil
Admissions and Student Records	13	12	1
Examinations	9	8	1
Human Resources	18	12	6
Central Services	106	98	8
Security	151	103	48
Student Affairs	20	19	1
Total	325	260	65

The Registrar's Department is mandated with ensuring that the University has relevant human skills to efficiently and effectively meet its goals. The combined total number of staff was 1076 as at 31 December 2018. The tables below show a summary of Teaching and Non Teaching staff totals in the University.

Table 2 - Teaching Staff

Staff Category	Total in Post
Professor	18
Senior Lecturer	28
Lecturer	324
Research Fellow	20
Teaching Assistant	1
Staff Development Fellow	7
Research Assistant	2
Totals	400

Table 3 - Non Teaching Staff

Senior Administrative Staff	27
Middle Administrative Staff	67
Secretarial & Clerical Staff	172
Technical Staff	103
Junior Non Academic Staff	307
Totals	676

ACHIEVEMENTS

Notwithstanding the unfavourable economic conditions that prevail in the country the Registrar's Department achieved some of its goals. The

achievements are outlined under the following Sections of the Department:

Admissions and Students Records

Total student enrolment in the University has been characterized by a steady increase in the last 4 years, with the year 2018 recording the highest ever total student enrolment. The increase over the years has been from a total of 8 651 in 2015 to a total of 10 820 in 2018. Similarly, at Faculty level enrolment has been gradually increasing, with the Faculty of Commerce dominating enrollment by 39% followed by the Faculty of Applied Sciences at 22%. The steady rise of the total enrolment is clearly shown in table 4 below.

Table 4

FACULTY	2015	2016	2017	2018	Average
APPLIED SCIENCE	2123	1887	1908	2389	2076.75
THE BUILT ENVIRONMENT	509	551	1025	1098	795.75
COMMERCE	3597	3651	3327	4024	3649.75
COMMUNICATION AND INFORMATION SCIENCE	704	737	664	747	713
INDUSTRIAL TECHNOLOGY	1358	1399	1819	1871	1611.75
MEDICINE	104	139	166	201	152.5
SCIENCE AND TECHNOLOGY EDUCATION	256	359	489	490	398.5
GRAND TOTAL	8651	8723	9398	10820	9398

The University's achievements in enrolment impacted positively on the number of graduates that the University churned out in 2018. The increased enrolment translated into an increase of the number of graduates that the University produced. As shown in the table below there was an increase of 4 % in 2018 compared to the preceding year.

The Department through the Academic Registry implemented the first phase of the online qualification verification system by accredited institutions to expedite the processing of requested verifications for our graduates. The first phase entailed inserting a Quick Response Code (QR Code) on the University Degree Certificates and Transcripts.

Examinations

The operational efficiency of the University's

examination system was largely improved in the year under review mainly due to the acquiring of a Canon state of the art photocopier which has a speed of 85 papers per minute.

SECURITY SERVICES

There was a decrease in criminal and traffic offences within the University precincts by 98% and 318% respectively, compared to the previous year. The installation of CCTV improved the University's capacity to detect criminal activities.

HUMAN RESOURCES

In compliance with the Labour Act, the University formed and registered the Works Council and that was a milestone in the management of labour related issues by the University. The formation of the Works Council brought together the teaching and non-teaching staff and Management, thus creating a common sense of purpose and a conducive environment for resolving labour issues.

In enhancing the recruitment of quality staff, the University introduced pre-employment tests relevant to respective technical job categories through Human Resources, Information and Communication Technology Services and the Department of Sports Science and Coaching.

CENTRAL SERVICES

The Central Services Unit performed to satisfaction its planned activities that included the maintenance of a conducive teaching and learning environment, the creation of a healthy and safe working environment, improvement of staff accommodation and efficient provision of mail services.

SPORTS AND RECREATION

The seventeen sports disciplines on offer at the University were accorded opportunities to compete in City leagues.

TRAINING AND CAPACITY BUILDING

The Department continued in 2018 with its programme of training and capacity building through approval of requests for funding by staff to study for various

Degree and Diploma programmes. As at 31 December 2018, a total of 3 PhDs, 7 Masters, 19 Bachelor and 4 Diplomas were approved by the Department through the Non-Academic Staff Development Committee.

CONTRIBUTION TO THE STRATEGIC PLAN

The University began the process of formulating a new 2019 - 2023 Strategic Plan which was coordinated by the Registrar's Department.

FUTURE PLANS

1. The Department intends to finalise the Code of Conduct and have it registered in the coming year.
2. In order to cut costs through embracing of technology, the Department through the Examinations Office intends implementing a system of sending encrypted Examination Question Papers and PhD theses online to External Examiners as opposed to using international courier agents.
3. The Department plans to fully operationalise the online application system as part of efforts to reduce the cost of producing application forms and expeditious processing of applications.
4. In view of the ongoing process of formulating a new strategic plan, the Department plans to develop and train staff on Performance Management System that will address the strategic plan directions.
5. In line with the expectations of the Labour Act and the Zimbabwe Council for Higher Education, plans are underway to review the University Staff Handbook.
6. In enhancing the security of University environs, measures will be taken to introduce access control systems in liaison with the Department of Information, Communication and Technology Services (ICTS).

F Mhlanga
Registrar

DIVISION OF STUDENT AFFAIRS



Dr. Sibongile Kamusoko
Dean

INTRODUCTION

The Division of Student of Affairs sought to provide quality student support services (SSS) to enable students to achieve their academic goals. In its concerted effort to provide the New Millennium learner SSS, the Division of Student Affairs took a major leap forward to set a transformational agenda by aligning its programmes to suit the learner in question. As such, the Division of Student Affairs provided an array of services such as acculturating the multi-ethnic students into the university system, psycho-social and spiritual counselling, career guidance, sport and recreational

services. Furthermore, the Division garnered for quality student accommodation, catering, out-of-class activities and preventive and curative student health services, among others. In addition to that, various programmes were carried out to facilitate effective student leadership. Having adopted a paradigm shift in how tertiary institutions globally approached the provision of SSS, the Division also worked boldly and strategically to transform the mindset of policy makers through the bottom-up student and staff centred approach that was available to everyone. The Division of Student Affairs staff worked tirelessly to ensure that the voices of the institution's critical

stakeholder, the student, were heard within the institution's structures, the Ministry and relevant stakeholders such as landlords. What a privilege to have been able to walk this year with the entire Division of Student Affairs family!

STAFFING

For the most part of the year, staffing remained the same. The Sports Administrator position was filled by Ms J Siziba. The Chief Nursing Sister, Mrs S Mazivisa, who served for five (5) years left for greener pastures. The Chief Secretary, Mrs K Ncube retired having served the University for twelve years (12) years. The Division is yet to fill these positions. On a positive note, Ms S Madhodha graduated with an MSc degree in Marketing. Accordingly, the Division of Student Affairs congratulates her for her achievement.

ACHIEVEMENTS

The achievements of the Division of Student Affairs are as outlined in the following units of the Division:

COUNSELLING SERVICES

ACTIVITIES CARRIED OUT AND LEVEL OF SATISFACTION

The Counselling Services Centre dealt mainly with issues to do with academic performance, psycho-social issues, suicidal ideations, psychosis, fees, choice of programme, bereavement, truancy, socio-economic issues, accommodation, HIV counselling, Gender Based Violence, sexual harassment, Sexual Reproductive Health (SRH) and addictions. The Department works in collaboration with other stakeholders within and outside the University as different Faculties make referrals for students and other members of staff for group or individual counselling. SAYWHAT and NAC were involved in the SRH trainings of our peer educators. The Department also conducted the Health Expo. The counsellors attended a counselling seminar, SAYWHAT youth conference, training workshops as well as a Psychologist Supervisors Workshop. There is need for continuous peer educators training as the trained ones either graduate and leave the university year after year or are away on attachment. Figure 1 below depicts the cases attended to by the Counselling Services unit during the year under review.

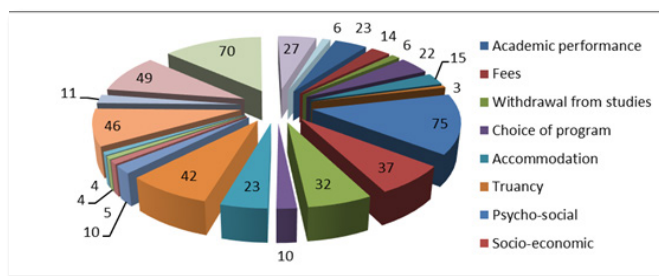


Figure 1: Cases attended to by the Counselling Services unit.

CLINIC

During this period, three thousand nine hundred and eighty seven (3987) clients were treated for various ailments compared to three thousand nine hundred and sixty (3960) in 2017. Twenty-four (24) patients were referred to United Bulawayo Hospitals, Premier Hillside Hospital, Mater Dei and Ingutsheni Hospitals with five (5) admissions. On a positive note, there were no fatalities. The Clinic continued to offer Family Planning and HIV Testing services and those who tested positive were initiated on ART. During this period, the Clinic conducted Health and Wellness Expos in collaboration with various stakeholders such as ZNFP, NAC, PSI and SAYWHAT. The Clinic provided health services during examinations and sporting activities as well. To effectively provide services offered by the Health unit, there is need for recruitment of more staff to service the totality of NUST students. Currently, the Clinic staff is very thin.

CAREER GUIDANCE AND EMPLOYMENT

The Career Guidance and Employment Office organised a number of career guidance activities such as short seminars on entrepreneurship, soft and life skills, scholarships and the Annual Career Fair to enable students to make informed career choices. On the employment front, the Office referred a number of students to various companies and organisations for interviews, either for part-time employment, graduate learnership or industrial attachment. During the period under review, the Office successfully organised and hosted the 5th Annual Career Consultation and Guidance Fair on 28th March 2018, with twenty one (21) companies attending. A total of five hundred

and twelve (512) NUST students attended the Career Fair, which was also attended by two hundred (200) other guests, including Members of Staff and the NUST Alumni. During the same period, a total of three hundred and sixty six (366) students attended presentations on careers, entrepreneurship and scholarships, while ninety seven (97) were referred for interviews. Eight students (8) were assisted with acquiring vending licences and two (2) were helped to secure full sponsorship from Zimbabweans in the Diaspora. See Figure 2 below.

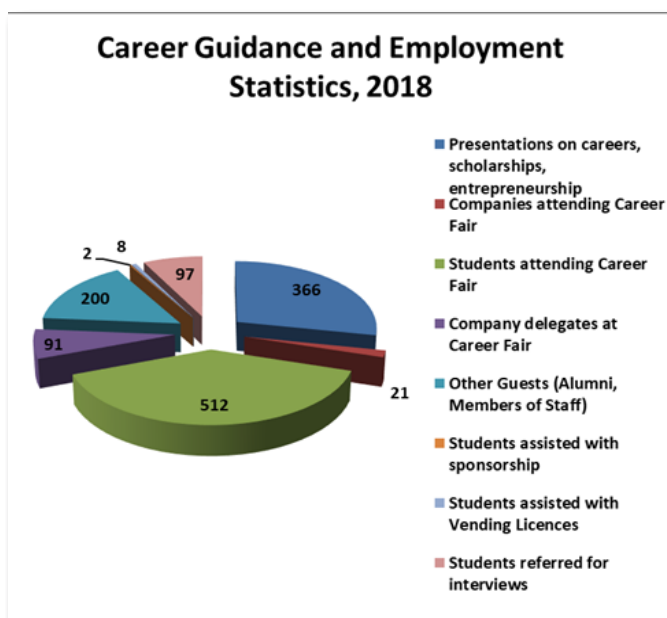


Figure 2: Career Guidance and Employment Statistics, 2018

The prevailing economic challenges have seen a number of companies that were recruiting our students, either on a part-time, full-time or graduate-traineeship basis, reducing the numbers or ceasing to do so altogether. Inadequate financial resources have limited our capacity to carry out company visits, organising students-employer interaction sessions on campus and running the Annual Career Fairs.

SPORTS AND RECREATION

The seventeen (17) sports codes on offer were accorded opportunities to compete in City leagues, National, Regional, Continental and International tournaments during the year 2018 as shown in the Table 1 below.

Table 1: NUST Sports and Recreation Award

Sports Discipline	ZUSA Medal	ZTISU Medal	CUCSA Medal	AHF Medal
Athletics	Silver			
Basketball Men				Gold
Basketball Women	Silver	Gold	Gold	
Chess Men	Silver	Gold		
Chess Women	Silver	Silver		
Cricket Men	Gold	Silver		Gold
Cricket Women	Silver			Silver
Darts Men	Silver	Gold	Gold	
Handball Men				Gold
Handball Women				Silver
Karate Men		Silver		
Netball				Silver
Pool Men	Silver	Silver		
Pool Women				
Soccer Men	Silver			Gold
Swimming	Silver			
Table Tennis Men	Silver			
Table Tennis Women	Silver		Silver	
Tennis Women	Silver			
Volleyball Men		Silver		Gold
Volleyball Women				Gold

The NUST volleyball team also participated in the Zimbabwe National Volleyball League and Mooketsi Njamba was awarded an individual prize of being the best setter of the season. Our cricket and basketball leagues also played in various league games and Mellisa Majonga was awarded the most valuable player in the women basketball category. The unit also managed to send a team of cricket players to Sri Lanka for the Red Bull Campus Cricket Tournament for the second time. The University sent individual athletes for chess and tennis to Ethiopia for FASU games which provided a rich learning experience for the athletes.

RESIDENCES, CAMPUS LIFE AND CATERING.

RESIDENCES AND CATERING

NUST continues to be plagued by very little accommodation available on campus. This scenario did not provide a conducive learning environment for

the majority of students that live off campus. Related to the above, the off campus students faced security risks such as mugging, theft of laptops and personal belongings among others. The off campus student challenges were further compounded by the sudden hefty rental increases of up to 25% in view of the prevailing macro economic meltdown in the country. As such, the Residences, Campus Life and Catering unit held many mediating meetings between students and landlords. On another sad note, one (1) suicide case was reported in the student residences during the period under review. The holistically on campus accommodation needs refurbishing to enable it to be in sync with the NUST brand.

CAMPUS LIFE

Clubs and Societies activities increased quite extensively with some Clubs representing NUST at inter-University and Regional debate competitions. ENACTUS scooped \$3700 as start-up money for their project on the reclamation of Delta plastic waste containers. ENACTUS however suffered a setback when they were denied VISAs to go to the Silicon Valley in America.

The Clubs Expo was a great success with over twenty five (25) Clubs showcasing their activities. There was a very successful launch of Elevate Trust Club whose activities are STEM oriented. Hult Prize Club made their mark by having two (2) teams which plan to go to Regional competitions in Ghana and Dubai in March 2019 all things being equal. The Cholera awareness programme took the centre-stage at NUST and the University invested a lot of resources to safeguard the lives of the students.

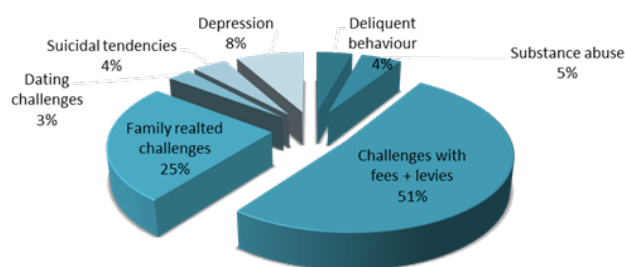
THE CHAPLAINCY ON-CAMPUS MINISTRY ACTIVITIES

During the period under review, there were thirty-one (31) on-campus ministry groups registered with the Chaplaincy Office. Two (2) on-campus inter-faith meetings were organised successfully from the Chaplaincy Office.

The Chaplaincy unit also hosted sixty five (65) students from Midlands State University (MSU) for an On-Campus Sunday service and another seventy three (73) students from Great Zimbabwe University.

Students continued to face challenges with places of worship as they still do not have allocated rooms due to space shortage. In view of the above, the University administration is encouraged to prioritise the construction of a Chapel in their short term construction activities. The Chaplaincy Office continues to receive funding requests from students who are hard hit by the difficult economic environment. Figure 3 shows the statistical figures of the one hundred and thirty-eight (138) students attended to by the Chaplaincy Office.

Figure 3: Students seen by the Chaplaincy office in 2018



During the period under review, the Chaplaincy Office recorded fifteen (15) student deaths. The Chaplain was able to attend eight (8) student's funerals. The difference was reported after funerals, rendering it too late to attend the funerals. The causes of the deaths included road accidents, muggings, sudden death and suicide.

VULNERABLE AND UNDERPRIVILEGED STUDENTS

There were two hundred and fifty two (252) students sponsored by Higher Life Foundation scholarship (252), and eight (8) were sponsored by the Anglo-American Chairman's fund, while four (4) were assisted by the Campaign for Female Education (Camfed) fund. The Chaplaincy Office was the link on Campus for these donor institutions.

ZIMBABWE UNIVERSITIES ASSOCIATION FOR CHAPLAINS (ZUAC)

The Chaplaincy Office participated in two (2) out of the five (5) planned meetings. ZUAC presents a great

forum for the Chaplains networking. Meetings were held at Africa University, MSU, UZ and CUT while the fifth one was called off.

STUDENT LIAISON

The Office of the Chaplaincy also acts as the International Students Liaison Office. It assisted International students with student permit visa applications, compliance with immigration requirements and their welfare in general. Statistics in this unit showed that there were two (2) from Namibia, thirty one (31) from South Sudan, two (2) from Mozambique, two (2) from Zambia and one (1) from Angola. Most of these students are from formerly war-torn countries making them as risk scholars in Higher Education institutions in Zimbabwe.

ECUMENICAL MEETINGS

The Chaplaincy participated in six (6) ecumenical meetings where networking and decisions in managing faith based institutions were made. These meetings were helpful in keeping track with global trends in religious activities. The Chaplaincy immensely benefitted from these meetings.

UNIVERSITY CHOIR

As per tradition, the University Choir participated at the 24th Graduation ceremony and was highly commended for good performances. For the first time in five years, the University Choir enlisted the services of two (2) performing arts (Imbongi) that performed at the installation of the Vice-Chancellor and the University Chancellor.

PLANS FOR THE FUTURE

The Chaplaincy office seeks:

- the support of local philanthropists to construct a multi-purpose chapel.
- to embark on a massive fundraising campaign for the establishment of the Chaplaincy Fund.
- to use the existing guidelines in vetting of On-Campus Christian groups for uniformity.
- to liaise with parents of the deceased students and accordingly hold memorial services for them.
- to increase the Chaplaincy Office's visibility to the NUST Community through the publication

materials such as manuals and flyers.

- to improve communication among all University Departments with a view to identify students needing spiritual counselling and support.
- to advocate for at-risk students financial support.

Dr. Sibongile Kamusoko
Dean

NUST LIBRARY



Ms. Katherine Matsika
Librarian

1.0 INTRODUCTION

The Primary objective of any Academic Library is to enrich the total study experience to its users through the provision of maximum possible access to knowledge and resources for research, teaching and learning. In 2018, the Ministry restructured the higher and tertiary education sector and Universities were expected to adopt Education 5.0. The focus was on five missions of Teaching, Research, Community Service, Innovation and Industrialisation. The University Library refocused its mission and strengthen its central role as the nerve centre of the University.

2.0 LIBRARY FACILITIES

The Library encompasses facilities that encourage study, innovation, dialogue, discussion, dissemination of information as well as being a place for relaxing and reflection. A major function of a Library in a university is to provide an environment which allows students to experience personal growth. In 2018 there was a double effort to find ways of expanding study spaces for students on Campus with a consensus to include a block to house the Library in the new Prefab structures under construction on Campus. This would provide space for the Library to set up an Information Commons and an e-Resource Centre to provide study

spaces for students on Campus.

However, the desired long term solution is for the completion of the University Library building on Campus. In 2018, the University's Infrastructure Development Committee worked very hard to identify potential investors who were willing to partner NUST in completing the construction of the Main Library building. The new library has the potential to provide spaces suitable for innovation hubs and diversifying services by providing discussion rooms and all forms of electronic resources and modern facilities.

3.0 ACHIEVEMENTS

Despite the constraints of reduced buying power, cash flow challenges, constraints of physical space in the current Main Library building located in the CBD, the Library Team made every effort to provide users with relevant library resources and managed to guide them through the various stages of information searching and retrieval. The Library paid particular attention to strengthening Information and Communication Technologies (ICTs) in order to provide seamless access to knowledge and resources. Modern Academic Libraries are evolving in response to the rapidly

changing information landscape as well as changing user demands. It is more about user satisfaction and a pleasant user experience in the Library than finding hard copy books on the shelf.

4.0 LIVE CHAT FACILITY

The Library Live Chat facility was particularly busy during 2018. This is where the action is. More and more students were using the facility and engaging the Library Team through this platform for their information needs, concerns and questions being addressed in real time.

5.0 CAPACITY BUILDING

Three members of the Library staff attended the 2018 World Library and Information Congress (WLIC) of the International Federation of Library Associations and Institutions (IFLA) in August 2018. This was held in Kuala Lumpur, Malaysia. It was a refreshing opportunity for the Library Team to see the vast developments and new trends in Librarianship and universities. Malaysian Libraries went through a 'revolution' in the past two decades which modernised universities and introduced and embraced high technology in their libraries.



Figure 1: Mrs Daphne Sibanda, Deputy Librarian, attending IFLA 2018, Kuala Lumpur,

6.0 OUTREACH

6.1 The National Information Literacy Skills Training and Digital Fluency in HINARI/Research4life resources. 14 -15 February 2018.

The Library successfully organised a HINARI/Research 4Life workshop for Medical Practitioners and Health workers, from 14-16 February 2018. Mr Israel Mbekezeli Dabengwa, an Assistant Librarian in charge of Mpilo Library, the Faculty of Medicine, was awarded the Medical Library Association(MLA)

Librarians without Borders® / Elsevier Foundation/ Research4Life Grant to support HINARI/Research4Life training activities by the MLA.

- The objective of the training was to teach participants how to search for health and medical journals and eBooks through the HINARI portal, PubMed, CINAHL and Evidence Based Practice resources.
- The workshop equipped participants with the skills needed to become information literate and digitally fluent in health and medical research.



Figure 3: The targeted population was doctors, nurses, librarians and different people in the medical profession. 42 Participants were drawn from Matabeleland North and South as well as Bulawayo Metropolitan Province. They were from diverse health and medical fields.

6.2 E-resources Training for Librarians at Polytechnics and Colleges of Education in the Matebeleland region

The Department organised training for Librarians in Polytechnics and Colleges of Education on E-resources Usage, Evaluation and Management. The training was conducted on 4 May 2018.

It was a Zimbabwe University Libraries Consortium (ZULC) initiative meant to stimulate an interest in Colleges and Polytechnics in the utilisation of electronic resources as a prime source for teaching, learning and research materials. Table below shows the colleges that participated:

Table 1: Polytechnics and Colleges of Education for e-Resources Training

Date	Group	Attendants
04-05-18	United College of Education (UCE)	3
04-05-18	Hillside Teachers College	3
04-05-18	Bulawayo Polytechnic	1
04-05-18	Joshua Mqabuko Polytechnic	1
Total		8

7.0 CHALLENGES

7.1 Library Space

The Library for the longest time has had challenges with space for shelving books and seating for students. Addition of new books for circulation is a challenge. The Department has had to remove some books from the shelves as well as limit the number of multiple copies in order to accommodate new books.

7.2 Remote access to e-resources

The Off-Campus statistics were greatly affected by the expiry (during the early part of the year) of the SSL Certificate for the Library's Millennium server that has the software that enables users to access e-Resources remotely

Most of 2018 was a challenge with the remote access facility. Students, especially postgraduate students rely heavily on e-resources and there was no access.

7.3 Lack of access to Millennium in Branch Libraries.

Branch libraries at The Graduate School of Business (GSB) and The Faculty of the Built Environment (FOBE) had to revert to a manual issuing system because of challenges with the Millennium System (Library Integrated Management System).

7.4 Under resourced E-resources centre

The Library's e-resources centre remains under resourced with just about 10 computers functioning. The Library has moved to encourage students to bring their own personal laptops to reduce the student to computer ratio.

8.0 CONCLUSION

During the review of Library Strategic Plan 2016-2018, the Library identified key areas for future development. Some of the key areas to focus on are listed below:

8.1 ILS Training Course

The Library plans to increase advocacy for the Information Literacy Training Course. In the upcoming NUST Strategic Plan 2019-2023 the idea of Online Courses was suggested.

8.2 Research Support Services

From the wider discussions during the University Strategic Planning exercise, The Library noted the strong desire to improve the quality of research at NUST. The Library would like therefore to focus on advanced research support services to the Academic community. Areas to be considered:

1. Research Data Management Services
2. Support with bibliometrics, e.g., Scopus
3. Advice on researcher profile management
4. Training in Reference Management
5. Current Awareness Services
6. Training researchers on how to upload content onto the Institutional Repository (IR)

K. MATSIKA
Librarian

FACULTY OF APPLIED SCIENCE



Dr. Dumisani J. Hlatywayo
Executive Dean

INTRODUCTION

The Faculty of Applied Science (FAS) offered thirty six degree programmes that were reduced into nine departments. These programmes are Bachelor of Science programmes and Master of Science Degree Programmes. FAS also offered postgraduate programmes with a student community of forty (40) through eight departments. FAS mandate is to produce high quality STEM graduates, with skills and knowledge and skills to provide practical solutions to real problems in society and industry as well as contribute to further development in the field of science focusing upon technology that leads to entrepreneurial uptake and Research and Development

to meet the needs for socio-economic sustainability. Learning required for the realisation and achievement of this mandate is strategically domiciled in the nine Departments of Applied Biology and Biochemistry; Applied Chemistry; Applied Mathematics; Applied Physics; Computer Science; Environmental Science and Health; Forest Resources and Wildlife Management; Sports Science and Coaching, and Statistics and Operations Research. The Department of Applied Biology and Biochemistry introduced a new programme: a Bachelor of Science Honours Degree in Biotechnology in August 2018. The Faculty was host to three thousand five hundred and one (3501) students and graduated a total of 424. The academic staff complement stood at 174 for a total

establishment of 209. Table 1 lists Departments and programmes that were running in 2018.

Table 1: Degrees programmes that were operational in the Faculty, giving the number of students enrolled per programme in Departments.

DEPARTMENT	PROGRAMME RUNNING	STUDENTS BY GENDER		2018 GRADUATES	TOTALS
		Male	Female		
Applied Biology and Biochemistry	BSc (Hons) Degree in App Biology & Biochemistry	111	182	81	374
	BSc (Hons) in Biotechnology	8	26		34
	MSc Microbiology & Biotechnology	50	40	13	103
	MPhil Degree in App Biology and Biochemistry	2	2		4
Applied Chemistry	BSc (Hons) Degree in Applied Chemistry	53	44	23	120
	MPhil Degree in Applied Chemistry	1	1		2
	PhD in Applied Chemistry		1		1
Applied Physics	BSc (Hons) Degree in Applied Physics	48	9	8	65
	BSc (Hons) Degree Radiography	28	27	10	65
	BSc Special (Hons) Degree Radiography	12	10	9	31
	BSc (Hons) Degree in Earth Science	11	8		19
	MSc Degree in Medical Ultrasound	12	8		20
	MSc Degree in Lasers and Applied Optics	1		1	2
	MSc Degree in Geophysics	1			1
	MSc Degree in Radiography	12	8		20
Applied Mathematics	BSc (Hons) Degree in Applied Mathematics	41	22	18	81
	MSc Degree in Mathematical Modelling	17	8	9	34
	PhD in Mathematical Modelling	2			2
Computer Science	BSc (Hons) Degree in Computer Science	132	354	67	553
	BSc (Hons) Degree in Informatics	98	259	38	395
	MSc Degree in Information Systems		64	38	102
	PhD in Computer Science		3		3
Environmental Science and Health	BSc (Hons) Degree in Environmental Sc.& Health	93	190	77	360
	BSc (Hons) Degree in Public Health	78	132	29	239
	MSc in Environmental Health	32	22		54
	MPhil Degree in Environmental Science		1		1
	PhD in Environmental Science & Health		1		1
Forest Resources and Wildlife Management	BSc (Hons) Degree in Forest Resources and Wildlife Management	30	31	24	85
	MSc Degree in Eco-Tourism & Biodiversity	11	10	9	30
	PhD in Forest Resources and Wildlife Management	3	5		8
Sports Science and Coaching	BSc (Hons) Degree in Sports Science and Coaching	126	128	57	311
Statistics and Operations Research	BSc Special (Hons) Degree in Operations Research			1	1
	BSc (Hons) Degree Operations Research & Statistics	129	130	61	320
	MSc Degree in Operations Research	19	22	13	54
	PhD in Operations Research	1	3		4
Totals		1162	1753	586	3501



Department	Staff	
	Establishment	In post
Applied Biology and Biochemistry	32	27
Applied Chemistry	22	19
Applied Mathematics	22	19
Applied Physics	37	31
Computer Science	21	16
Environmental Science and Health	23	20
Forest Resources and Wildlife Management	20	16
Sports Science and Coaching	14	11
Statistics and Operations Research	18	15
	209	174

Table 2: Staff complement per Department

Teaching and Learning

There is a marked increase in the number of academic staff members using the Sakai e-Learning platform for lecture notes, reading material and assignments to students. External Examiners provided quality assurance to examination question papers and examination answer scripts in departments. Student field trips and laboratory work were undertaken, supervised by the lecturers. A GIS and Remote Sensing laboratory was established in the Department of Forest Resources and Wildlife Management.

The Department of Applied Physics received two visiting lecturers, Prof Torres Aroche from Cuba and Dr Francis Hasford from Ghana who were both sponsored by the International Atomic Energy Agency (IAEA) to participate on the Medical Physics MSc degree programme. Shortage of teaching and learning equipment was a huge challenge. There is need to install IT teaching equipment in the lecture halls.

Research Development Activities

A number of research activities were pursued in 2018 with some resulting in publications and yet others in presentations at conferences and workshops. The bulk of research was caused in research clusters in the departments. Four departments, Applied Physics, Applied Biology and Biochemistry, Applied Chemistry and Sports Science were involved in Community Research Projects.

Applied Physics

Applied Physics are embroiled in several activities that include

1. Gamma column scanning,
2. Street robot prototyping,
3. Solar energy and
4. Groundwater projects.

Gamma column scanning

Gamma column scanning work was carried out in collaboration with Morocco. Four members of staff received training at CNESTEN in Morocco in Gamma column scanning and radiotracer applications. As a result, the Department will receive an industrial X-ray generator for use in industrial radiography. An experiment was carried out at Zimchem Refineries in March 2019.

Applied Physics are participants in the IAEA project (RAF1008), that began in 2018. The project merges industrial applications of radioisotopes, preventive maintenance of medical equipment and non-destructive testing into one big project. NUST was appointed the overall national coordinator of the project. Medical Physics Department at Mpilo Hospital will coordinate the preventive maintenance of medical equipment, the Standards Association of Zimbabwe will coordinate the non-destructive testing component and NUST will coordinate the Industrial application of radioisotopes.

STREET ROBOT PHOTOTYPING

In 2018, the department developed a traffic light which they displayed at the Zimbabwe International Trade Fair. Work on prototyping the traffic light was started and upon successful testing, the traffic light system will be installed at an appropriate main intersection along the Ceremonial Avenue at NUST Main Campus.

GROUND WATER PROJECTS

The Geophysics Research Group comprised of five academic staff and one a technician, continued with an inter-departmental project on underground water quality activities. They also carried out an investigation into the possible ground vibration effects from small

scale mining activities on the structural integrity of the Mutare-Masasa steel pipeline at the instigation of PetroZim line Private Limited.

APPLIED BIOLOGY AND BIOCHEMISTRY

1. The Department of Applied Biology and Biochemistry is home to the Ecotoxicology Research Group that was funded by the International Program in Chemical Sciences (IPICS) under ISP, Sweden. The group is made up of four academic staff members and four postgraduate students. Its activities focused on identifying the sources, fates and effects of toxic substances, in particular, anthropogenic pollutants which include: pesticides used in the quest for improved agricultural productivity and the removal of pests, heavy metals that are released into the environment at levels above acceptable thresholds resulting from mining, industrial production, domestic and agricultural use of metal-containing-chemicals. The Group also held a Stakeholders' Seminar at Rainbow Hotel, 19 January 2018, aimed at forging partnerships with academic institutions in ways of reducing pollution in aquatic and terrestrial environments, in line with Sustainable Development Goals 6 and 15.
2. The Environmental Biotechnology Research Group comprises of Applied Biology and Biochemistry academic staff who closely collaborated with their counter-parts from Environmental Science and Health and Chemical Engineering departments as well as the Bulawayo City Council. They worked in two main research areas of waste management and renewable energy in waste management. Emphasis was on the use of micro-organisms to clean up contaminated aquatic and terrestrial environments and treat industrial wastewaters before they were discharged into the environment.

The number of publications per department, are listed in Table 3.

Table 3: List of number of Publications and Workshops and Conferences Attended by

NAME OF DEPARTMENT	TOTAL NUBER OF PUBLICATIONS	WORKSHOP CONFERENCES
Applied Biology and Biochemistry	6	5
Applied Chemistry	4	2
Applied Mathematics	4	10
Applied Physics	3	10
Computer Science	3	4
Environmental Science and Health	4	1
Forest Resources and Wildlife Management	13	4
Statistics and Operations Research	7	
Sports Science and Coaching	1	
Totals	45	35

Departments

COMMUNITY SERVICE

Applied Mathematics Department, in collaboration with the Departments of Statistics and Operations Research, Applied Chemistry, Applied Biology and Biochemistry and Applied Physics, executed the NUSTSEP community outreach programme in Bulawayo Province, both Matebeleland North and South and Midlands provinces, during the reviewed period. The Department of Environmental Science and Health actively participated in the clean-up campaign in Bulawayo, which was organised by the multi-stakeholder Bulawayo Solid Water Improvement Platform. They also joined in the commemoration of the World Environmental Health Day in July 2018 organised by the Zimbabwe Environmental Health Practitioners Association (ZEHPA).

OUTREACH ACTIVITIES

The Department of Sports Science and Coaching participated in various Regional and National sporting activities that included the Zone Six Volleyball games held in Bulawayo and the Youth Games football referees held in Botswana; the CUCSA Games held in Botswana; and the BUSE Sports Academy ground breaking ceremony held in Bindura in June 2018; and the ZIPESTA held in Gweru in April 2018.



The Department of Forest Resources and Wildlife Management visibly participated in the tree planting activities and extension services on tree management to schools and communities in Ntabazinduna.

ACHIEVEMENTS

The Department of Environmental Science and Health streamlined the MESASADC GIS and Remote Sensing training, teaching materials and curricula into the GIS and Remote Sensing I and II modules and have upgraded the module content and delivery to SADC regional standards. Three final year undergraduate BSc (Hons) students successfully utilised the remote sensed data and data products and Drought Monitoring System from the MESASADC project in their final year research projects, demonstrating applicability of the system and its products to local drought and wildfire hazard monitoring. Manuscripts for publication of the work done were in progress and would be sent for publication when completed.

CHALLENGES

For most programmes that run laboratory experiments, class capacities were way above normal. Lecturer-to-student ratio; class to laboratory capacity ratio were all above the optimal ratio. Shortage of office space continued to haunt staff in all departments. Some academic staff members used small laboratories as offices the majority of departments used boardrooms as teaching space. There was a serious shortage of computers for both teaching and research work in the departments. The Department of Sports Science and Coaching barely had equipment and sports facilities for lectures and practical work; hence, they depended upon hiring nearly all facilities. The freeze on staff recruitment impacted upon a number of programmes. Both Medical Ultrasound and Medical Physics relied heavily upon part-time staff from Regional and International Institutions: thanks to IAEA who came in with financial support for the part-time staff.

FUTURE PLANS

1. The year 2019 will witness the Department of Sports Science and Coaching introduce an MSc degree programme in Sports Science and Coaching.

2. Department of Environmental Science and Health will launch three programmes: BSc Honours Degree in Veterinary Public Health (BVPH), Master of Science degree in Climate Change and Sustainable Development (MSc-CCSD) and Master of Science degree in Public Health (MPH). It will also endeavour to establish a separation of the Environmental Science and Public Health into two departments.

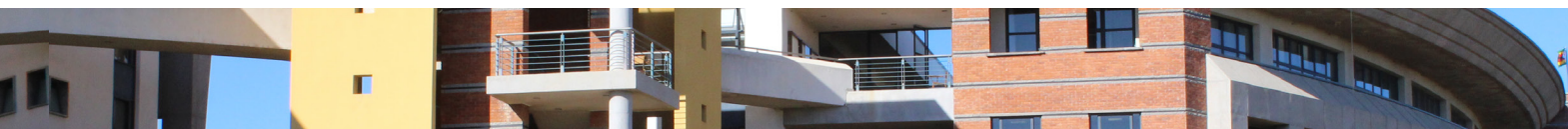
3. The Geospatial and Earth Observation laboratory, in the Department of Forest Resources and Wildlife Management, will be used to pioneer research work based on spatial analysis, spatial statistics and geostatistics that include remote sensing.

The Department aims at entering into Memoranda of Agreement with Cawston Wildlife and Cattle Ranch Nyamandhlovu; DeBeers Debshan Wildlife and Cattle Ranch in Shangani; the Natural History Museum of Zimbabwe; the Zimbabwe National Parks and Wildlife Management Authority; Hillside Dams Conservancy and ALERT.

4. The Department of Applied Chemistry will formalize the Income Generation project in analytical services before the end of 2019 and introduce a new Master's Degree programme in Analytical Chemistry.

5. The Department of Statistics and Operations Research will introduce a new programme, a Bachelor of Science Honors Degree in Business Analytics while new Department of Radiography will be put into existence within next 12 months.

Dr. Dumisani J. Hlatywayo
Executive Dean



FACULTY OF BUILT ENVIRONMENT



Mr. Baron Gaule Executive Dean

1.1 INTRODUCTION

Brief Overview:

The Faculty of the Built Environment comprises of three Departments: Architecture, Landscape Architecture and Urban Design and Quantity Surveying.

In 2018 the Faculty remained committed to the creation of a healthy, beautiful and life-enhancing

built environment. This would be done through the production of quality graduates who are empowered to shoulder their professional responsibility to society with sound judgement and sensitive to the developmental needs of the country.

1.2 Staffing

Table 2. 2018 Vacant Posts in the Departments

POST	ARCHITECTURE		LANDSCAPE ARCHITECTURE & URBAN DESIGN		QUANTITY SURVEYING	
	Establishment	Vacant	Establishment	Vacant	Establishment	Vacant
Professor	2	1	1	1	1	1
Lecturer	20	7	10	5	12	5
Secretary	1	0	1	0	1	0
Technician	1	1	1	1	1	1

STAFF CAPACITY BUILDING

Five lecturers in the Faculty were undertaking their PhD studies.

1.3 Students

Table 3. 2018 UNDERGRADUATE STUDENTS in 2018

Year	DEPARTMENT									TOTAL
	ARCHITECTURE			LANDSCAPE ARCHITECTURE & URBAN DESIGN			QUANTITY SURVEYING			
	Male	Female	Total	Male	Female	Total	Male	Female	Total	
1	36	7	43	82	59	141	87	36	123	307
2	27	18	45	91	52	143	118	37	155	343
3	23	12	35	27	27	54	69	18	87	176
4	35	8	43	59	41	100	50	23	73	216
5	18	2	20	-	-	-	-	-	-	20
Total	139	47	186	259	179	438	324	114	438	1062
Grand Total	1062									

Table 4. POSTGRADUATE STUDENTS in 2018

PART	DEPARTMENT									TOTAL
	ARCHITECTURE			LANDSCAPE ARCHITECTURE & URBAN DESIGN			QUANTITY SURVEYING			
	Male	Female	Total	Male	Female	Total	Male	Female	Total	
PART I	19	2	21	6	1	6	13	2	15	42
PART II				13	2	15	15	4	19	34
PART III				3	2	5	18	3	21	26
Total	19	2	21	22	5	26	46	9	55	102
Grand Total	102									

1.4 Teaching and Learning

The Academic Board approved the Department's submission on curricula review for undergraduate and postgraduate programmes along with the ZIMCATS framework/guidelines.

1.5 Research

Book Publications

1. Preservation of Ndebele Art and Architecture – John Knight

2. Tirivavi Moyo, Gerrit Crafford and Fidelis Emuze (2018) Decent working conditions for improved construction labour productivity on Zimbabwean building projects: A pilot survey, 2018 SACQSP International Research Conference, 30 September – 1 October 2018, Johannesburg, South Africa
3. ZIRUP elected Mr A B Ncube as the president, and Mr P Ndhlovu was elected as the Focal Chairperson of the Matabeleland Chapter at the ZIRUP Conference.

CONFERENCES, SEMINARS AND WORKSHOPS

1. Tinotenda Njere, Tirivavi Moyo (2018) Barriers to enhancing the environmental sustainability of construction projects in Zimbabwe: Perspective of Construction consultants, DII 2018 Conference, International Conference on Infrastructure Development and Investment Strategies for Africa, 11-13 July 2018, Livingstone, Zambia.

COMPETITIONS

1. Minerals Marketing Corporation of Zimbabwe ZITF Stand Design Competition
Talent G Sithole – First Prize
Bukhosi Jnr Moyo – Third Prize
Mrs S T Katurura coordinated competition
2. Beta Holdings Annual Architectural Student Competition
Tinotenda Nyamukapa – Vernon Benele Mwamuka

Shield, First Prize
 Titus Muranda – Second Prize
 Thengisani Zhou – Third Prize
 Ms V Madiro coordinated competition



Tinotenda Nyamukapa BAS final year student and 1st prize winner of the Vernon Benele Mwamuka Shield

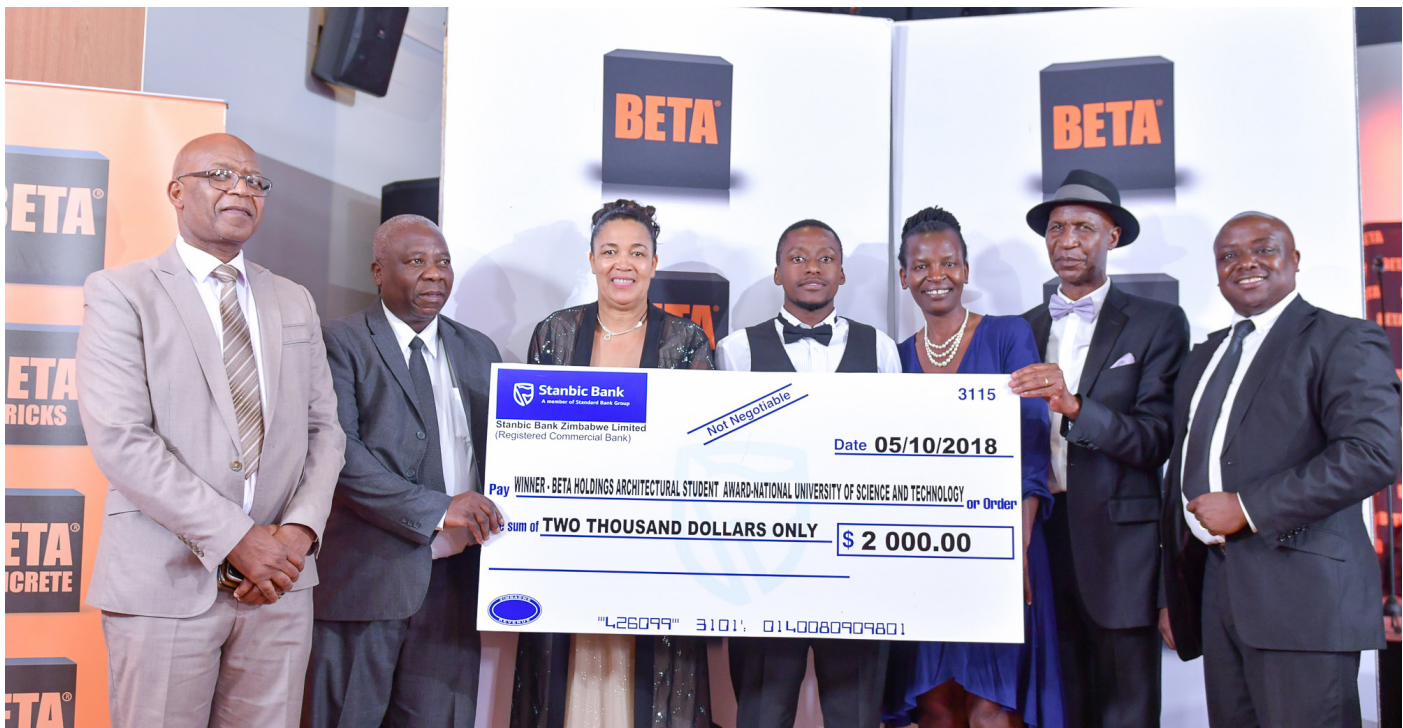


Figure 2. From left: Baron Gaule the Dean, Dr. Phuthi the Acting Pro-Vice Chancellor. Tinotenda Nyamukapa BAS final year student and 1st prize winner of the Vernon Benele Mwamuka Shield,3.



DUBAI 2020 EXPO DESIGN COMPETITION

The following team won First Prize in the design of the Zimbabwe Pavillion

Madzivire Tinashe B	Bukhosi Jnr Moyo
Mpopoti Kudakwashe	
Makumbe Tanatswa	Tshuma Brian A
Chakawa Priscilla	
Murape Bernice	Mataruse Ropafadzo
Mandevhana Mufarowashe	
Moyo Dalubuhle	

1.6 OUTREACH PROGRAMMES

1. Lupane Master Plan

The Faculty Consultancy Unit through LAUD has finally completed the drawings and boundary delimitations. The project was behind because the Presidential Proclamation did not clarify on the boundary extent of the Lupane Town.

2. Plumtree Master Plan

The Department of LAUD was still assisting Plumtree Town Council with its Local Development Plan. Plumtree was still facing challenges; the second phase of the Local Development Plan has not commenced.

3. Environmental Management Agency Park, Gwanda

The Department of Architecture worked on design proposals for the EMA offices.

4. Ngozi Mine, Bulawayo
5. The Faculty Consultancy Unit has undertaken design, supervision and preparation of Bills Of Quantities for Innovation Hub, Gatehouse, Prefabricated Lecture Halls for the university.

1.7 STRATEGIC PLAN

3.8 Challenges

1. Learning space remains very critical owing to the large enrollment. The available space can not accommodate the size of the classes.
2. Field trips have also been affected with the significant enrollment figures as sourcing transport with the limited resources(financial)
3. Lecturer student ratios are still too high considering the practical nature of our programmes. Also, lack of equipment and office

spaces incapacitate lectures. It has been difficult to procure the requisite teaching equipment due to financial and budget constraints

4. It has been proving difficult to fill in the vacant lectureship posts

3.9 Plans

1. To recruit more staff for the existing programmes so that the student lecturer ratios are at acceptable regional and international levels.
2. To run the Bachelor of Science Construction Management Honours Degree Programme.
3. The Faculty intends to introduce the Department of Construction Management by 2020.

Mr. Baron Gaule
Executive Dean

FACULTY OF COMMERCE



Dr. Peter Nkala
Executive Dean

INTRODUCTION

The year 2018 was a very eventful year for the Faculty of Commerce at NUST. This is a report of major events and activities related to teaching and learning, research and community engagement by the Faculty in 2018. This contribution, compiled by the Dean, draws inputs from Chairpersons of Departments, the Directors of the Graduate School and Institute that comprise the Faculty of Commerce at NUST.

OVERVIEW OF THE FACULTY

The Faculty of Commerce, in terms of student

numbers remains the largest of the seven Faculties at the National University of Science and Technology despite numerous other local universities offering similar programmes; thanks to the NUST brand. Through this brand, students in the Faculty's six Departments, the Graduate School of Business (GSB) and the Institute of Development Studies (IDS), are equipped with business and developmental hard and soft cutting-edge skills making them preferred candidates for employment, innovation and industrialisation, locally and internationally. For example, the Risk Management and Insurance degree is closer to being recognised as an international



qualification offered by the Chartered Insurance Institute (CII), in the United Kingdom (UK) and other global affiliates. In this regard, the Faculty is therefore encouraging other Departments to pursue similar professional bodies' accreditation of their qualifications.

STAFFING

The Faculty continued to face staffing challenges in 2018, particularly with senior academic positions for Professors in all Departments, consequently resulting in the employment of various strategies including head-hunting and visiting scholars. All professorial posts remained unfilled throughout the year. Although only one member of staff was promoted to Senior lecturer level in 2018, other members have submitted their applications for tenure and promotion, for consideration by the Academic Appointments Board in 2019. Three staff members completed their doctoral studies during the year thereby slightly raising the bar in terms of qualifications of members of staff in Commerce in 2018. Members of staff enrolled for doctoral degrees in universities across the faculty made good progress as well. The Faculty is also grateful to six members of staff who continue to efficiently and effectively service their departments, post retirement.

TEACHING AND LEARNING

Teaching and learning progressed well throughout the year 2018 and eight first-class graduates were produced in the undergraduate Risk Management and Insurance, three in Actuarial Science and two in the Master of Science in Risk Management and Insurance programmes. Despite increased competition from numerous public and private universities currently offering programmes in Harare, demand for our programmes continued to increase in 2018 thereby forcing the Faculty to review the staff establishment for the Harare Office.

Challenges with modern delivery equipment such as interactive boards, laptops and projectors is a major problem that the Faculty faces in order to move away from the orthodox to the modern classroom approaches to teaching and learning. The serious shortage of computers and computer laboratories for practical courses require urgent attention from

the University. For any world-class university of repute, such facilities and gadgets are a must as they contribute to the interest and fun of teaching and learning for lecturers and students.

STUDENT ENROLMENT

Table 1 indicates that the total number of registered students in all the different departments was 4318 of whom 70% were undergraduates. Accounting and finance combined, contributed 44% of the students in the Faculty in 2018. For the growth of the Faculty, other Departments are encouraged to introduce more programmes to match Accounting and Finance.

Table 1: Summary of Numbers of Students in the Faculty in 2018

Department /Unit	Diploma	Postgraduate Diploma	Under-graduate	Postgraduate		Total
				Masters	Docto-rate	
Accounting	0	0	871	101	0	972
Banking	0	0	487	81	0	568
Finance	0	0	565	363	0	928
Management	0	20	264	0	0	284
Marketing	0	0	310	59	0	369
Risk and Insurance	0	0	510	50	0	560
Graduate School of Business	0	0	0	416	35	451
Institute of Development Studies	15	0	0	170	1	186
Total	15	20	3007	1240	36	4318

The IDS had the least number of students in sync with its mandate which focuses on research rather than teaching, but the Institute is encouraged to introduce new postgraduate programmes that can spur growth of research within the institute. Interest in our doctoral programmes increased in 2018 as shown by large number of PhD applicants to the Graduate School of Business. Commerce contributed the majority of the 2507 graduands capped by the Chancellor in 2018, and the Faculty wishes this graduating cohort the best in securing employment and contributing to the socio-economic transformation during this second republic.

RESEARCH AND SCHOLARSHIP

The Graduate School of Business and the Institute of Development Studies led other units in research and scholarship in the Faculty in 2018. IDS successfully

concluded the Livelihoods and Climate Change Adaptation Strategies project for the livestock farmers in Beitbridge District that received US\$60 000 for three years from the Research Board. External research funding was scarce in 2018 and pursuit of collaborations with other institutions regionally and internationally as a strategy to overcome funding challenges continue. The current economic and financial crises in the country has affected and impacted research and scholarship negatively in the last few years, although elusive, sustainable multi-million research funding models continue to be sought in pursuit of growth and development. Table 2 gives details of various categories of publications produced by staff in 2018.

Table 2: Number of Research Papers in the Faculty of Commerce in 2018

Department/ Unit	Type of paper/publication				Total
	Conference	Non-peer reviewed	Peer-reviewed	Book Chapters	
Accounting	0	0	0	0	0
Banking	1	0	0	0	1
Finance	3	0	6	0	9
Management	0	0	3	0	3
Marketing	0	0	4	0	4
Risk Management and Insurance	0	0	0	0	0
Graduate School of Business	2	0	11	3	16
Institute of Development Studies	9	0	4	0	13
Total	15	0	28	3	46

The Faculty strongly discourages publishing in predatory journals and a list of recommended journals to publish with has been circulated to all departments and the Research Board. Most researchers are registered on platforms such as Google Scholar, Research Gate and others for exposure and interaction with other academics the world over.

THE STRATEGIC PLAN

In August 2018, the Faculty crafted the Strategic Plan for the period 2016 to 2020, in line with the then current NUST Strategic Plan (SP). Faculty staff comprising the Dean, Chairpersons and one member

of staff from each of the Departments met at Cresta Churchill hotel for the SP workshop leading and the SP document was finalised in November 2018. That 2016 -2026 SP richly informed the University's 2019-2023 Strategic Plan operationalised in April 2019.

PARTNERSHIPS

The Faculty entered into new and existing collaborative partnerships to ensure realisation of the envisaged national and global impact of the University. The Faculty owes the success of these agreements to the collective networks of members of staff that crucial in this regard. The IDS-initiated MOU between the University and the World Food Programme is one example. Departments are deliberately encouraged to revive the Departmental Advisory Boards in order to "accelerate partnerships with industry and public sector to bring back economic freedom for the nation" as expressed in the Vice-Chancellor's inaugural address at the 2018 graduation ceremony.

THE FUTURE

The future of the Faculty is bright and efforts to transform research income, international student population, engagement with local, national and international communities continue. Increased mentoring of doctoral candidates through thesis by publication should indeed improve publication and scholarship in Commerce. The Faculty seeks to introduce a number of new programmes across the various units in 2019. The Department of Banking plans to introduce a Bachelor of Commerce degree in Economics envisaged to grow into a fully-fledged School of excellence in Economics in future. The Centre for Peace, Leadership and Conflict resolution spearheaded by the Department of Business Management is also on the cards for next foreseeable future.

Dr Peter Nkala
Executive Dean



GRADUATE SCHOOL OF BUSINESS



Ambassador Mabed Ngulani
Director

1. INTRODUCTION

The year 2018 was an exciting and eventful year for the Graduate School of Business in many ways. Some of the salient happenings in the School are captured in the sub-headings below.

2. STAFFING

In its continuing effort to improve its capacity and quality of teaching, the School welcomed Dr GV Nani from the Business Management Department who having been a part-time lecturer, joined the School on a permanent basis in the second half of the year. On

the same vein, the School congratulates Dr Vusumuzi Sibanda for the attainment of his PhD qualification in the last quarter of 2018. The School now has eight PhD holders and continues to encourage and support staff who are currently doing their PhD studies and looks forward to three more staff members graduating in a space of a year. Such positive developments should greatly enhance the research capacity in the School. On a sad note, the School announces the death of Dr S Chuchu who had joined the School in July 2018 on a one-year sabbatical contract from Africa University.

3. PROGRAMMES

The School offered all the three MBA Programmes namely: the General Master of Business Administration (GMBA), the Executive Master of Business Administration (EMBA), the MBA in Strategic Management as well as PhD in Business Administration and PhD in African Leadership Development.

The School continues to offer the MBA in Public Management in conjunction with the Zimbabwe Institute of Public Administration and Management (ZIPAM). Furthermore, the School continues to improve its curricula in line with industry trends so as to produce relevant graduates into the industry.

Improving Student Research Quality

In 2018, the School introduced Research Methods as an examinable module in Stage I of all the three MBA Programmes. This was coupled with the introduction of the Turn-It-In software as well as making it a requirement that students orally defend their Dissertation output. The aim of this is to improve the quality of dissertations by our MBA students as well as safeguarding against shoplifted dissertations. The School continues to improve various aspects of this and other modules.

4. ENROLMENT

The enrolment statistics for 2018 are as follows:

Table 1: Enrolment

PROGRAMMES	MALES	FEMALES	TOTAL
GMBA	213	132	345
EMBA	23	14	37
SMBA	28	16	44
PhD in Business Administration	24	8	32
PhD in African Leadership	2	1	3
PUMBA	16	10	26
ALMA	11	16	27
GRAND TOTAL	317	197	514

In spite of the volatile economic environment, the Graduate School continues to attract sufficient numbers for the viability of its MBA Programmes. In particular, the GMBA Programme continues to be very

popular in Harare where the School has established a strong foothold. The enrolment level is expected to further improve following the signing, towards the end of 2018, of a Memorandum of Understanding between NUST and SHECAN, a non-governmental organisation, which has partnered with NUST and will be offering scholarships to at least 40 students per annum specifically in the GMBA programme for the next 10 years.

5. GRADUATION

A total of 211 graduands were capped by the President and Chancellor of State Universities, His Excellency, Comrade Emmerson Dambudzo Mnangagwa, on 9 November 2018 (See Table 2 below).

Table 2: Graduation Statistics

PROGRAMME	MALES	FEMALES	TOTAL
EMBA	0	0	0
GMBA	145	57	202
SMBA	0	0	0
PhD in Business Administration	1	0	1
PhD in African Leadership and Development	1	1	2
PUMBA	4	2	6
GRAND TOTAL	151	60	211

6. TEACHING AND LIBRARY

While the School continues in its quest for excellent academic performance, it however, has to contend with shortage of basic teaching resources such as laptops, interactive boards, textbooks for its library and good teaching venues which are key in the delivery of the School's mandate. The employment of PhD holder lecturers continues to improve the quality of teaching in the School.

7. RESEARCH

7.1 Publications and conferences

A number of lecturers engaged in various research activities resulting in the publications as detailed below:

Publications



Fifteen journal articles were published by lecturers in the School. This is quite a remarkable improvement compared to last year though there is still room for improvement.

1. Dube, N., (2019). 'Voices from the village on trophy hunting in Hwange district, Zimbabwe'. *Ecological Economics*, 159, pp.335-343.
2. Dube, N., Sithole, M., Ngwenya, T., Muhwati, T., Moyo, E. and Manyanga, K., 2018. Impact of climate change on sustainability in semi-arid, rural Africa: Lessons from rural Zimbabwe. *Cogent Social Sciences*, 4(1), pp. 1-23.
3. Dube, N., Nkala, P., Nzima, D., Fhulu Nekhwevha, F. (2018). 'Financing in Agricultural Value Chains in Zimbabwe: Experiences of Rural Smallholder Farmers in the Districts of Binga and Hwange'. *International journal of interdisciplinary environmental studies*, 13(1-2), pp. 17-33.
4. Nani, G. V. (2018). 'Integrating Entrepreneurship into the university curriculum: Perceptions of 4th year university students in one public university in Zimbabwe'. *International Journal of Educational Sciences (IJES)*. 20(1, 3):64-71
5. Nani, G. V. (2018). 'Fostering viability and sustainability of small and medium enterprises (SMEs): Determining the true beneficiaries of university research output'. *Acta Commercii Vol 18 No. 1 ISSN: 1684-1999 (Online)*. Open Access
6. Nani, G. V. (2018). Challenges faced by business incubators in one city council in Zimbabwe: Perceptions of council administrators. *Journal of Contemporary Management*. Volume 15 2018 pp344-367. DHET accredited. ISSN 1815-7740
7. Ndofirepi, T. M., Rambe, P., & Dzansi, D. Y. (2018). The relationship among technological creativity, self-efficacy and entrepreneurial intentions of selected South African university of technology students. *Acta Commercii*, 18(1), 1-14.
8. Ndofirepi, T. M., Rambe, P., & Dzansi, D. Y. (2018). An exploratory study on the gender-based differences in entrepreneurial intention and its antecedents amongst students of a South African University of Technology. *Southern African Business Review*, 22(1), 1-28.
9. Ndofirepi, T. M., & Rambe, P. (2018). A qualitative approach to the entrepreneurial education and intentions nexus: A case of Zimbabwean polytechnic students. *The Southern African Journal of Entrepreneurship and Small Business Management*, 10(1), 1-14.
10. Mtisi, S. and Muranda, Z. (2018). 'Business Development Support and the Role of Rural Enterprises', *Administratio Publica*, Vol 26, Issue 1, pp. 107-122.
11. Mtisi, S. and Muranda, Z. (2018). 'Proposing a Design Framework to Design Rural Enterprise Business Development Support Programmes', *Administratio Publica*, Vol 26, Issue 2, pp. 198-219.
12. Mtisi, S. and Muranda, Z. (2017) * 'Rural Enterprise Business Development Support Programme Delivery Approaches', *Amity Journal of Entrepreneurship*, 2(1), pp.1-17.
13. Sibanda, V. and Kudya, D. (2018). The impact of social media on worker productivity at Harare City Council. *International Journal of Research in Engineering and Management*. Volume 2. No. 2 2018. pp. 56-64
14. Madziwa, C. and Sibanda, V. (2018). An Analysis of the impact of social media in the financial services sector in Zimbabwe: a customer perspective. *International Journal of Economics, Commerce and Management*, United Kingdom. Vol. VI, Issue No. 2, pp 248-273.
15. Sibanda, V. and Ndhlela, M. (2018). Customer relationship management as a customer retention tool: a case of OK Zimbabwe Ltd. *EPH International Journal of Business and Management Science*, Vol. 4, Issue No. 2 pp. 27-41.

Books

- Dube, N. (2018). Psychological bludgeoning of the native African in Zimbabwe. (in Press).
- Dube, N., Sithole, M., Ncube, G., Nzima, D., Tshuma, N., Maphosa, M., Ndlovu, N. (2018). Environmentally sustainable artisanal mining: A southern African Manual. Ali-Douglas Research Network, IDS-NUST and LSU. ADRN, Bulawayo. ISBN: 978-0-7974-9134-2.
- Dube, N., Sithole, M., Ncube, G., Nzima, D. (2018). Training guidelines to Environmentally sustainable artisanal mining. Ali-Douglas Research Network,



IDS-NUST and LSU. ADRN, Bulawayo. ISBN: 978-0-7974-9173-1.

Book Chapters

Dube, N. (2018). The impacts of climate change. In Brazier, A. Climate Change in Zimbabwe. A guide for planners and decision makers. Konrad-Adenauer-Stiftung 26 Sandringham Drive, Alexandra Park, Harare.

Dube, N. (2018). A Southern African Resource Based Economy. Africa at a Crossroads: Future Prospects for Africa after 50 Years of the Organisation of African Unity/African Union, p.126.

CONFERENCES PRESENTATIONS

Mudzingwa, S. and Mtisi, S. (2018). 'An Assessment of The Practice of Strategic Management In Zimbabwean MSMEs', Paper presented at the 1st Africa Graduate Conference, August 29-31 2018. Wisconsin International University College, Accra-Ghana

NUST ANNUAL RESEARCH DAY PRESENTATION

Mtisi, S. and Muranda, Z. (2018). 'Rural Enterprise Business Development Support Programme Delivery Approaches'. Paper Presented at the NUST Annual Research Day, 11 October 2018, NUST, Bulawayo, Zimbabwe.

8. CHALLENGES

The biting economic environment has resulted in increased numbers of students failing to finish their studies within the stipulated time. The erosion of the local currency has presented the School with challenges in engaging PhD supervisors and external examiners, most of whom are outside the country.

9. PLANS

In future, the School plans to do the following:

1. Conduct Regional network development through regional supervision, doctoral schools and student interaction at conferences
2. Create industrial partnerships for funding and problem resolution locally
3. Grow in publications through PhD candidates
4. Develop short courses suited for industry through the assistance of senior PhD candidates and departmental staff.

10. CONCLUSION

The increased number of applicants, especially for the PhD and GMBA programmes, paints a bright future for the School.



INSTITUTE OF DEVELOPMENT STUDIES



Dr. Clifford Mabhena
Director

1. INTRODUCTION

The year 2018 was the 8th anniversary of the Institute of Development Studies (IDS) during which research; teaching and community engagement brought varied outcomes, amid different funding-related challenges. The year 2018 saw an improvement in the disbursement of project funds especially for the Beitbridge project on Livelihoods and Climate Change Adaptation Strategies for the livestock farmer in Beitbridge District Zimbabwe. The project was successfully completed and a detailed report and research articles have been produced. Teaching and community engagement progressed smoothly throughout the year. This report summarises research,

teaching and other departmental endeavours by members of both academic and non-academic staff at IDS-NUST in 2018 as well as articulates strategies for the future.

2. RESEARCH

- Interest in research at IDS continued in the fields of natural and environmental resources, livelihoods, disaster risk reduction, rural development and remittances among others. Multi-million dollar grants remained elusive in 2018 despite several efforts towards grant winning proposals by researchers at IDS.
- The Beitbridge project was the major research output in 2018.



- The institute worked tirelessly during the last half of 2018 to come up with an MOU with World Food Programme after the institute seconded one staff member to facilitate in the 3 Pronged Approach. The facilitation focused on the following districts and their sub institutions: Bulilima, Mangwe and Matobo districts.

2.1 Seminars and Conference

- Dr T Ndlovu presented a paper titled; “Denying the inevitable’ Communal cattle farming in Southern Zimbabwe” at the African Young Graduates and Scholars Conference held in Johannesburg, South Africa from 14 – 16 March 2018.
- Mrs B Francis, Mr G Thondlana, Mr C Shackleton and Mr A Ngorima presented a paper titled; “Implications of Lantana camara invasions on rural livelihoods in the Kavango-Zambezi Transfrontier Conservation Area” at the International Symposium on Society Resource Management (ISSRM) held on 16 – 22 June 2018 in the Utah State, United States of America.
- Mr P Chipangura, Professor Dewald Van Niekerk, Dr Gerrit Van Der Waldt presented a paper titled; “An exploration of the tractability of the objectivist frame of disaster risk in policy implementation in Zimbabwe” at the SASDiR 4TH Biennial Conference held in Durban, South Africa from 17 – 19 October 2018.
- Mr N Ndlovu presented a paper titled; “Factors limiting the continued use of conservation farming practices amongst small holder farmers in Zimbabwe” at the SASDiR 4TH Biennial Conference held in Durban, South Africa from 17 – 19 October 2018.
- Mr N Tshuma presented a paper titled; “Interrogating community participation in artisanal mining: the case of Umzingwane and Gwanda districts of Zimbabwe” at the SASDiR 4TH Biennial Conference held in Durban, South Africa from 17 – 19 October 2018.
- Mrs C Tshuma, Mr P Chipangura and Mr N Tshuma presented a paper titled; “Citizen Participation and exclusion in Disaster Management: A case of Bulawayo City Council” at the SASDiR 4TH Biennial Conference held in Durban, South Africa from 17 – 19 October 2018.
- Dr E Munsaka presented a paper titled; “Increasing

Community Resilience to food insecurity through Agricultural Producer Groups: A case of Binga and Hwange Districts, Zimbabwe” at the SASDiR 4TH Biennial Conference held in Durban, South Africa from 17 – 19 October 2018.

- Mr E Ndlovu and Barend Prinsloo presented a paper titled; “Climate variability perceptions and their impact on productivity: A case of traditional farming systems in semi-arid western Zimbabwe” at the SASDiR 4TH Biennial Conference held in Durban, South Africa from 17 – 19 October 2018.
- Ms H Zdungu, Ms P Zaba and Mr E Ndlovu presented a paper titled; “Enhancing resilience to recurrent droughts and floods in semi-nomadic communities: A case of CMDRR approaches in Doma Community, Mbire District, Zimbabwe” at the SASDiR 4TH Biennial Conference held in Durban, South Africa from 17 – 19 October 2018.

2.2 Publications in 2018

- Mr Funa Moyo, Dr Thabo Ndlovu, Mrs Buhle Francis and Mr Mthuthukisi Ncube published a paper titled; “The effects of Artisanal Mining on Irrigation farming – The Case of Umzingwane District, Southern Matabeleland, Zimbabwe” in the African Journal of Public Affairs, Volume 10 (2): 139 – 162.
- Mr Ntobeko Ndlovu published a paper titled; “School Resources and Student Achievement: A study of primary schools in Zimbabwe, Educational Research and Reviews 13 (7): 236-248.
- Dr N Dube, Dr M Sithole, Mrs G Maviza, Ms D Nzima, Mr M Maphosa, Mr N Tshuma, and Mr N Ndlovu, contributed book chapters in a book titled; Environmentally Sustainable Artisanal and Small-Scale Mining (ASM) for Sustainable Livelihoods: A formalisation Manual for Southern Africa published by the Ali-Douglas Research Network (ADRN), ISBN: 978-0-7974-9134-2.
- Mrs Buhle Francis, Mr D Pepler and Mr H Ndagurwa contributed a book chapter titled: Woody species diversity and surface soil nutrients in an *Opuntia fulgida* Englem invaded semi-arid savannah rangeland, South West, Zimbabwe. The book title is Sustainability, climate change and the Green Economy (AISA) published by African



Books Collective pp 8-23.

3.0: TEACHING and LEARNING

3.1 Staff

At the end of 2018, the Institute had a staff compliment of twenty four members of staff, comprising sixteen Academic staff and eight non-academic staff, respectively.

3.2 Staff academic achievements

- Dr Z L Dube was nominated the Country chair for Global Business And Association Technology (GBATA).
- Dr Thabo Ndlovu attained his PhD in Disaster

3.3 Programmes and Student Intakes

PROGRAMME	PART ONE			PART THREE			GRAND TOTAL
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	
PhD Development Studies	0	1	1				1
MPhil Development Studies	1	0	1				1
MSc Development Studies (Bulawayo)	06	15	21	11	21	32	53
MSc Development Studies (Harare)	11	07	18	09	14	23	41
MSc Disaster Management (Bulawayo)	13	09	22	15	12	27	49
MSc Disaster Management (Harare)	09	07	16	05	05	10	26
Diploma in Development Studies				3	2	5	5
Diploma in Disaster Management				5	5	10	10
TOTAL	40	39	79	48	59	107	186

Table: 1 Programmes and students intakes

Student numbers for the programmes offered by IDS-NUST, for both the Bulawayo and Harare cohorts dropped from 205 in 2017/2018 academic year to 186 in the 2018/2019 academic year (See Table 1)

Graduands in 2018

Table 2: Gender distribution of the number of graduated students in 2018

PROGRAMME	MALE	FEMALE	TOTAL
MSc Development Studies	26	24	50
MSc Disaster Management	17	08	25
Postgraduate Diploma in Dev. Studies	01	01	02
Diploma in Development Studies	03	02	05
Diploma in Disaster Management	03	07	10
TOTAL	50(54%)	42 (46%)	92

4.0 IDS-GRADUATE ACHIEVEMENTS

Patience Chidakwa was nominated and awarded a

Management from the University of the Free State in South Africa. His Thesis was titled; “Communal Livestock Drought Risk Reduction Strategies. A case of Umzingwane District, Southern Zimbabwe”. Thus increasing the number of PhD holders to 9, that is, 56% of members of academic staff. All remaining Academic staff at IDS-NUST with the exception of three staff members are pursuing their PhDs in various universities in South Africa and in the Netherlands.

- The Caretaker, Mr Ntandoyenkosi Nkomo graduated with a Bachelor of Telecommunications from Midlands State University.

full scholarship to study for an Advanced Masters in Cultural Anthropology and Development Studies by the University of Leuven.

5.0 STRATEGIES FOR THE FUTURE

The Institute has enrolled PhD and M.Phil. Students and is believed that these students will play a leading role in fulfilling the mandate of the Institute which is research. World Food Programme has committed to supporting 4 M.Phil. students as interns for the next three years and this will increase the visibility of the Institute. We are also focusing on contributing to the University’s strategic plan in-line with the Ministry’s 5.0 strategy.

Compiled by:
Dr C.Mabhena
DIRECTOR

FACULTY OF COMMUNICATION AND INFORMATION SCIENCE



Mr. Samuel Chabikwa
Executive Dean

1. INTRODUCTION

The year under review saw the continued growth of enrolment in the faculty and the increasing popularity of the Annual Conference hosted by the Faculty. On a very sad note the Faculty lost one of its long serving members Mr Lantern R Fusire, who passed away on the 27th of November 2018, at Mater Dei Hospital and was laid to rest on the 29th of November at West Park Cemetery in Bulawayo. At the time of his death Mr Fusire was the Chairperson of the Department of Library and Information Science, and had been in the employ of the University for 12 years.

In spite of this loss to the Department, the Faculty and the University at large, this report focuses on the major successes in teaching and learning and research output of the academics in the faculty.

2. Staff

The Department of Journalism and Media Studies is operating with a compliment of 13 lecturers, 2 Professional Instructors, 4 Tutorial Assistants, 1 technician, and a Secretary, whilst the Department of Library and Information Science has a compliment of 12 Lecturers, 4 Tutorial Assistants, 1 Technician and 1 Secretary. The Department of Publishing Studies



has a compliment of 7 Lecturers, 1 Professional Instructor, 1 Technician and 1 Secretary whilst the Department of Records and Archives Management has a staff compliment of 9 Lecturers, 1 Research Fellow, a Secretary and Technician, including 4 Tutorial Assistants whose contracts run on a semester basis.

3. TRAINING

The following lecturers are pursuing their PhD studies: Mr Bhekinkosi Ncube and Mr LungileTshuma (both at University of Johannesburg); Mrs Nonhlanhla Ndlovu and Mr Lennient Chidyagwayi (both at Rhodes University); Mr Thandolwenkosi Nkomo and Ms Nqobile Nyathi (both at UNISA). Mr Bhekizulu Tshuma, a Professional Instructor for Online Media and an MSc in Journalism and Media Studies student, Miss Samkeliso Ncube, attended a six-week training programme on film-making at the University of Cape Town, South Africa. Mrs E. Maisiri is undertaking D Phil studies with the University of South Africa. Ms D.B Mupambwa is undertaking D Phil studies with the University of Cape Town. Mr E. Mupaikwa was fully registered for a D Phil thesis with the LIS Department. Dr N. Pasipamire graduated in April 2018 with D Phil at the University of KwaZulu Natal South Africa. Mrs. S. Nkomo, Mrs. S. Jele and Miss S. Mpofo are pursuing PhD studies with UNISA. Dr. M. M. Tapfuma is pursuing post-doctoral studies at University of KwaZulu Natal in South Africa.

Mrs. A. Ndlovu was offered a place at UNISA for her PhD studies and should commence January 2019. Mr Mehluli Masuku, Mrs Norah Makoni and Research Fellow Mrs Anele Chirume, are PhD candidates with the University of South Africa (UNISA). Mr Rodrick David also continued with his PhD studies with Victoria University in New Zealand. Ms Heather Ndlovu, secured a PhD place with UNISA and will began her studies on split-site in January 2018. Mr Caesar Mutare, the Technician, completed his MSc studies in Information Systems with NUST, the same applies to the Senior Secretary, Helena Dube, she completed her MSc studies in Marketing with NUST. Dr N. Pasipamire attended the African Doctoral Academy Summer School at Stellenbosch University (Advanced Data analysis with Atlas.ti. course) from 8 – 14 January 2018, and Ms D.B Mupambwa attended

a Doctoral Forum at Stellenbosch University from 28 June to 13 July 2018.

5. GRADUATION STATISTICS FOR 2017-2018 ACADEMIC YEAR

A total of 57 students (89%) out of 64 graduated with BSc in Journalism and Media Studies. In MSc in Journalism and Media Studies 9 students (100%) graduated while three students graduated with a Postgraduate Diploma in Public Relations. In the Department of Library and Information Science a total of 34 students graduated with a BSc in Library and information Science, whilst 19 graduated with an MSc in Library and information Science. In the Publishing Department 26 students graduated with a BSc in Publishing whilst in the Department of Records and Archives Management 18 students graduated with a BSc in Records and Archives Management, 14 with an MSc in Records and Archives Management and 1 with an MPhil in Records and Archives Management.

7. TEACHING AND LEARNING

The Department of Journalism and Media Studies is in the process of applying for an online radio broadcasting licence to turn its Radio Studio into a commercial venture. This would offer students practical experience in radio broadcasting while at the same time raising income to support teaching and learning.

The Department of Library and Information Science was in the process of reviewing the curriculum for the BSc programme, and the Foundation Skills Certificate in English Communication curriculum was proposed and adopted by Academic Board, whilst the Information Literacy Skills course was drafted and presented at Academic Board. It was yet to be reviewed by Senate. Part II students went to Harare and Marondera for a field visit. The places visited include the Parliament Library, The University of Zimbabwe Library, Marondera Children's Library and Peterhouse School Library, Zim Libraries, and Printflow. Part I students continued using the National Free Library for practical lessons on cataloguing, classification, indexing and abstracting.

The Department of Publishing Studies has embraced

e-learning through the use of Google classroom and SAKAI. All third-year students managed to find Industrial Attachment placement. Year II students visited Publishing and Printing Houses in Harare for their field visits. A field visit to Directory Publishers, Bulawayo and Mambo Press in Gweru for First Years could not be done due to lack of funds. The Department conducted Peer reviews and Student Lecturer reviews were done online. The Department will continue to incorporate comments from the External Examiner on Course Outlines, Examination Question papers, marked examination scripts, Projects and Industrial Attachment Reports.

The Department of Records and Archives Management had a successful teaching and learning year for its students. However, it is disappointing to report that while the Department undertook a curricular review for its modules, there were hitches in sending the papers for approval by ZIMCHE. Efforts to have the reviewed curricular approved shall be pursued in the new year.

8. RESEARCH OUTPUT

8.1 Papers Published in Journals in 2018

NAME OF AUTHOR/S	TITLE OF PAPER	NAME OF JOURNAL	DATE OF PUBLICATION
Mpofu, S	Women's Voices Online and the Emergence of Lived Realities as Distinct Political Behaviour: A Womanist Approach to Selected Zimbabwean Blogs.	<i>African Journalism Studies</i> , Volume 39, Issue 1. Pp. 4-26	2018
Mpofu, S	Journalism at the Crossroads: Blogs as a middle-ground for (re)surfacing women's ordinary, yet extraordinary lives.	<i>Journalism 4.0</i> , Stellenbosch University, Issue 1. Pp. 150-153	2018
Ndlovu, M	Gukurahundi, new media and the 'discourses of silence': The reproduction of the hegemonic narratives of the Matabeleland post-colonial violence on selected Zimbabwean news websites.	<i>African Identities</i> , Volume 16, Issue 3, Pp. 109-130.	2018
Ndlovu, M	New media and Ndebele hiraeth: Memory, nostalgia and Ndebele Nationalism on selected news websites.	<i>African Journalism Studies</i> , Volume 39, Issue 4, Pp. 275-289.	2018
Tshuma, L and Ndlovu, M	Remembering the past against the grain: An analysis of the reconstructions of the past in <i>The Sunday News's</i> 'Lest We Forget' column.	Nations and Nationalism, Pages 1 – 20. DOI: 10.1111/nana.12472.	2018

Library and Information Science

Name of Authors	Title of Paper	Name of Journal	Date of Publication	ISBN No. &/or Hyperlink
Ndhlovu, P and Matingwina, T.	State of Preparedness for Digital Curation and Preservation: A Case Study of a Developing Country Academic Library	IASSIST Quarterly	2018	https://doi.org/10.29173/iq929



Records and Archives

NAME OF AUTHOR/S	TITLE OF PAPER	NAME OF JOURNAL	VOLUME (ISSUE/ NUMBER) PAGE NUMBER
Ngulube, P; Ngoepe, M; Saurombe, N & Chaterera, F. 2017.	Towards a uniform strategy for taking archives to the people in South Africa: can we really build the tower of babel?	<i>Journal of the Eastern and Southern Africa Regional Branch of the International Council on Archives</i>	36: 63-82.
Dewah P. And Porogo MK. 2018	The place of records in combating corruption in Southern Africa: A study of Botswana and Zimbabwe's anti-corruption commissions,	Held from 23rd to 27th April 2018 at Imperial Resort Beach Hotel, Entebbe, Uganda. Uganda Library and Information Association and National Library of Uganda	Proceedings of the XXIII Standing Conference of Eastern, Central and Southern Africa Library and Information Associations and Institutions
Natalie V.Nhenga-Mugarisanwa & Peterson Dewah	Safeguarding National Heritage through Conservation of Oral History Collections at Bulawayo National Archives, Zimbabwe	Oral History Journal of South Africa	Volume 6 Number 2
Charles Tembo, Allan T. Maganga & Peterson Dewah	Celebrating Indigenous Knowledge or Crime against Humanity: A Critical Engagement with the Debate Generated by Alick Macheso's Use of Manhood to treat Nhova (fontanel)	Oral History Journal of South Africa	Volume 6 Number 2
Chaterera, F & Rodrigues, ADS	The physical barriers to accessing the documentary heritage at the National Archives of Zimbabwe.	<i>The International Council on Archives Journal, Comma 2:</i>	1: 83-90
Chaterera, F & Ngulube, P.	<i>Global Perspectives on the Challenges and Prospects of Accessing and Using Documentary Heritage.</i>	<i>The handbook of research on advocacy, promotion, and public programming for memory institutions.</i>	Florida: Idea Group Inc Global pp 42-61.
Chaterera, F & Rodrigues, A.	<i>Use of Public Programming Strategies in Promoting Access to Documentary Heritage at Zimbabwe National Archives.</i>	<i>The handbook of research on advocacy, promotion, and public programming for memory institutions.</i>	Florida: Idea Group Inc Global pp 125-143.
Chaterera, F; Masuku, M; Bhebhe, S; Ngoepe, M; Katuu, S & Tidlund, A.	Enterprise digital records management in Zimbabwe	International Research on Permanent Authentic Records in Electronic Systems	http://interparestrust.org/

8.2 Papers presented at conferences in 2018

Journalism and Media Studies

NAME OF AUTHOR/S	TITLE OF PAPER/POSTER	NAME OF CONFERENCE	DATE/S OF CONFERENCE	COUNTRY & TOWN
Zindove, B and Moyo, C.	Heteronormativity in the Zimbabwean Mainstream Press: A Case Study of the Chronicle	Rethinking Gender in the 21 st Century: Priorities, Challenges and Prospects for Africa,	17-19 July 2018	UZ, Harare, Zimbabwe
Mveve, S.S and Moyo, C.	Instagram a Conduit for Reconstruction of Women's Bodies? A case of NUST students	International Conference on Communication and Information Science	25-26 August 2018	HICC, Harare, Zimbabwe
Ndlovu, M	'Technologies of memory': New media and the formation of Ndebele mnemonic communities	International Conference on Communication and Information Science	21 – 23 August 2018	HICC, Harare, Zimbabwe

Library and Information Science

Name of Authors	Title of Paper/Poster	Name of Conference	Dates of Conference	Country & Town
Esabel Maisiri	Accessibility of health information among rural women: the case of Daluka Ward (Matabeleland North) Zimbabwe/	ICCIS conference, HICC, Harare	21-23 August 2018	Harare, Zimbabwe
Elisha Mupaikwa	Gender-based perceptions towards the use of Information and Communication Technologies for accessing and disseminating agricultural information by Farmers in Binga District, Zimbabwe	2 nd International Multi-disciplinary Conference; Pursuing Innovation Frontiers for Contemporary Global Knowledge Citizenship.	29-31 August 2018	Lusaka, Zambia
Machimbidza, T. and Mutula, S.M.	Exploring the experiences of librarians in Zimbabwean State Universities with the consortium model of subscribing to electronic journals.	5th Annual International Conference on Library and Information Science	30-31 July & 1-2 August 2018	Athens, Greece.
Dabengwa, I.M., Raju, J. and Matingwina, T	The interpretive repertoires of Zimbabwean academic librarians	World Library and Information Congress, 84 th IFLA General Conference and Assembly	24-30 August 2018	Kuala Lumpur, Malaysia.

Publishing Studies

Presenter(s)	Conference	Funded by	Title
Mrs S Jele	8 th ICCIS, Harare	Research Board	The provision of books and information services to support teaching of cultural heritage in schools in Bulawayo.
Miss S Mpofu	8 th ICCIS, Harare ZANA - Non-fiction writing and Publishing	Research Board	Legal frameworks in the protection of intangible cultural heritage in Zimbabwe. Towards a virtual museum: A case of the Bulawayo museum. Plagiarism and non-fiction writing.
Miss A Moyo (now Mrs. A Ndlovu)	8 th ICCIS, Harare	Research Board	Legal frameworks in the protection of intangible cultural heritage in Zimbabwe Towards a virtual museum: A case of the Bulawayo museum.
Miss E C Chingono (now Mrs. E C Chiware)	8 th ICCIS, Harare ZANA - Non-fiction writing and Publishing	Research Board	Preserving Zimbabwe local languages through Arts: A case study of WABB Cultural Heritage. Plagiarism and non-fiction writing.



Records and Archives Management

NAME OF AUTHOR/S	TITLE OF PAPER/POSTER	NAME OF CONFERENCE	DATE/S OF CONFERENCE	TOWN & COUNTRY
Dewah P	Access to information as the citizens' right: A study of selected legal frameworks in Zimbabwe	4th International Research Conference Of The College Of Humanities, University Of Ghana,	Date: 1-2 November, 2018,	University of Ghana, Legon, Ghana.
Dewah P	Revisiting the Wankie Colliery Kaman-dama Mine disaster: Inside the Widows' Memories	Paper presented at the 15th Annual National Oral History Association of South Africa (OHASA)	9-12 October 2018	Milnerton Library in Cape Town, South Africa
Dewah P and Chitha N	Technologies for knowledge sharing among academics in the Faculty of Communication and Information Science at the National University of Science and Technology	the 2nd International Conference on Information and Knowledge Management	20-24 August 2018	Nairobi, Kenya
NhlelenhleMpala And Dewah P	Management of Social Media Generated Records at The National University of Science and Technology	South African Society of Archivists SASA,	3-5 JULY 2018	East London, South Africa
Dewah P and Ndlovu H	Leveraging records and information to fight corruption: the case of Zimbabwe Anti-Corruption Commission	Conference on "Corruption and the Challenge of Economic Transformation in Southern Africa	18-20 June 2018	UNECA, Botswana
Dewah P	Impacts of de-industrialization on Poverty and Inequality in Africa: Lessons from Zimbabwe,	Africa Unity for Renaissance Conference	23 - 25 May 2018	Johannesburg, South Africa
Dewah P and Keneilwe Margaret Porogoh	The place of records in combating corruption in Southern Africa: A study of Botswana and Zimbabwe's anti-corruption commissions	The Scecsal XXIII,	23rd – 27th APRIL 2018,	Imperial Resort Beach Hotel, Entebbe, Uganda
Dewah P	Knowledge sharing in the Faculty of Communication and Information Science: academic staff perceptions	Faculty of Communication and Information Science Seminar Series;	06 April 2018	NUST Council Chambers
Chaterera-Zambuko	Records management as an anticorruption device in Zimbabwe's City Councils	Sustainable Economic Transformation, Innovation and Governance in Emerging Economies	6-8 February 2019	Gweru-Zimbabwe
Chaterera, F & Ngulube, P.	The Challenges and Prospects of Accessing and Using Documentary Heritage: Global Perspectives.	International Conference on Communication and Information Science (ICCIS): Safeguarding Cultural Heritage for Sustainable Development.	21-23 August 2018	Harare, Zimbabwe.
Chaterera, F.	Managing local government records: towards curbing corruption in Zimbabwe.	Regional Conference: Corruption and the Challenge of Economic Transformation in Southern Africa.	18- 20 June 2018	Gaborone, Botswana
P. Dewah and H. Ndlovu	Leveraging records and information to fight corruption: the case of Zimbabwe Anti-Corruption Commission	Regional Conference on: <i>"Corruption and the Challenge of Economic Transformation in Southern Africa"</i>	18 - 20 June 2018	Gaborone, Botswana
P. Ndlovu, H. Ndlovu and P. Dewah	Management of Social Media Records at the Bulawayo City Council, Zimbabwe	The 2nd International Conference on Information and Knowledge Management	20-24 August 2018	Nairobi, Kenya
A. Nduzoz & O. Wutete	Goat Breeding: An indigenous approach to enhancing opportunities for small holder farmers in Inyathi, Matabeleland North, Zimbabwe	International Conference on Communication and Information Science (ICCIS): Safeguarding Cultural Heritage for Sustainable Development.	21-23 August 2018	Harare, Zimbabwe

8.3 Book chapter published

Name of Authors	Title of Article	Book	Publisher	Year
Matingwina, T.	Health, Academic Achievement and School-Based Interventions	Health and Academic Achievement	IntechOpen	2018

8.4 Conference proceedings published

Name of Authors	Title of Paper	Name of Journal	Date of Publication	ISBN No. &/or Hyperlink
Dabengwa, I.M., Raju, J. and Matingwina, T	The interpretive repertoires of Zimbabwean academic librarians	World Library and Information Congress, 84 th IFLA General Conference and Assembly	2018	http://library.ifla.org/2310/1/s01-2018-dabengwa-en.pdf
EsabelMaisiri	Accessibility of health information among rural women: the case of Daluka Ward (Matebeleland North) Zimbabwe/	Proceedings of the 8 th ICCIS conference, Harare	In press	

8.5. Symposiums

O. Wutete: Symposium on Electronic Document & Records Management System (EDRMS), Meikles Hotel: 14 -15 November 2018.

9. OUTREACH PROGRAMMES

The Department of Library and Information Science offered Mendeley training to the Faculty of Communication and Information Science students. The students who participated include Publishing Studies Part 4, Records and Archives Management Part 2 and 4, Msc Library and Information Science, Postgraduate Diploma in Library and Information Science. Mrs. Jele attended the ZIBF as a representative of the Department in the proceedings. Dr. Dlodlo continues as a Board Member of the ZBC. Miss Chingono represented the Faculty at the ZITF and Mrs. Jele continues as the Chairperson of the Publications Committee.

10. STRATEGIC PLAN

In line with the University's thrust, the Faculty contributed towards the National University of Science and Technology (NUST) Strategic Direction 4: Research, Teaching and Learning, and Community scholarly engagement for 2018.

11. CHALLENGES

Budgetary constraints in purchasing teaching resources was the main challenge; lack of proper laboratory

facilities for practical courses in design and editing courses and the unavailability of Demonstrators/ Professional Instructor who has current skills in Graphic Design impacted on learning. E-learning platforms continue to be partially used because of connectivity challenges in the university. This was due to limited availability of WI-FI due to limited bandwidth.

12. PLANS FOR 2019

12.1 To Successfully host the 9th Annual ICCIS conference.

12.2 Introduction of an IT related Masters programme in LIS and engagement with the Creative Commons in creating a copyright and licensing hub.

12.3 To introduce a Master's Degree programme in Publishing Media Studies by the end of 2019.

12.4 There are plans to host a breakfast meeting whose timing should coincide with the Zimbabwe International trade Fair in April 2019. The aim is to make sure that the importance of records management is appreciated and supported by Management in the Public Sector as well as Captains of Industry in order to drive the vision 2030. The breakfast meeting should pave way for intensified professionalisation of Records Management in the Public Sector.

13. INCOME GENERATING PROJECTS

The Department of Publishing Studies through the



Creative Design and Editing Hub (CDTE HUB) continues to provide professional editorial and design services for books, thesis and dissertations to self-publishers, students, and other members of the community. The Department edited the NUST Yearbook, self-published books, thesis and the ICCIS Conference proceedings. The Department offers short courses in Editing, Design and Printing, Digital Marketing and Copyright

Mr. Samuel Chabikwa
Executive Dean



FACULTY OF INDUSTRIAL TECHNOLOGY



Dr. Eng. William Goriwondo
Executive Dean

1 INTRODUCTION

The Faculty of Industrial Technology houses five Engineering disciplines namely; Chemical Engineering, Civil and Water Engineering, Electronic Engineering, Fibre and Polymer Materials Engineering as well as Industrial and Manufacturing Engineering. The year 2018 was an exciting and eventful year which saw achievements and growth of the Faculty of Industrial Technology. The Faculty participated in many projects and the major highlight was the conclusion of the two year Higher Education Partnerships in Sub-Saharan Africa (HEP SSA) project that was sponsored by the Royal Academy of Engineering (UK). The Faculty in the year 2018, saw the appointment of a substantive

Executive Dean. This report articulates the state of the Faculty, activities and achievements of the Faculty of Industrial Technology in the year 2018.

2 STAFF

Dr Eng. William Msekiwa Goriwondo was appointed the substantive Executive Dean of the Faculty with effect from January 2018. He brings to the Faculty a wealth of academic leadership, managerial and administrative experience. Up until his appointment, Dr Goriwondo was a Senior Lecturer in the Department of Industrial and Manufacturing Engineering.

2.1 Academic Staff

There was a slight improvement in the staffing levels



in the departments from the prior year. Fortunately, there were no resignations in the year, which would have worsened the situation. A comparison of 2017 and 2018 is presented in Table 1.

Table 1 Academic Staffing Levels

Year	Establishment	In post (no.)		Vacancy Rate (%)	
		2017	2018	2017	2018
Chemical Engineering	10 (1 +9)	8	9	20	10
Civil and Water Engineering	12 (1+ 11)	7	7	42	42
Electronic Engineering	10 (1 + 9)	6	6	40	40
Fibre and Polymer Materials Engineering	11 (1+10)	8	8	27	27
Industrial and Manufacturing Engineering	17 (2 + 15)	15	15	12	12
TOTAL		44	45		17%

2.1.1 Staff Training

The staff development drive within the Faculty continued to exhibit success as the number of academic staff members embarking on postgraduate studies continue to rise. The number of staff members in the Faculty pursuing their PhD studies increased from 11 in 2017 to 15 in 2018: Chemical Engineering (4), Civil and Water Engineering (3), Fibre and Polymer Materials Engineering (2) as well as the Industrial and Manufacturing Engineering (6)). One lecturer graduated in 2018 while two others had submitted their work for marking and were awaiting results. The Faculty thus saw an increase in the number of PhD holders.

2.2 Non-academic Staff

The Faculty lost one Technician in the Department of Electronic Engineering due to resignation. Most of the positions in the non-academic staff category remained filled. Technician positions remained unfilled, due to the freeze on recruitment by the Government. The unavailability of technicians impacts negatively in the education of engineering.

2.3 Undergraduate

The Faculty undergraduate student population stood

at 1780, an increase of 26% on 2017's figure of 1418 as shown in Table 2. The female student numbers remained at 23.9% same as in 2017.

Table 1: Undergraduate Student Population (2018)

Programme	MALE	FEMALE	TOTAL
CHEMICAL ENGINEERING	144	83	227
CHEMICAL ENGINEERING (PARALLEL)	156	82	238
CIVIL AND WATER ENGINEERING	237	72	309
CIVIL AND WATER ENGINEERING (PARALLEL)	225	47	272
ELECTRONIC ENGINEERING	201	48	249
INDUSTRIAL & MANUFACTURING ENGINEERING	172	54	226
INDUSTRIAL & MANUFACTURING ENGINEERING (PARALLEL)	184	37	221
TEXTILE TECHNOLOGY	6	2	8
FIBRE AND POLYMER MATERIALS ENGINEERING)	18	12	30
OVERALL FACULTY TOTAL	1343	437	1780

The student population in the Faculty is depicted in Figure 2 as a proportion of male to female students over the past years – 2014-2018.

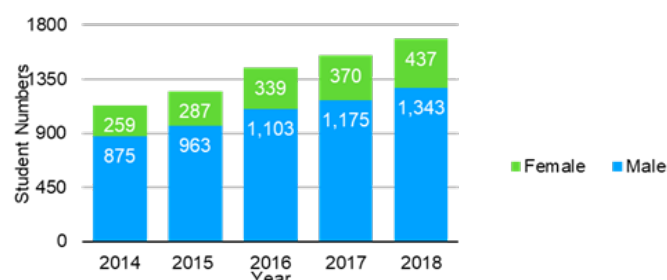


Figure 2: Student Population in the Faculty of Industrial Technology 2014-2018 (showing proportion of Male to Female students)

A total of two hundred and eleven (209) students graduated with a Bachelor of Engineering (B.Eng) and Bachelor of Textile Technology Honours degrees at the 24th Graduation Ceremony on the 9th of

November 2018. An additional 76 students graduated with Bachelor of Technology (Honours) degrees from the Faculty's affiliates, making a total of 285.

Of the 285 graduating students, 67 were female, constituting 23.5% of the total. The Faculty, however, still subscribes to the desire to enrol 50% female students into the engineering degrees.

2.4 Affiliates

The Faculty continues to offer affiliated programmes with the Bulawayo Polytechnic, Mutare Polytechnic, Kwekwe Polytechnic, TelOne and the Institute of Water and Sanitation Development.

2.5 Postgraduates

The Faculty runs a Master of Engineering in Manufacturing Systems/Engineering and Operations Management. In the year 2018, the Department of Industrial and Manufacturing Engineering opened the Harare Cohort of the M.Eng. Program. There were a total of 92 students in the programme with 15 of them being female. The Harare Cohort was a welcome development since most of the students enrolling into the M.Eng. Programme were based in Harare.

Table 3 shows the Master of Engineering student population for 2018.

Table 3: Master of Engineering Enrolment Statistics (2018)

Master of Engineering Program	STAGE ONE			STAGE TWO			TOTALS		
	M	F	T	M	F	T	M	F	T
MANUFACTURING ENGINEERING AND OPERATIONS MANAGEMENT (Bulawayo Cohort)	12	4	16	7	2	9	19	6	25
MANUFACTURING SYSTEMS AND OPERATIONS MANAGEMENT (Bulawayo Cohort)	9	5	14	13	4	17	22	9	31
MANUFACTURING ENGINEERING AND OPERATIONS MANAGEMENT (Harare Cohort)	10	4	14				10	4	14
MANUFACTURING SYSTEMS AND OPERATIONS MANAGEMENT (Harare Cohort)	16	6	22				16	6	22
GRAND TOTAL	47	19	66	20	6	26	67	25	92

The proportion of Male to Female students in the M.Eng program (2018).

In the 2018 Graduation, there was a total of 11 graduates in the two options of the Master of Engineering in Industrial and Manufacturing Engineering. There were no MPhil or PhD graduating students in the Faculty of Industrial Technology in the year 2018.

3 TEACHING AND LEARNING

The Faculty continued to face difficulties in teaching and learning due to unavailability of adequate equipment and teaching space. The improvement in Information and Communication Technologies (ICTs) was embraced as teaching staff resorted to e-learning. The Faculty procured teaching equipment that facilitated the use of ICTs in the form of LCD projectors.

4 RESEARCH

Research continues in the Faculty, funded by external funders as well as, by the Research Board.

4.1 Conferences

Some of the conferences the various Faculty members contributed papers to are as listed below:

1. Liberty L Mgunia,b, Yali Yao*a, Thulisile Nkomzwayoa, Xinying Liua, Diane Hildebrandta and David Glasser, Desulphurization of diesel fuels using metal oxide loaded activated charcoal and alumina. National University of Lesotho International Science and Technology Innovation Conference and Expo (NULISTICE): 23 – 26 January 2018, Maseru, Lesotho
2. G. Moyo, E. Makaya, A. Chinyama (2018), Applications Of Water Leakage Assessment Models In Developing Countries - A Review Paper presented 19th Waternet/Wafsa/GWPA-SA Symposium 31 October -2 November 2018 Livingstone Zambia. (G Moyo awarded best presentation by a young scientist in the category)
3. E. Makaya (2018), Implications of sub-catchment level water governance on drought management in South Africa: A case of Nwanedi sub-catchment, Limpopo River basin Presented at the NUST Annual Research Day, 28 September 2018.
4. Chinyama A, Makaya E and Moyo G (an



- Mphil student) attended the 19th Waternet/Wafsa/GWPA-SA Symposium -31 October -2 November 2018 Livingstone Zambia.
5. Makaya E. attended the NEPAD Annual Meeting of AU/NEPAD ACEWATER2 Centres of Excellence in Livingstone, Zambia -12-14 November 2018.
 6. Muvunzi, R., Dimitrov, D., Matope, S., & Mugwagwa, L. (2018, April). Application of surface modification technologies to improve performance of hot sheet metal forming tools: A review. In Proceedings of the EAI International Conference on Research, Innovation and Development for Africa (pp.65-74). ICST (Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering).
 7. Matilda Nkateko Maheso, Khumbulani Mpofo, Vennan Sibanda, Flexible and Adaptable Learning Factories for the Rail Car Manufacturing industry, 8th Conference on Learning Factories 2018 - Advanced Engineering Education & Training for Manufacturing Innovation, 12-13 April 2018, Airotel Achaia Beach, Patras, Greece
 8. G Mutubuki, B Sarema, S Mhlanga, (2018), Design of a hybrid vapor absorption milk chiller (solar and biogas) for small scale dairy farms in Zimbabwe, Renewable Heating and Cooling in Integrated Urban and Industrial Energy Systems, 3 – 5 October 2018, Congress Graz, Austria
 9. G Muchengeti, B Sarema, S Mhlanga, (2018), Exploring solar thermal integration opportunities for the tourism and hospitality sector in Zimbabwe, Renewable Heating and Cooling in Integrated Urban and Industrial Energy Systems, 3 – 5 October 2018, Congress Graz, Austria.
 10. Nyoni B, Dr B Mtunzi Magripa Nleya, A Training Utility for Estimating the Bowling Speed of a Cricketer Using Accelerometer Data, ICONIC 2018
- 4.2 Published peer reviewed journal papers**
- The publications in the Faculty continued to increase thereby signifying increased research activity. Faculty members had grants awarded by the Research Board. Below are the papers published in peer reviewed journals:
1. Hlabangana, N. Danha, G. Mguni, N.G. Madiba, M.S. Bhondayi, C. 2018, Determining an optimal interstitial filling condition: An Attainable Region approach, Powder Technology, 327: 9 – 16.
 2. Hlabangana, N. Danha, G. Muzenda, E. 2018, Effect of ball and feed particle size distribution on the milling efficiency of a ball mill: An attainable region approach, South African Journal of Chemical Engineering, 25: 79 – 84.
 3. Hlabangana, N. Bhebhe, S. Mguni, N.G. Danha, G. Tshuma, J. 2018, Optimization of the leaching parameters of a gold ore in sodium cyanide solution, International Journal of Engineering Research & Reviews, 6: 1 – 10.
 4. Danha, G. Bhondayi, C. Hlabangana, N. Hildebrandt, D. 2017, Determining the PGM bearing mineral phase in the UG2 ore, Powder Technology, 315: 236 – 242.
 5. Mudono, S., Tshuma, J., Manhongo, T., Madzokere, T., Tsorai, P., & Witika, 2018, The use of Nano-Synthesis Methodology on Electrochemical Performance of LiMn2O4 Cathode at Elevated Temperature, MR.S Advances, 1-14.
 6. Nomfundo Mabona, Wale Aboyade, Mansoor Mollagee & Liberty L. Mguni, 2018, Effect of moisture content on oil extraction from spent coffee grounds, Energy Sources, Part A: Recovery, Utilization, and Environmental Effects, 40:5, (2018) pp 501-509
 7. Mberi, T., Mguni, L.L., & Ntuli, F, 2018, Effect of frother and depressant interaction on flotation of Great Dyke PGM ore, Journal of the Southern African Institute of Mining and Metallurgy, 118(1), 65-69.
 8. Liberty L Mguni, Yali Yao, Thulisile Nkomzwayo, Xinying Liu, Diane Hildebrandt, David Glasser, 2018, Desulphurization of diesel fuels using intermediate Lewis acids loaded on activated charcoal and alumina, Chemical Engineering Communications, 1-9
 9. Thabisile B Jele, Liberty L Mguni, Musawenkosi K Ncube, Nkosikhona Hlabangana, Nonhlanhla G Mguni, Lawrencina Tshuma, Langa Moyo & Joel Tshuma, 2018, Acid Solvent Extraction of Aluminium From Portable Water Sludge at Low Temperatures, International Journal of Engineering Research, Issue 8, volume 7.
 10. E. Makaya (2018). Hydrological modelling as a tool for interdisciplinary workshops on future drought, Progress in Physical Geography 2018,



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11. B Mtunzi, Gavhu T, Nyathi Z, Gonye, R and Mugarisanwa FN, 2018, Design and Implementation of an Automatic Electrical Motor Protection, MyRes 2018 Proceedings, ISBN: 978-99949-0-384-9 pISSN: 1694-3597. eISSN: 1694-360
 12. Busiso Mtunzi and Edson Meyer, Reliability of a directly cooled PV/T system, MyRes 2018 Proceedings, pISSN: 1694-3597. eISSN: 1694-360.
 13. Sithabisiwe Gadlula, Lloyd Ndlovu, Lindani K Ncube, Development of Characterisation of a Nano Composite Membrane Using Polyether-sulphone and Graphene Oxide-Magnetite Nanoparticles for, Journal Textile Engineering of Applied Polymer and Textile Engineering, 2018, 2(1&2): 1-7
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 16. Ntobeko Sibanda, Lloyd N. Ndlovu, Sizo R. Ncube, Notabo Hlabano, Development and Evaluation of Physical and Mechanical Properties on Talc Filled Sisal/Polyester Composites, Emerging Trends in Chemical Engineering, Vol 5, Issue 2 pgs 27-35.
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 18. Mugwagwa, L., Dimitrov, D., Matope, S., & Yadroitsev, I. (2019). Evaluation of the impact of scanning strategies on residual stresses in selective laser melting. The International Journal of Advanced Manufacturing Technology, 1-10.
 19. Maheso, M. N., Mpofu, K., & Sibanda, V. (2018). Flexible and Adaptable Learning Factories for the Rail Car Manufacturing industry. Procedia Manufacturing, 23, 243-248.
 20. Alice Matenga, Eriyet Murena, Givemore Kanyemba, Samson Mhlanga (2018), A Software Based Approach for Developing a Low Voltage Induction Motor Stator Remanufacturing Machine, Procedia Manufacturing, 21 (2018) 000–000
 21. L Mugwagwa, D Dimitrov, S Matope, I Yadroitsev (2018) Influence of process parameters on residual stress related distortions in selective laser melting, Procedia Manufacturing, 21 (2018) 92-99
 22. Eriyeti Murena, Khumbulani Mpofu, John Trimble, Norman Gwangwava (2017) Model For Developing A Feature Recognition System For A Reconfigurable Bending Press Machine, Procedia CIRP, 63 (2017) 533 – 538.

5 ONGOING PROJECTS

The Faculty successfully completed a two year project on Higher Education Partnerships in Sub-Saharan Africa (HEP - SSA). The project saw a number of secondments to industry and industry visiting fellows to NUST. The partnerships initiated would be taken into the future with the purpose of enhancing engineering education.

During this project, the Faculty hosted a visiting professor from the University of Strathclyde (Professor Esther Medina Ventura) under the sponsorship of the Royal Academy of Engineering (RAE) (UK). She held a number of seminars in the host Department of Chemical Engineering, with both students and staff. Her area of specialisation is in engineering education, and during her stay, she focused on topics such as curriculum development, teaching innovations and curriculum review.



Picture 1: Participants to the HEP SSA Workshop, Holiday Inn, Bulawayo (British Ambassador to Zimbabwe HMA Catriona Laing, CB following proceedings)



Picture 2 : Participants to the HEP SSA Workshop, Holiday Inn, Bulawayo. (Prof. Jerekias Gandure from the University of Botswana with microphone and Sebastian Scott from the Royal Academy of Engineering (UK) in front row)



Picture 3: Mr L Ncube from the Fibre and Polymer Materials Engineering Department while on Industry Secondment sponsored by the Royal Academy of Engineering

5.2 Eng S Mhlanga was appointed Zimbabwe Southern African Solar Thermal Training and Demonstration Initiative (SOLTRAIN) project Coordinator and NUST appointed SOLTRAIN Partners with a budget of €84000 till July 2019. SOLTRAIN is a regional initiative on capacity building and demonstration of solar thermal systems in the SADC region. It is funded by the Austrian Development Agency and co-funded

by the OPEC Fund for International Development. Phase III Development of Renewable Road Map for Zimbabwe among others work packages.



Picture 4: Participants at the SOLTRAIN field visit

5.3 The Department of Civil and Water Engineering continued participating in the NEPAD Southern Africa Network of Water Centers of Excellence (SANWATCE). The project was on Water and Cooperation within the Zambezi River Basin in collaboration with the Faculty of Applied Sciences, the University of Zambia, University of the Western Cape and Stellenbosch University.

6 WORKSHOPS CONDUCTED OR ATTENDED BY FACULTY MEMBERS

The Faculty hosted two information exchange workshops on the Royal Academy of Engineering project on Higher Education Partnerships in Sub-Saharan Africa. The end of project conference was held at the Elephant Hills Resort, Zimbabwe. The successful conference was attended by representatives from NUST, University of Botswana and its spoke institutions, Industry representatives from Zimbabwe and Botswana and it was graced by the Minister of Higher and Tertiary Education, Science and Technology Development, Hon. Prof. Amon Murwira. The HEP SSA project saw improved engineering education through staff secondment to gain industrial experience and facilitation of engineering curricula review.



Picture 5 : Participants to the HEP SSA end of project conference at the Elephant Hills Resort, Victoria Falls, Zimbabwe.

In 2018, the Faculty of Industrial Technology hosted the Annual National Engineering students Awards competition. Six Universities and three polytechnics participated in this important ZIE Annual competition



Picture 8: Participants to the NESAC 2018 (Dr Goriwondo (Dean Faculty of Industrial Technology) sharing a lighter moment with Prof Dlodlo (NUST Vice Chancellor)



Picture 6: Competitor at the National Engineering Students Awards 2018

7 OUTREACH PROGRAMMES

The Department of Industrial and Manufacturing Engineering conducted five SOLTRAIN outreach programmes at high schools in and around Bulawayo.

The Department of Fibre and Polymer Materials Engineering continued their rural empowerment programme, in the leather value chain, with the help of their partners- COLMIN Resources Zimbabwe: Mindpower Consulting PBC and Lupane Women Centre.

Faculty members continue to participate in the Zimbabwe Institution of Engineers (ZIE) programmes such as the Annual Bridge Building and the Water competitions. These competitions are in support of STEM education High school students will be competing in the exciting innovative challenge annual competitions. Engineers in the Faculty have coached and facilitated the successful running of the 2018 annual competitions.



Picture 7: Poster presentations at the NESAC 2018 (Eng. Chivonovoni - Judge Engineering Students Awards 2018)



8 STRATEGIC PLAN

The Faculty held a Strategic Planning Workshop which fed into the 2018-2019 Strategic plan. The thrust of the Faculty, in the planning period, was to improve engineering education, increase research output as well as scholarly community engagement. The engineering students coming from the Faculty should be relevant. It, therefore, became important that the Faculty crafted the following mission being guided by the Vision, Mission and Values of NUST; the Faculty's Mission is as outlined below:

Faculty Mission

To harness advanced science, technology and engineering capabilities in spearheading research and human capital development for sustainable development. We shall aspire for innovative teaching and learning in addition to breakthrough research in the field of engineering and technology. Maximum stakeholder engagement shall guide our operations.

9 CHALLENGES

Besides the successes recorded in the year 2018, the Faculty faced some challenges and these are outlined below:

- The increase in student enrolment for the undergraduate programmes impacted by creating high lecturer to student ratios. Improved teaching methods were employed. The Departments of Civil and Water Engineering and that of Electronic Engineering continued to face lecturing staff shortages, due to professionals in industry shunning lecturing jobs. The Faculty continued to appeal to experienced engineers, in industry, to assist even on part-time basis.
- There was a challenge of procuring workshop, surveying and laboratory equipment as well as teaching equipment. To counter this challenge, Memoranda of Understanding (MoUs) were developed to access equipment at the Bulawayo Polytechnic and the Zimbabwe School of Mines. However, there is still need to improve on equipment at the University since it should operate as a center of excellence for providing solutions.
- Teaching space as well as office space, for staff, continued to be a problem in 2018. In view of improving teaching and learning as well as staff morale, this needs to be addressed.

- Shortage of reading rooms for students. While no much progress was made in mitigating this problem, a plan by the University was put in place to make prefabricated structures that would improve reading rooms and space for students.

10 PLANS

10.1 The main plan for the year 2019 is to continue improving engineering education through stakeholder engagement. The project of Higher Education Partnerships in Sub-Saharan Africa (HEP SSA) set the stage for relevant partners and would be sustained through engagement of industry and other Universities.

10.2 Staff development also remains a priority for the Faculty as it seeks to improve the qualifications of lecturing staff to PhD level. This would ensure that there is conformance to ZIMCHE requirements.

10.3 New postgraduate programmes would be introduced in the Departments of Chemical Engineering as well as Civil and Water Engineering.

10.4 There are also aspirations to improve research through enrolling MPhil and PhD students, as well as attracting external research funding.

Complied by:

***Dr Eng. William Msekiwa Goriwondo
(PhD, F'ZwIE, MIOZ)
Executive Dean, 2018.***



FACULTY OF SCIENCE AND TECHNOLOGY EDUCATION



Dr. Mabhena Mpofo
Acting Executive Dean

1.0 INTRODUCTION

The year 2018 has seen an upsurge of growth in the established Faculty of Science and Technology Education in terms of enrolment and increase of programmes; especially at Masters Level. The success and tribulations are captured in the sub-headings below:-

resulted in the ballooning of Faculty budget. However the Faculty has since advertised all vacant posts to solve the problem.

Table below shows staffing.

2.0 STAFFING

The Faculty has a compliment staff of nine (9) lecturers instead of 36 and among these, five (5) lecturers have PhDs and two (2) have enrolled for PhD. The shortage of academic staff has resulted in the Faculty engaging about 70 Part-time lecturers per semester which has



Table 1: Comparative Academic (Teaching) Staff growth, Occupancy and Vacancy Rate (2015 – 2018)

Department	Post	Approved Establishment			Staff in post			Vacancy Rate %		
		2016	2017	2018	2016	2017	2018	2016	2017	2018
Faculty Office	Dean	1	1	1	1	1	1	0	0	0
Art, Design and Technology Education	Professor	1	1	1	0	0	0	100	100	100
	Lecturer	6	6	6	2	2	2	67	67	67
	Research Fellow									
	Staff Devpt Fellow	1	1	1		0	0	100	100	100
	Teaching Assistant	1	1	2	0	0	0	100	100	100
Science, Mathematics and Technology education	Professor	1	1	1	0	0	0	100	100	100
	Lecturer	11	11	11	5	5	5	55	55	55
	Research Fellow									
	Staff Devpt Fellow	2	2	2	0	0	0	100	100	100
	E-Learning Tutor	1	1	1						
	Teaching Assistant	4	4	4	0	0	0	100	100	100
Technical and engineering Education and Training	Professor	1	1	1	0	0	0	100	100	100
	Lecturer	7	7	7	2	2	2	71	71	71
	Engineering Instructor	1	1	1	0	0	0	100	100	100
	Research Fellow									
	Staff Devpt Fellow	2	2	2		0	0	100	100	100
	Teaching Assistant	1	1	1	0	0	0	100	100	100
		40	40	40	9	9	9	78	78	78

STUDENTS

The enrolment of Faculty increased by 9% from 307 to 335 for undergraduates and a 14% decrease from 166 to 143 in the postgraduates students due to non-enrolment in the Post Graduate Diploma in Science and Technology (PGDSTE) class. Generally their behaviour is commendable as they exhibit professionalism. However, the students have to improve in adhering to deadlines in registering. The Faculty is on a recruitment drive for PhD candidates as the current number is two (2).

3.1 STUDENT ACADEMIC PERFORMANCE

There was an increase from 84% to an overall pass rate of 91% for the undergraduating class, and for Postgraduate Diploma in Science and Technology Education a decrease from 100% to 98%. The first cohort of Masters Group has graduated with a pass rate of 98%. For detailed enrolment see Table 2A and 2B below:-

Table 2B: Undergraduate enrolment 2018

Department	Programme	Subject Area	Part I			Part II			Part III			Total		
			M	F	T	M	F	T	M	F	T	M	F	T
Art, Design and Techn Education	BDesEd (Hons)	Applied Art & Design	7	3	10	5	3	8	0	0	0	13	6	18
		Clothing, Text & F Design	2	3	5	4	2	6	10	0	10	6	8	21
		Design & Technology	0	0	0	0	0	0	1	4	5	1	4	5



Science, Mathematics and Technology Education	BScEd Hons	Accounting & Bus Studies	1	4	5	5	8	13	8	2	10	14	14	28
		Biology	3	7	10	1	6	7	1	2	3	5	15	20
		Chemistry	5	7	12	9	6	15	2	5	7	15	13	28
		Computer Science	9	20	29	13	19	32	0	0	0	22	29	51
		Mathematics & Statistics	6	15	21	13	19	32	14	8	22	33	42	75
		Physics	16	4	20	4	6	10	7	3	10	27	13	40
Technical and Engineering Education and Training	BTechEd (Hons)	Civil & Constr Eng	0	12	12	6	0	6	0	0	0	18	0	18
		Electr & Electronic Eng	0	0	0	0	0	0	0	0	0	0	0	0
		Mechanical & Ind Eng	6	0	6	3	0	3	4	1	5	13	0	13
		Technical Graphics	0	0	0	0	0	0	3	3	6	3	3	6
		Wood Scie & Techn	8	0	8	4	2	6	0	0	0	12	0	12
TOTALS			63	75	138	67	71	138	50	28	78	182	147	335
%			46	54		49	51		64	36		54	44	

Table 2B: Postgraduate Enrolment 2018

Department	Programme	Subject Area	Part I			Part II			Total		
			M	F	T	M	F	T	M	F	T
Art, Design & Technology Education	MTechEd (Hons)	Applied Art & Design	4	7	11	2	3	5	7	7	14
		Cloth Text & Fash Des	0	7	7	1	11	12	1	18	19
		Design & Technology	5	2	7	0	0	0	5	2	7
Science, Mathematics and Technology Education	MScEd (Hons)	Accounting	4	11	15	3	7	10	7	18	25
		Biology	0	0	0	4	1	5	4	1	5
		Chemistry	0	0	0	3	3	6	3	3	6
		Computer Science	4	2	6	4	3	7	8	5	13
		Math and Statistics	7	5	12	4	2	6	11	7	18
	Physics	5	1	6	0	0	0	5	1	6	
	PGDSTE		0	0	0	0	0	0	0	0	0
Technical and Engineering Education and Training	MTechEd (Hons)										
		Civil & Constr Eng	5	0	5	10	0	10	15	0	15
		Electr & Electronic Eng	0	0	0	0	0	0	0	0	0
		Mechanical & Ind Eng	5	2	7	0	0	0	7	0	7
		Technical Graphics	0	0	0	0	0	0	0	0	0
	Wood Scie & Techn	0	0	0	0	0	0	0	0	0	
	PGDHE		6	5	11	0	0	0	6	5	11
FACULTY	PhD		0	0	0	0	2	2	0	2	2
TOTALS			45	42	87	31	32	63	79	69	143
%			52	48		49	51		55	48	



Table 2A: Undergraduate enrolment 2018

4.0 TEACHING AND LEARNING

The Faculty of Science and Technology Education exhibits high standards of teaching and learning despite the challenges of space which inhibits lecturers from using modern technologies, although in some cases e-Learning, social media and collaborative methods are used by few lecturers.

5.0 RESEARCH

There has been an increased output on research and one Faculty member Dr George Shava received an award of being the most productive Postdoctoral Fellow in at Nortwest University in South Africa. This is evidenced through the individual and collaboration publications by Faculty members. The Faculty has also collaborated their research output with students.

5.1 PUBLICATIONS

- Moyo, Chelesile, and Sibanda Lwazi (2018) An Assessment of Strategies that Enhance Teaching and learning of Business Studies at Advanced Level in Imbizo District of Bulawayo Metropolitan Province, *Journal of education Practice* 9 (30) 108-118.
- Sibanda, Lwazi (2018) teaching Skills as a Proactive Discipline Management Strategy: Secondary Schools in Bulawayo Metrepolitan Province, Zimbabwe. *American Journal of educational Research* 6(12) 1636-1645.
- Ncube Passionate and Lwazi Sibanda (2018) Implenting Science, Technology Engineering and Mathematics Education: A Case Study Single Sex Secondary Schools in Bulawayo Metyropolitan Province, Zimbabwe. *Journal of Education Practice*, Vol. 9 (32) 1-11.
- Tlou, Faith, and Feza Nosisi Nellie (2018) Grade R Educators' Perceptions of Their Own Practices: A Case Study of Educators in Eastern Cape of South Africa. *International Journal of Social Sciences*. 20(3) 33-40.
- Tlou Faith, N., and Shava George (2018) Alignment and Mismatches between Grade R Educators' Views of their Own Practices and Curriculum Expectations in Mathematics Education: A Reality Check. *International Journal of progressive Research in Education*. 1 (2) 1-9.

- Shava George and Tlou Faith, N (2018) Principal leadership and School Improvement: Experiences from South African school Contexts, *International Journal of Innovative and Applied Research*, 6(12) 1-10.
- Shava George and Tlou Faith, N (2018) Distributed Leadership Education, *Contemporary Issues in Educational Leadership*. *African Educational Research Journa*, 6(4)279-287.
- Mavondo, Greanious A., Mavondo, Joy, Peresuh Wisdom, Dlodlo Mary and Moyo Obediah (2018) Parasitology Malaria pathophysiology as a syndrome: Focus on Glucose Homeostasis in severe malaria and phytotherapeutics management of disease. *IntechOpen*.
- Shava George and Tlou Faith N. (2018) Principal Leadership and School Performance: Integrating Instructional and Transitional leadership in South African Schools Context. *Advance in Social Sciences Research Journal* paper ID: ASSRJ-18-5778.

5.2 CONFERENCES PRESENTATIONS

Sibanda, Lwazi (2018) Assessment for Learning in Higher Education: Experiences of One University in Zimbabwe. Paper presented at SASE Conference, Lagoon Beach Hotel, Cape Town.

5.3 PHD RESEARCH AND SUPERVISION

The first PhD graduate of the Faculty was capped at the 2017 Graduation ceremony. One additional candidate was enrolled and that keeps the number of current candidates at three.

6.0 OUTREACH PROGRAMMES AND COMMUNITY PARTICIPATION

This area needs urgent support in terms of funding and other resources, as well as proposals by members of the Faculty on their interest in developing and spearheading community-centred projects and collaborations.

7.0 CHALLENGES

The perennial challenges of under-staffing, shortage of space, teaching resources, and conducive learning environments. The Faculty has succeeded on developing and introducing new programmes. What



remains is to seek and mobilise resources to include quality in the delivery of these programmes. To engage the university to provide teaching and office space, equipment and computers.

8.0 PLANS FOR THE COMING YEAR

The thrust of the coming year will be the recruitment of additional staff to ease the burden on the existing full time members. Benefitting from the University's endeavours to source more teaching and office space, the Faculty will use the facility to acquire more equipment and resources to add quality to students' learning.

Compiled :

Dr M Mpofu: Executive Acting Dean

FACULTY OF MEDICINE



Dr. Rudo Gwini
Executive Dean

1. INTRODUCTION

The Faculty of Medicine is located at Mpilo Central Hospital Premises. It is comprised of the following departments:-

- i. Department of Anatomy and Physiology
- ii. Department of Clinical Pharmacology and Biochemistry
- iii. Department of Psychiatry, Social and Behavioural Sciences
- iv. Department of Community Medicine
- v. Department of Pathology
- vi. Department of Medicine
- vii. Department of Surgery
- viii. Department of Paediatrics
- ix. Department of Obstetrics and Gynaecology

- x. Department of Midwifery and Nursing Sciences

2. GRADUATION

The Faculty witnessed the inaugural MBBS graduation of 23 candidates in 2018. The MBBS graduates were successfully deployed to various designated teaching hospitals to undertake the mandatory internship programme.

3. REGISTRATION OF THE FACULTY

The Faculty of Medicine is registered on the World Directory of Medical Schools (WDOMS). Due to changes in policy regarding registration of health

training institutions, apart from registering on WDOMS, the training institutions are expected to have additional registration with Educational Commission for Foreign Medical Graduates (ECFMG) and individual medical regulatory authorities such as General Medical Council UK (GMC), Australian Medical Council and others. The Faculty is in the process of registering with ECFMG and GMC. The registration process is expected to be completed in 2019.

MBBS Intake

CLASS	MALE	FEMALE	TOTAL
Intake 2014	15	7	22
Intake 2015	12	12	24
Intake 2016	11	13	24
Intake 2017	15	9	24
Intake 2018	14	10	24
TOTAL	67	51	118

4. FACULTY PROGRAMMES

• MBBS

In 2018, a total of nineteen (19) sat for their final examinations 15 students passed and have been deployed to various designated teaching hospitals to undertake internship. One (1) will supplement Paediatrics; one (1) will supplement Medicine, one will repeat Medicine for the whole year and one candidate will repeat all 4 major disciplines (Medicine, Surgery, Paediatrics and Obstetrics and Gynaecology) for the whole year.

Teaching of MBBS programme is progressing well although, there are still challenges due to inadequate lecturers in all departments. Some departments are sharing office space and secretaries, as a result, teaching and learning is affected.

• BSc Midwifery

BSc Midwifery is a three-year block release programme. All students undertaking this programme from Part 1 to 3 successfully sat for their examinations.

• MSc Midwifery Education

There was no graduating class in MSc Midwifery Education in 2018. Six students enrolled for MSc in Midwifery Education in 2018.

MMed Family Medicine

The MMed Family Medicine was approved by both Medical and Dental Practitioners Council of Zimbabwe (MDPCZ) and Zimbabwe Council of Higher Education (ZIMCHE) and will be commencing in August 2019.

BSc and MSc in Midwifery Intake

Programme	Year	Male	Female	No of students
BSc Hon in Midwifery: Part 3	2018 -2019	2	15	17
BSc Hon in Midwifery Part 2	2018-2019	2	17	19
BSc Hon in Midwifery Part 1	2018-2019	11	4	15
MSc in Midwifery Education Intake 2017	2018 - 2019	0	7	7
MSc in Midwifery Education Intake 2018	2018 - 2019	1	5	6

5. STAFFING

The Faculty is grossly understaffed with some departments being manned by 1 or 2 Lecturers.

Department	Establishment	No of Lecturers in Post	No of Lecturers required
Anatomy	6	3	3
Physiology	4	2	2
Pharmacology	5	3	2
Biochemistry	2	1	1
Pathology	9	6	3
Community Medicine	8	2	6



Surgery and Anaesthetics	18	8	10
Obstetrics and Gynaecology	6	4	2
Medicine	13	3	10
Paediatrics	9	3	6
Psychiatry	5	1	4
Nursing and Midwifery	8	4	4
Total			53

5.1 Faculty office

Post of the Deputy Dean remained vacant. Staff compliment increased to six with the addition of a Biostatistician.

5.2 Academic Staff

The number of Lecturer/student ratio remains undesirable. Several requests to have the number of Lecturers increased have been submitted to the University authorities. The Faculty is currently awaiting appointments of interviewed Lecturers to fill in the vacant posts. The Faculty is embarking on commencing new programmes and is hoping to have the number of Lecturers increased.

6. TRANSPORT

The Faculty is grateful to the University management and Department of Physical Planning Works and Estates for allocating a dedicated bus to transport students between teaching hospitals. This has improved in the transportation of students and as it saves time in between lectures, hence improving the teaching of students.

7. RESEARCH

The Faculty witnessed a decrease in number of publications in 2018. Only one Lecturer presented a paper at ECSACON conference in Kenya. In order to improve research output the Faculty has engaged other Universities to collaborate in this area.

8. COMMUNITY ENGAGEMENT

The Faculty continues to participate in various Ministry of Health and Child Care activities such as World Aids Day, Hypertension Day and World Kidney Day

Prepared by

Dr R Gwini, Executive Dean (Faculty of Medicine)

BURSAR



Dr. Fortune S. Nkomo
Bursar

1. VISION

To be a client – friendly unit that makes optimum use of technology.

2. NATIONAL CONTEXT

The productive output of the Zimbabwe economy slowed down from 4.7 per cent in 2017, to 4.0 in 2018, out of sync with an acceleration from 2.6 per cent to 2.7 in Sub-Saharan Africa, as indicated by the following table:

Table 1: Gross Domestic Product Growth

	2016	2017	2018	2019 (Projection)
Sub-Saharan Africa	1.3	2.6	2.7	3.4
Zimbabwe	0.6	4.7	4.0	3.1

3. IMPACT ON NUST

The fiscus delivered on Blue Book allocations for recurrent expenditure, while lagging behind with Public Sector Investment Programme allocations.

GOVERNMENT GRANTS 2018

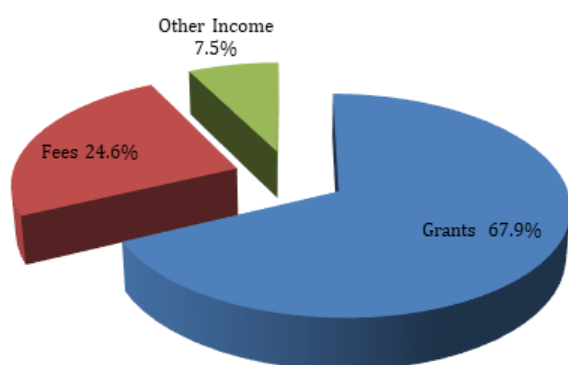
	EXPECTED US\$	ACTUAL US\$	VARI- ANCE US\$	VARIANCE (%)
Salaries Grant	28 545 371	28 545 371	0	0%
Recurrent Grant	100 000	100 000	-	-
PSIP -Library	\$3 200 000	0	3 200 000	100% (unfavourable)

PSIP –Innovation Hub	0	1 900 000	1 900 000	100% (favourable)
Total	31 845 371	30 545 371	1 300 000	4% (unfavourable)

4. SOURCES OF UNIVERSITY FUNDS

	2018		2017
Grants	\$30 545 371	67.9%	66.2 %
Fees	\$11 052 097	24.6%	25.6 %
Other Income	\$ 3 388 652	7.5%	8.2 %
	<u>\$44 986 120</u>	<u>100%</u>	<u>100 %</u>

Audited Financial Statements 2018



5. NOTEWORTHY PROJECTS

The Applied Genetic Testing Centre continued to provide services to the nation, though its revenue generation was constrained in the short term by the economic environment. The centre made a significant impact in the nation with its unique basket of services.

JOINT VENTURE CAPITAL PROJECTS

The university, with the facilitation of the Ministry of Higher and Tertiary Education, Science and Technology Development and the Ministry of Finance and Economic Development, made significant progress towards firming up with potential investors for the construction of Student Residences, a Green Power Solar Project and the completion of both

the Information Technology Resources Centre and Student Services Centre, among others.

6. FINANCIAL PERFORMANCE

Revenues totalled \$44 986 120 compared to expenditure of \$49 681 104 resulting in a deficit of \$4 694 984. This amount was inflated by a provision for a possible adverse court decision relating to an abandoned construction project totalling just under \$2.8m

A comparison of expenditure and income per student follows:

No of Students	2018	2017	Variance
	9 500	9 710	
	US\$	US\$	

Expenditure per student	\$5 229	4 475	16.8 %
Income per Student	\$4 735	4 251	11.4%

7. OUTLOOK

The next twenty four months should see the re-commencement of infrastructural development at the NUST main campus, courtesy of the Joint Venture programme.

Construction of Student Residences and Completion of the Campus Services Centre will pave the way for the attainment of a 20% minimum international student enrolment.

Difficulties to be overcome include access to and generation of foreign currency, price escalations and attendant budgetary constraints

F S NKOMO (DR)
BURSAR

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

STATEMENT OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME
YEAR ENDED 31 DECEMBER 2018

	Notes	2018	2017
		\$	
REVENUE			
Grants	2	30 545 371	27,534, 569
Fees	3	11,052,097	10,627 226
Interest & Dividends Receivable	4	4 659	73, 991
Other Income	5	3,383 993	3,124,288
		<hr/>	<hr/>
Operating Income		44,986,120	41,360 074
EXPENDITURE			
Academic	6	26,939 587	24,254,722
Administration	7	22 320 872	18,742 385
Interest Payable		420 645	526,496
		<hr/>	<hr/>
Operating Expenditure		49,681,104	43,523 603
(Deficit)/Surplus for the period		(4,694 984)	(2,163,529)
Other comprehensive Income:			
Revaluation surplus on plant and equipment		12 868 294	-
Revaluation deficit on properties disposed of to GSU		-	(2 099 451)
		<hr/>	<hr/>
TOTAL COMPREHENSIVE INCOME FOR THE PERIOD		8,173,310	(4 262 980)

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

STATEMENT OF FINANCIAL POSITION
AS AT
31 DECEMBER 2018

	2018	2017
ASSETS		
	\$	\$
Non-Current Assets		
Property, plant and equipment	56 630 904	42,935,136
Investments	-	715,033
	56 630 904	43 650 169
Current Assets		
Inventories	46 762	23 157
Accounts receivables	852 650	1 382 811
Short term investments	21 659	-
Cash and cash equivalents	110 638	706 930
	1 031 709	2,112 898
Total Assets	57 662 613	45 763 067
EQUITY AND LIABILITIES		
Equity		
Non-distributable reserves	62 034 853	49 166 559
Accumulated losses	(39 721 442)	(35 026 458)
Public sector investment programme	15,751,670	15,751,670
Utilised funds	(15,751,670)	(15,751,670)
Committed funds	400 930	422 425
	22 714 341	14 562 526

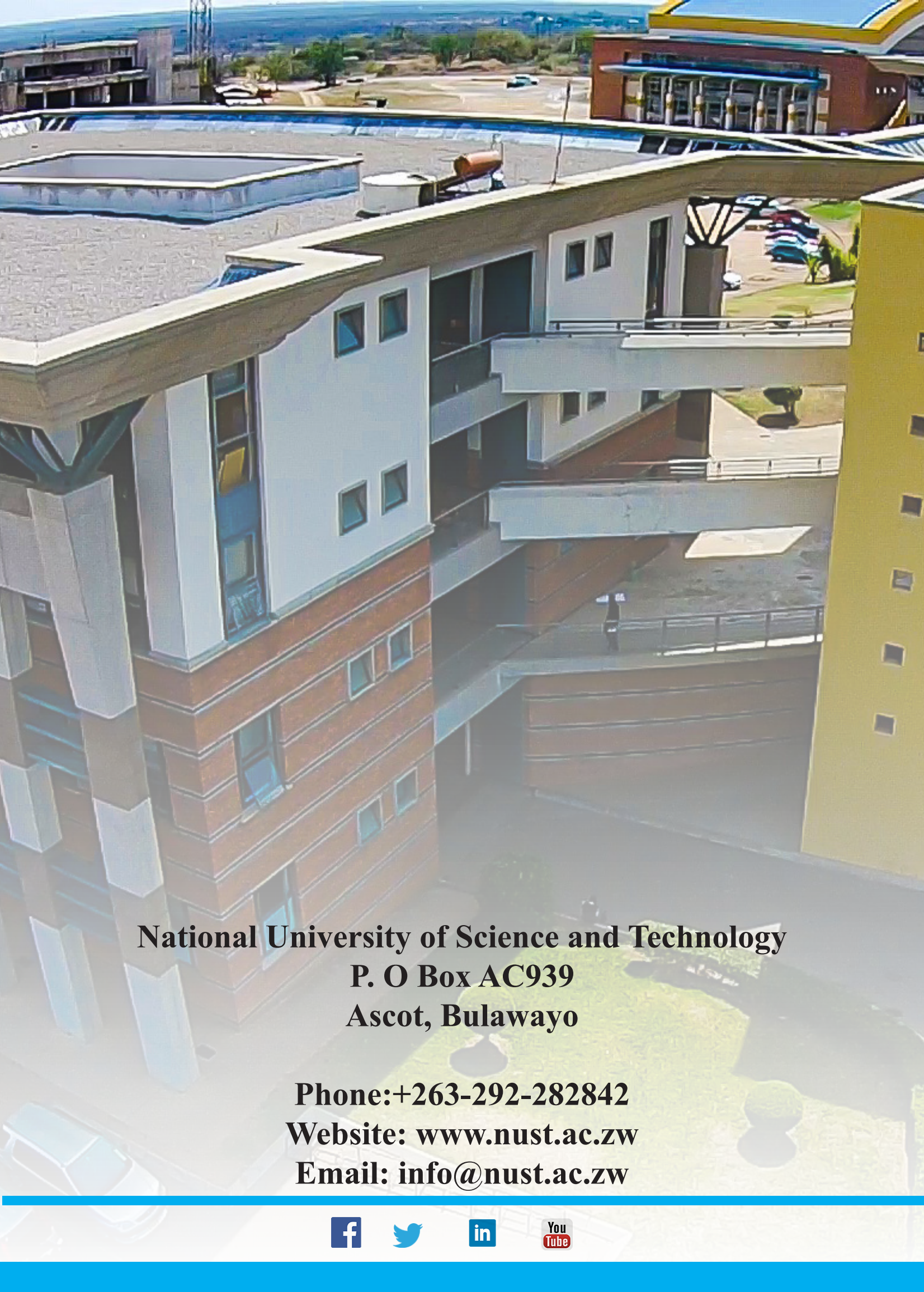


Non-current liabilities

OMLAC - defined benefit obligation	4 505 297	5 565 366
Finance Leases	231 075	258 742
Deferred Income	1 514 242	232 836
	<hr/>	<hr/>
	6 250 614	6 056 944

Current liabilities

Accounts payables	12 076 723	11 279 440
Provisions	9 098 992	5 592 777
Current portion of defined benefit obligation	5 213 946	4 553 877
Finance Leases	254 600	218 682
Bank overdraft	2 053 397	3 498 821
	<hr/>	<hr/>
	28 697 658	25 143 593
	<hr/>	<hr/>
	57 662 613	45 763 067



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